# Academic Calendars

## Fall Quarter 2007
- Quarter begins: September 24
- Instruction begins: September 27
- Veterans Day holiday: November 12
- Thanksgiving holiday: November 22-23
- Instruction ends: December 7
- Common final examinations: December 8-9
- Final examinations: December 10-14
- Quarter ends: December 14

## Winter Quarter 2008
- Quarter begins: January 2
- Instruction begins: January 7
- Martin Luther King, Jr. holiday: January 21
- Presidents’ Day holiday: February 18
- Instruction ends: March 14
- Common final examinations: March 15-16
- Final examinations: March 17-21
- Quarter ends: March 21

## Spring Quarter 2008
- Quarter begins: March 26
- César Chávez holiday: March 28
- Instruction begins: March 31
- Memorial Day holiday: May 26
- Instruction ends: June 6
- Common final examinations: June 7-8
- Final examinations: June 9-13
- Quarter ends: June 13
- Commencement ceremonies: June 13-14

## Fall Quarter 2008
- Quarter begins: September 22
- Instruction begins: September 25
- Veterans Day holiday: November 12
- Thanksgiving holiday: November 27-28
- Instruction ends: December 5
- Common final examinations: December 6-7
- Final examinations: December 8-12
- Quarter ends: December 12

## Winter Quarter 2009
- Quarter begins: January 5
- Instruction begins: January 5
- Martin Luther King, Jr. holiday: January 19
- Presidents’ Day holiday: February 16
- Instruction ends: March 13
- Common final examinations: March 14-15
- Final examinations: March 16-20
- Quarter ends: March 20
- César Chávez holiday: March 27

## Spring Quarter 2009
- Quarter begins: March 30
- Instruction begins: March 30
- Memorial Day holiday: May 25
- Instruction ends: June 5
- Common final examinations: June 6-7
- Final examinations: June 8-12
- Quarter ends: June 12
- Commencement ceremonies: June 12-13

## Online Publications
The UCLA General Catalog is available at http://www.registrar.ucla.edu/catalog/. Links to updates of UCLA courses and curricula are available from the online Catalog main menu.

Consult the online Schedule of Classes for detailed information on registration and enrollment and for academic and administrative deadlines. The online Schedule at http://www.registrar.ucla.edu/schedule/ has the most current information about fees, deadlines, and courses.

http://www.registrar.ucla.edu
UCLA® General Catalog

Associate Registrar/Publications Manager and Catalog Editor: Kathleen Copenhaver
Research Analyst and Text Editor: Leann J. Hennig
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Every effort has been made to ensure the accuracy of the information presented in the UCLA General Catalog. However, all courses, course descriptions, instructor designations, curricular degree requirements, and fees described herein are subject to change or deletion without notice.

The departmental websites referenced in department addresses in this catalog are maintained by independent operators and do not necessarily reflect approved curricula and courses information. Consult the online catalog for the most current, officially approved courses and curricula.

Other information about UCLA may be found in the announcements of the Schools of Dentistry, Education and Information Studies, Engineering and Applied Science, Law, Management, Medicine, Nursing, Public Affairs, and Public Health, and in literature produced by the School of the Arts and Architecture and School of Theater, Film, and Television. The most current information on graduate programs is available at http://www.gdnet.ucla.edu, which contains a link to Graduate Division publications, including Program Requirements for UCLA Graduate Degrees which has the complete text for officially approved graduate programs.

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UCLA Accreditation

UCLA is accredited by the Western Association of Schools and Colleges and by numerous special agencies. Information regarding the University’s accreditation may be obtained in the Office of Academic Planning and Budget, 2107 Murphy Hall.

Western Association of Schools and Colleges
985 Atlantic Avenue, Suite 100
Alameda, CA 94501
(510) 748-9001

University of California, Los Angeles

Los Angeles, CA 90095-1361
Main telephone: (310) 825-4321
Speech- and hearing-impaired access: TTY (310) 825-2833
http://www.ucla.edu
FROM THE CHANCELLOR OF UCLA

The UCLA General Catalog for 2007-2008 presents the myriad academic opportunities available at one of America’s most comprehensive universities.

UCLA is a premier center for education, research, and service. We consistently strive for excellence, and our academic programs are ranked among the world’s best.

As a research university committed to bringing the creation of knowledge into the classroom and across the disciplines, we are especially proud of the extraordinary richness and diversity of our teaching program. Through 191 majors and more than 13,000 courses, we link research with instruction in the UCLA College of Letters and Science and 11 professional schools.

This catalog includes opportunities for graduate and undergraduate students, including those that offer priority enrollment for lower division students. Among these are the Fiat Lux Seminars (small classes that explore a broad array of subjects), Freshman Clusters (year-long, team-taught interdisciplinary examinations of an array of timely topics) and opportunities for student research.

On our campus, we nurture a vibrant academic community of UCLA faculty and student scholars, who advance knowledge, pursue intellectual achievement, address social challenges, and engage with the surrounding region in many ways.

I encourage you to continue your exploration of UCLA beyond this catalog. Please visit us on campus, or at http://www.ucla.edu.

Norman Abrams
Acting Chancellor
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<td><strong>Linguistics and Spanish</strong></td>
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<td><strong>Mathematics Department</strong></td>
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<td><strong>Applied Mathematics</strong></td>
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<tr>
<td><strong>Mathematics and Economics Interdepartmental Program</strong></td>
<td>B.S., M.A., M.A.T., C.Phil., Ph.D.</td>
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<tr>
<td><strong>Microbiology, Immunology, and Molecular Genetics Department</strong></td>
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<td><strong>Microbiology, Immunology, and Molecular Genetics</strong></td>
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<td><strong>Microbiology, Immunology, and Molecular Genetics</strong></td>
<td>M.A., C.Phil., Ph.D.</td>
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<tr>
<td><strong>Middle Eastern and North African Studies Interdepartmental Program</strong></td>
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<td><strong>Middle Eastern and North African Studies</strong></td>
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<td><strong>Molecular Biology Interdepartmental Program</strong></td>
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<td><strong>Molecular, Cell, and Developmental Biology Department</strong></td>
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<td><strong>Molecular Biology</strong></td>
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<td><strong>Molecular, Cell, and Developmental Biology</strong></td>
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<tr>
<td><strong>Molecular, Cell, and Integrative Physiology Interdepartmental Program</strong></td>
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<tr>
<td><strong>Molecular, Cell, and Integrative Physiology</strong></td>
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<td><strong>Musicology Department</strong></td>
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<td><strong>Musicology</strong></td>
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<td><strong>Near Eastern Languages and Cultures Department</strong></td>
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<tr>
<td><strong>Neuroscience Interdepartmental Program</strong></td>
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<td><strong>Neuroscience</strong></td>
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<tr>
<td><strong>Philosophy Department</strong></td>
<td>B.A., M.A., C.Phil., Ph.D.</td>
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<tr>
<td><strong>Physics and Astronomy Department</strong></td>
<td>M.S., M.A.T., Ph.D.</td>
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<td><strong>Physics</strong></td>
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<td><strong>Biophysics</strong></td>
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<td><strong>Astrophysics</strong></td>
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<td><strong>Physics</strong></td>
<td>B.A., B.S., M.A.T., Ph.D.</td>
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*Note: The above table is a simplified representation of the majors and degrees offered at UCLA. For a complete and detailed list, please refer to the official UCLA catalog.*
Undergraduate Minors and Specializations

MINORS

John E. Anderson Graduate School of Management
Accounting
Graduate School of Education and Information Studies
Education Studies
College of Letters and Science
African Studies
Afro-American Studies
American Indian Studies
Anthropology
Applied Developmental Psychology
Arabic and Islamic Studies
Armenian Studies
Art History
Asian American Studies
Asian Humanities
Asian Languages
Atmospheric and Oceanic Sciences
Biomedical Research
Central and East European Studies
Chicana and Chicano Studies
Civic Engagement
Classical Civilization
Cognitive Science
Comparative Literature
Conservation Biology
Disability Studies
English
Environmental Systems and Society
French
Geochemistry
Geography
Geography/Environmental Studies
Geology
Geophysics and Planetary Physics
Geospatial Information Systems and Technologies
German
Germanic Languages
Gerontology
Global Studies
Greek
Hebrew and Jewish Studies
History of Science and Medicine
Human Complex Systems
Italian
Labor and Workplace Studies
Language, Interaction, and Culture
Latin
Latin American Studies
Lesbian, Gay, Bisexual, and Transgender Studies
Linguistics
Mathematics
Mexican Studies
Middle Eastern and North African Studies
Museum Studies
Music History
Naval Science
Near Eastern Languages and Cultures
Neuroscience
Philosophy
Political Science
Portuguese
Russian Language
Russian Literature
Russian Studies
Scandinavian
Social Thought
South Asian Studies
Southeast Asian Studies
Spanish
Spanish Linguistics
Statistics
Teaching English as a Second or Foreign Language
Women’s Studies
School of Public Affairs
Public Affairs
Public Health
School of Public Health
School of Theater, Film, and Television
Theater

SPECIALIZATIONS

College of Letters and Science
Computing
Chemistry
Communication Studies
Ecology and Evolutionary Biology
Economics
Geography
Linguistics
Mathematics
Mathematics/Economics
Molecular, Cell, and Developmental Biology
Psychology
Sociology
International Relations

Graduate Concurrent and Articulated Degrees

Concurrent degree programs allow students to reduce the number of courses required for two degrees, since some courses may apply to both degrees.

Articulated degree programs permit no credit overlap; students must complete degree requirements separately for each degree.

Inquiries about concurrent and articulated degree programs should be directed to graduate advisers in the departments and schools involved. Students should contact Graduate Admissions/Student and Academic Affairs for information on designing articulated programs.

CONCURRENT DEGREES

Degree Program number one
Degree Program number two

Concurrent degree programs allow students to reduce the number of courses required for two degrees, since some courses may apply to both degrees.

Afro-American Studies Interdepartmental M.A. — Law J.D.
American Indian Studies Interdepartmental M.A. — Law J.D.
Architecture M.Arch. I — Urban Planning M.A.
Asian American Studies Interdepartmental M.A. — Public Health M.P.H.
Asian American Studies Interdepartmental M.A. — Social Welfare M.S.W.
Education M.A., Ph.D., M.Ed., or Ed.D. — Law J.D.
Islamic Studies Interdepartmental M.A. — Public Health M.P.H.
Latin American Studies Interdepartmental M.A. — Urban Planning M.A.
Management M.B.A. — Computer Science M.S.
Management M.B.A. — Dentistry D.D.S.
Management M.B.A. — Latin American Studies Interdepartmental M.A.
Management M.B.A. — Law J.D.
Management M.B.A. — Library and Information Science M.L.I.S.
Management M.B.A. — Medicine M.D.
Management M.B.A. — Nursing M.S.N.
Management M.B.A. — Public Health M.P.H.
Management M.B.A. — Public Policy M.P.P.
Management M.B.A. — Urban Planning M.A.
Public Health M.P.H. — Law J.D.
Public Policy M.P.P. — Law J.D.
Social Welfare M.S.W. — Law J.D.
Urban Planning M.A. — Law J.D.

ARTICULATED DEGREES

Degree Program number one
Degree Program number two

Articulated degree programs permit no credit overlap; students must complete degree requirements separately for each degree.

African Studies Interdepartmental M.A. — Public Health M.P.H.
Latin American Studies Interdepartmental M.A. — Education M.Ed. in Curriculum
Latin American Studies Interdepartmental M.A. — Library and Information Science M.L.I.S.
Latin American Studies Interdepartmental M.A. — Public Health M.P.H.
Medicine M.D. — Graduate Division health science major Ph.D.
Oral Biology M.S. or Ph.D. — Dentistry D.D.S. or Certificate
About UCLA

Few universities in the world offer the extraordinary range and diversity of academic programs that students enjoy at UCLA. Leadership in teaching, research, and public service make UCLA a beacon of excellence in higher education, as students, faculty, and staff come together in a true community of scholars to advance knowledge, address societal challenges, and pursue intellectual and personal fulfillment.

TEACHING

The Conference Board of Associated Research Councils, which evaluates the quality of the faculty in 274 American research universities, rates UCLA fourteenth in the nation among both public and private universities. Of the 41 doctoral degree disciplines studied, 11 UCLA academic departments are ranked among the top 10 in the country and 20 are ranked among the top 20.

Distinguished faculty members at UCLA include Nobel prizewinners, Guggenheim fellows, Sloan fellows, and Fulbright scholars, as well as numerous members of the National Academy of Sciences and the American Academy of Arts and Sciences. In fact, UCLA consistently places among the leading universities nationwide in the number of these prestigious awards granted to its faculty members.

This remarkable pool of talent is shared between one college and 11 professional schools. The College of Letters and Science offers programs leading to both undergraduate and graduate degrees, as do the School of the Arts and Architecture, Henry Samueli School of Engineering and Applied Science, School of Nursing, and School of Theater, Film, and Television. The other professional schools offer graduate programs exclusively: the Graduate School of Education and Information Studies, School of Law, John E. Anderson Graduate School of Management, School of Public Affairs and, in the health sciences, the School of Dentistry, David Geffen School of Medicine, and School of Public Health.

Undergraduates may earn a Bachelor of Arts or Bachelor of Science degree in one of 126 different disciplines; graduate students may earn one of 88 master’s and 110 doctoral and professional degrees.

Academic programs undergo continuous review and evaluation to maintain their excellence, and new degree programs are added as they are approved by the Academic Senate or The Regents.

RESEARCH

Pushing the boundaries of the known, UCLA researchers—faculty and students, both graduate and undergraduate—venture every day into uncharted worlds from the molecular to the galactic.

Whether it’s tracing the roots of urban decay, pioneering new drug therapies for cancer, or revealing a black hole at the center of our galaxy, research at UCLA is advancing the frontiers of knowledge.

Among the 10 leading research universities in the country, UCLA received $718 million in 2005-06 in extramural grants and contracts to support its research. Each year it hosts hundreds of postdoctoral scholars who share its facilities.

Its laboratories have seen major breakthroughs in scientific and medical research; its study centers have helped foster understanding among the various cultures of the world; ongoing pursuits of new knowledge in vital areas continue to improve the quality of life for people around the world.

Faculty members teach both undergraduate and graduate courses and, through their research, create knowledge as well as transmit it. At UCLA, students are taught by the people making the discoveries. They exchange ideas with faculty members who are authorities in their fields and, even as undergraduates, are encouraged to participate in research to experience firsthand the discovery of new knowledge.

In terms of overall excellence, UCLA is one of America’s most prestigious and influential public universities. It is consistently rated among the best universities in the nation.
The University of California System

The University of California traces its origins to 1868, when Governor Henry H. Haight signed the Organic Act providing for California’s first “complete University.” Classes began the following year at the College of California in Oakland. The first buildings on the Berkeley campus were completed in 1873, and the University moved into its new home. The following June, the University conferred bachelor’s degrees on 12 graduates.

Today the University is one of the largest and most renowned centers of higher education in the world. Its 10 campuses span the state, from Davis in the north to San Diego in the south. In between are Berkeley, San Francisco, Santa Cruz, Merced, Santa Barbara, Riverside, Irvine and, of course, Los Angeles.

All campuses adhere to the same admission guidelines and high academic standards, yet each has its own distinct character and academic individuality. Riverside, for example, excels in the plant sciences and entomology; Davis has a large agricultural school and the University’s only veterinary medicine program; San Diego has excellent oceanography and marine biology programs; San Francisco is devoted exclusively to the health sciences.

Among the campuses there are five medical schools and four law schools, as well as schools of architecture, business administration, education, engineering, and many others. The UC campuses have a combined enrollment exceeding 209,000 students, over 90 percent of them California residents. About one fifth study at the graduate level. Some 150 laboratories, extension centers, and research and field stations strengthen teaching and research while providing public service to California and the nation. The collections of over 100 UC libraries on the 10 campuses are surpassed in size on the American continent only by the Library of Congress collection.

The UC faculty is internationally known for its distinguished academic achievements. On its 10 campuses the University has 27 Nobel laureates, and membership in the National Academy of Sciences is the largest of any university in the country.

The UC system is governed by a Board of Regents whose regular members are appointed by the Governor of California. In addition to setting general policy and making budgetary decisions for the UC system, The Regents appoint the President of the University, the 10 chancellors, and the directors and deans who administer the affairs of the individual campuses and divisions of the University.

The Regents delegate authority in academic matters to the Academic Senate, which determines academic policy for the University as a whole. The Senate, composed of faculty members and certain administrative officers, determines the conditions for admission and granting of degrees, authorizes and supervises courses and curricula, and advises University administrators on budgets and faculty appointments and promotions. Individual divisions of the Universitywide Academic Senate determine academic policy for each campus. Students participate in policymaking at both campuswide and systemwide levels.

A Brief History of UCLA

With only 11,000 inhabitants in 1880, the pueblo of Los Angeles convinced the state government to establish a State Normal School in Southern California. Enthusiastic citizens contributed between $2 and $500 to purchase a site, and on August 29, 1882, the Los Angeles Branch of the State Normal School welcomed its first students in a Victorian building that had been erected on the site of an orange grove.

By 1914 Los Angeles had grown to a city of 350,000, and the school moved to new quarters—a Hollywood ranch off a dirt road that later became Vermont Avenue. In 1919, the school became the Southern Branch of the University of California and offered two years of instruction in Letters and Science. Third- and fourth-year courses were soon added; the first class of 300 students was graduated in 1925, and by 1927 the Southern Branch had earned its new name: University of California at Los Angeles. (The name was changed again in 1958 to University of California, Los Angeles.)

Continued growth mandated the selection of a site that could support a larger campus and, in 1927, ground was broken in the chaparral-covered hills of Westwood. The four original buildings—Royce Hall, Powell Library, Haines Hall, and Kinsey Hall—formed a lonesome cluster in the middle of 400 empty acres. The campus hosted some 5,500 students its first term in 1929. The Regents established the master’s degree at UCLA in 1933 and, three years later, the doctorate. UCLA was fast becoming a full-fledged university offering advanced study in almost every field.

The most spectacular growth at UCLA occurred in the 25 years following World War II, when it tripled its prewar enrollment of 9,000 students and undertook what would become a $260 million building program that included residence halls, parking structures, laboratories, more classrooms, service buildings, athletic and recreational facilities, and a 715-bed teaching hospital that is now one of the largest and most highly respected in the world.
SERVICE

As a public university, serving the community is one of UCLA’s greatest commitments. Undergraduate and graduate programs, research activities, community outreach programs, and grass-roots participation by students, faculty, staff, and alumni help to forge a partnership between the University and the entire Los Angeles region.

With a new state-of-the-art hospital to open in early 2008, UCLA further’s its tradition of medical outreach and assures the highest quality of care to Los Angeles and the world. Low-income families receive top-quality treatment from School of Dentistry clinics on campus, in Venice, or in east Los Angeles. The Santa Monica-UCLA Medical Center’s Rape Treatment Center offers 24-hour care to victims. The School of Public Health’s Community Health Promotion Program supports community-service projects to benefit poor and underserved communities, and the School of Nursing offers care through its nurse-managed clinic at Skid Row’s Union Rescue Mission. The University also supports K-12 enhancement programs such as the School of the Arts and Architecture’s Music Partnership Program, which funds UCLA students to be academic and musical mentors for at-risk youth.

As UCLA gives to the community, Los Angeles gives something back. The University’s arts and cultural programs, for example, attract more than half a million people each year, drawn by everything from world-class acts performing at Royce Hall to classic-film screenings from the School of Theater, Film, and Television archives. These relationships create opportunities for partnerships and growth that ensure UCLA’s preeminence into the twenty-first century and beyond.

LIFE ON CAMPUS

Just five miles from the ocean, UCLA lies in one of the most attractive areas of Southern California. It is bordered on the north by the protected wilderness of the Santa Monica Mountains and on the south by Westwood Village. Some 323 buildings on 419 acres house the College of Letters and Science plus 11 professional schools and serve more than 38,218 students.

A UNIQUE SETTING

The Romanesque architecture of UCLA’s early buildings blends with the modern design of new structures and provides a backdrop for diverse campus settings. Bruin Walk continually echoes with the chatter of students and vendors, but nearby, the botanical gardens provide a serene escape. While a hip-hop band energizes lunchtime crowds in the Ackerman quad, a classical recital may be taking place in Schoenberg Music Building, and students contemplating a Rodin or Lachaise in the Murphy Sculpture Garden may be unaware of a political rally organizing in Meyerhoff Park.

To give a feel for the dynamic atmosphere at UCLA, Undergraduate Admissions and Relations with Schools offers tours tailored to prospective undergraduates. See http://www.admissions.ucla.edu/tours.htm. (310) 825-8764 or (310) 206-3719

A LARGE CAMPUS WITH A COMFORTABLE FEEL

The general campus population, some 34,170 students, is enriched by an additional 4,048 in the health sciences schools of Dentistry, Medicine, Nursing, and Public Health. While such numbers sound daunting, the University provides orientation sessions and innovative academic assistance programs to help acclimate new students and, through a range of services and social programs, new students quickly meet people with common interests in their academic departments, residence halls, or clubs and organizations. Even athletic events help to cement relationships as the campus comes together to celebrate Bruin victories.

Large lecture groups exist, especially in introductory courses; however, 96 percent of lower division lecture classes in 2005-06 had under 200 students, and the University is striving to further reduce class size. Large lecture classes typically include discussion sections of about 25 students or smaller seminars and laboratory classes. There is an overall ratio of one faculty member for approximately 17.5 students.

Most UCLA faculty members set aside office hours for students and appreciate the opportunity for informal conversation. Professors are often aided by graduate student teaching assistants (TAs) who are available to talk about academic problems.

A DYNAMIC STUDENT BODY

Students at UCLA pride themselves on academic excellence. The Fall Quarter 2005 entering freshman class had an average high school GPA of 4.13, with an average composite score on the Scholastic Assessment Test (SAT) of 1,284 out of a possible 1,600.

One of the University’s highest priorities is to advance the diversity of its students, faculty, staff, and administrators. UCLA’s student population—nearly equally divided between men and women—yields the wide range of opinion and perspective essential to a great university.

Although most students are from California, they come from all 50 states and 130 foreign countries to study at UCLA. Ethnic minorities comprise 66.5 percent of the undergraduates and 59 percent of the graduate student population, and international students and scholars presently number nearly 3,000,
Regularly enrolled undergraduate students may attend UCLA Summer Sessions for full unit and grade credit. Summer Sessions work is recorded on the UCLA transcript, and grades earned are computed in the grade-point average. Check with the College or school counselor about applying these courses toward degree requirements and about any limitations the College or school may impose on Summer Sessions study. Financial Aid funds are available to UCLA students.

Regularly enrolled graduate students may, with departmental approval, take regular session courses offered in Summer Sessions for credit toward a master’s or doctoral degree; consult the graduate adviser in advance concerning this possibility. Summer Sessions courses may also satisfy the academic residence requirement for master’s or doctoral degrees.

Unlike enrollment in regular terms, students may attend another college institution for credit while they are enrolled in Summer Sessions. Registration information is available in 1147 Murphy Hall. See http://www.summer.ucla.edu. (310) 825-4101

UCLA EXTENSION

With over 65,000 adult student enrollments each year, UCLA Extension is one of the largest university continuing education programs in the world. It is designed to bring the benefits of the University—its scholars, research, and resources—to the community and the state as a whole.

Many of UCLA Extension’s 4,500 classes are innovative and experimental in content, format, and teaching methods. Credit and noncredit courses are offered in nearly every academic discipline, in many interdisciplinary areas, and in emerging fields.

In addition, Extension offers special programs each term on topical issues as well as those of ongoing public concern. Many noncredit Extension courses offer the opportunity to earn Continuing Education Units, widely used for relicensure and other professional/career-related purposes.

Although registering for Extension courses does not constitute admission to regular session, degree credit earned through Extension may apply toward the UCLA bachelor’s or master’s degree; consult a College or school counselor or graduate adviser before enrolling. For more information, refer to UCLA Extension under Transfer Credit in the Academic Policies section of this catalog.

The Extension Advisory Service offers assistance in planning long- or short-term study through Extension. The office is located in 114 UCLA Extension Building, 10995 Le Conte Avenue. See http://www.uclaextension.edu. (310) 206-6201

To obtain the current UCLA Extension Catalog, request a copy at the website above or contact the Registration Office. (310) 825-9971
RESEARCH PROGRAMS

At any given time, more than 5,000 funded research programs are in progress at UCLA. For information on any of the programs listed below, see http://www.research.ucla.edu/labs/.

ORGANIZED RESEARCH UNITS

Organized Research Units (ORUs) are campuswide research programs. Members come from more than one department and normally from more than one school, college, or division.

BRAIN RESEARCH INSTITUTE

The Brain Research Institute (BRI) has one of the largest programs for neuroscience research and education in the country, with more than 250 scientists involved in every aspect of neuroscience research from molecular organization to human behavior. The BRI provides facilities with new technologies for research and training and sponsors affinity groups, conferences, and symposia to strengthen ties among neuroscientists. Public service activities include an elementary school outreach program and a joint educational program with UCLA Extension. See http://www.bri.ucla.edu. ☎ (310) 825-5061

CENTER FOR MEDIEVAL AND RENAISSANCE STUDIES

The Center for Medieval and Renaissance Studies (CMRS) supports the research activities of some 30 academic disciplines dealing with the development of civilization between A.D. 300 and 1650. Programs include appointing visiting professors, organizing conferences, and supporting departments in inviting lecturers. The center sponsors two journals, Viator, with emphasis on intercultural and interdisciplinary studies, and Comitatus, with articles by graduate students and recent Ph.D. graduates. See http://www.cmsrs.ucla.edu. ☎ (310) 825-1880

CENTER FOR SEVENTEENTH- AND EIGHTEENTH-CENTURY STUDIES

The Center for Seventeenth- and Eighteenth-Century Studies organizes scholarly programs and workshops, publishes conference results, provides long- and short-term fellowships to students and scholars, offers graduate research assistantships and master classes, and organizes public programs and classical music concerts. See http://www.c1718cs.ucla.edu. ☎ (310) 206-8552

The center administers the William Andrews Clark Memorial Library, located 13 miles from UCLA, which specializes in seventeenth- and eighteenth-century British works. It also has a renowned collection centering on Oscar Wilde and his era and significant holdings of modern fine printing and Western Americana. See http://www.humnet.ucla.edu/humnet/clarklib/. ☎ (323) 731-8529

CENTER FOR THE STUDY OF WOMEN

The Center for the Study of Women (CSW) draws on the energies of more than 150 faculty members from seven professional schools, 34 departments, and 10 research centers. To facilitate faculty research, the center organizes conferences and lecture series on feminist theory, administers research grants, and offers an affiliation for research and visiting scholars. The center sponsors working groups, produces calendar of events posters, and hosts graduate programs, as well as an annual graduate student research conference. See http://www.csw.ucla.edu. ☎ (310) 825-0590

COTSEN INSTITUTE OF ARCHAEOLOGY

The Cotsen Institute of Archaeology studies and seeks to understand the human past through artifacts, analysis of field data, and the creation of archives. The institute, the only one of its kind in the U.S., coordinates facilities for more than 40 researchers and many graduate students and volunteers in 11 associated academic departments. Facilities include the Information Center (regional office of the California Archaeological Inventory), Computer Imaging of Archaeological Data, Obsidian Hydration and Lithic Analysis Laboratory, Paleoethnobotany Laboratory, Rock Art Archive, and Zooarchaeology Laboratory. It publishes the findings of scholars from UCLA and other archaeology centers and provides a forum for the public presentation of archaeological discoveries and advances. See http://www.ioa.ucla.edu. ☎ (310) 206-8934

CRUMP INSTITUTE FOR MOLECULAR IMAGING

The Crump Institute for Molecular Imaging (CIMI) brings together physical, biomathematical, chemical, biological, and clinical scientists and students to merge the principles of imaging with those of molecular and cellular biology, genetics, and biochemistry. The imaging domains range from the molecular organization of viruses and cellular subunits to the biological processes of organ systems in the living human. A major focus is the development and use of imaging technologies to collect, analyze, and communicate biological data. The institute has research and educational programs for visiting scientists, postdoctoral scholars, and Ph.D. graduate students that include the development of multimedia computer-based learning technologies. See http://www.crump.ucla.edu. ☎ (310) 825-6539

The Clark Library’s renowned collection centers on Oscar Wilde and his era.
DENTAL RESEARCH INSTITUTE

The Dental Research Institute (DRI) fosters professional training and public education as it focuses on the basic mechanisms of disease in the orofacial region. Members include scientists in molecular biology, immunology, virology, biochemistry, pharmacology, pathology, genetics, developmental biology, neurobiology, and neurophysiology. Research includes molecular oncology, viral oncology, molecular mechanisms of periodontal diseases, dental implantology, orofacial pain, neuroimmunology, molecular immunology, HIV immunology, and wound repair. The DRI contributes to educational activities in the form of quarterly seminars in the UCLA Center for the Health Sciences. See http://www.dent.ucla.edu/Research/index.asp?id=256.  
☎(310) 206-3048

INSTITUTE OF AMERICAN CULTURES

The Institute of American Cultures (IAC) oversees four ORUs associated with UCLA ethnic studies centers. Applying the University’s capabilities to the analysis and solution of social issues, the institute makes funds available for research and fellowships and promotes the study and illumination of the histories of African Americans, American Indians, Asian Americans, and Chicanas/Chicanos. See http://www.gdnet.ucla.edu/iacweb/iachome.htm.  
☎(310) 825-1233

Ralph J. Bunche Center for African American Studies

The Bunche Center for African American Studies conducts and sponsors research on the African American experience, coordinates the Afro-American studies curriculum, publishes research results, and sponsors community service programming. See http://www.bunche.ucla.edu.  
☎(310) 825-7403

American Indian Studies Center

The American Indian Studies Center (AISC) serves as an educational and research catalyst and includes a library; B.A., undergraduate minor, master’s, and postdoctoral fellowship programs; a publishing unit that produces books and a quarterly journal; and a student/community relations unit. See http://www.aisc.ucla.edu.  
☎(310) 825-7315

Asian American Studies Center

The Asian American Studies Center (AASC) seeks to increase the knowledge and understanding of the experiences of Asian and Pacific Islander peoples in America and promotes the development of material resources related to Asian American studies. The center includes a library, publications unit, student/community projects unit, postdoctoral fellowships, and B.A., undergraduate minor, and master’s programs. See http://www.aasc.ucla.edu.  
☎(310) 825-2974

Chicano Studies Research Center

The Chicano Studies Research Center (CSRC) promotes the study and dissemination of knowledge on the experience of the people of Mexican descent and other Latinos in the U.S. The center supports interdisciplinary and collaborative research and the analysis, understanding, and articulation of issues critical to the development of Chicano and Latino communities in the U.S. It seeks to establish and maintain relationships with communities with similar academic and research interests at the state, national, and international levels. See http://www.chicano.ucla.edu.  
☎(310) 825-2363

INSTITUTE OF GEOPHYSICS AND PLANETARY PHYSICS

The Institute of Geophysics and Planetary Physics (IGPP) is a multicampus research unit of the University of California; the branch at UCLA researches climate dynamics, geophysics, geochemistry, space physics, biochemistry, and biology. Research topics include the nature of the Earth, moon, and other planetary bodies; global and regional environmental change; the origin of terrestrial life; dynamical properties of the sun and solar wind; and the nonlinear dynamics of complex systems. Facilities include analytical laboratories in geochemistry, meteoritics, glaciology, petrology, geochronology, archaeology, and the origins of life; laboratories for experiments in fluid dynamics and high-pressure physics; developmental laboratories for instrumentation in space physics and seismology; and computational laboratories for large-scale numerical modeling. See http://www.igpp.ucla.edu.  
☎(310) 206-2285

INSTITUTE FOR RESEARCH IN LABOR AND EMPLOYMENT

The interdisciplinary research program of the Institute for Research in Labor and Employment (IRLE) studies employment relationships, including labor markets, labor law, labor and management relations, equal employment opportunity, occupational safety and health, and related issues. Its Center for Labor Research and Education offers social policy and employment relations programs to the public, unions, and management. The institute administers the Labor and Workplace Studies minor. See http://www.irlw.ucla.edu.  
☎(310) 794-5957

INSTITUTE FOR SOCIAL SCIENCE RESEARCH

The Institute for Social Science Research (ISSR) promotes interdisciplinary research on contemporary sociological, psychological, political, and economic problems and community issues. Research components include the Center for American Politics and Public Policy, Center for the Study of Urban Poverty, California Center for Population Research, Center for Social Theory and Comparative History, Center for the Study of Race, Ethnicity, and Politics, Social Science Data Archive, and Center for Health
Development. Training in survey research methodology is available to students through participation in the annual Los Angeles County Social Survey. The institute publishes the *ISSR Working Papers in the Social Sciences*. See http://www.issr.ucla.edu.

**JULES STEIN EYE INSTITUTE**

The Jules Stein Eye Institute (JSEI) is one of the best equipped centers for research and treatment of eye diseases in the world. This comprehensive facility is devoted to the preservation of vision and prevention of blindness, the care of patients with eye disease, and education in the broad field of ophthalmology. Outpatient, inpatient, and surgical facilities are provided. See http://jsei.org.

The Doris Stein Eye Research Center houses clinical facilities as well as new research and training programs concentrating on major eye diseases worldwide.

**MOLECULAR BIOLOGY INSTITUTE**

The Molecular Biology Institute (MBI) promotes molecular biology research and teaching at UCLA, with emphasis on genomics, proteomics, and chemical biology. The institute houses the laboratories of 30 MBI members, as well as the administration of the Molecular Biology Interdepartmental Ph.D. Program, the UCLA-DOE Laboratory of Structural Biology and Molecular Medicine, and the UCLA ACCESS to Programs in the Molecular, Cellular, and Integrative Life Sciences. See http://www.mbi.ucla.edu. *(310) 825-1018*

**MENTAL RETARDATION RESEARCH CENTER**

The Mental Retardation Research Center provides laboratories and clinical facilities for research and training in mental retardation and developmental disabilities. Interdisciplinary activities range from anthropological studies to molecular aspects of inherited metabolic diseases. See http://www.mrrc.npi.ucla.edu. *(310) 825-0313*

**PLASMA SCIENCE AND TECHNOLOGY INSTITUTE**

The Plasma Science and Technology Institute (PSTI) is dedicated to research of plasma physics, fusion energy, and the application of plasmas in other disciplines. Students, professional research staff, and faculty members study basic laboratory plasmas, plasma-fusion confinement experiments, fusion engineering and nuclear technology, computer simulations and the theory of plasmas, space plasma physics and experimental simulation of space plasma phenomena, advanced plasma diagnostic development, laser-plasma interactions, and the use of plasma in applications ranging from particle accelerators to the processing of materials and surfaces used in microelectronics or coatings. See http://www.physics.ucla.edu/psti/. *(310) 825-4789*

**UCLA-DOE LABORATORY OF STRUCTURAL BIOLOGY AND MOLECULAR MEDICINE**

The UCLA-DOE Laboratory of Structural Biology and Molecular Medicine, funded through a Department of Energy contract, conducts research in molecular nuclear medicine and structural biology and genetics. Laboratory faculty members have joint appointments in academic departments and teach at both undergraduate and graduate levels. Major facilities include a biomedical cyclotron, advanced scanning equipment, nuclear magnetic resonance, protein expression, and X-ray crystallography facilities. See http://www.doe-mbi.ucla.edu/Overview.html. *(310) 825-3754*

**UCLA INTERNATIONAL INSTITUTE**

The UCLA International Institute oversees four study centers that are designated ORUs.

**James S. Coleman African Studies Center**

The Coleman African Studies Center (JSCASC) coordinates research and teaching on Africa in the humanities, social sciences, and natural sciences, as well as in the schools of Arts and Architecture, Education and Information Studies, Law, Medicine, Public Affairs, Public Health, and Theater, Film, and Television. The center sponsors public lectures, seminars, publications, and academic exchanges with African institutions and an outreach service to the Southern California community. See http://www.international.ucla.edu/africa/. *(310) 825-3686*

**Center for European and Eurasian Studies**

The Center for European and Eurasian Studies (CEES) develops and coordinates teaching and research on Russia and the successor states of the former Soviet Union, as well as the countries of
western Europe, through conferences, lectures, seminars, and academic exchange programs with European and Russian institutions. It also offers an interdepartmental undergraduate major and provides fellowships to graduate students in European area studies. See http://www.international.ucla.edu/euro/. *(310) 825-4060*

**Gustave E. von Grunebaum Center for Near Eastern Studies**

The von Grunebaum Center for Near Eastern Studies (CNES) coordinates research and academic programs related to the Near East. It administers the degree programs in Middle Eastern and North African Studies and Islamic Studies. Resources of the center include the largest faculty, one of the most comprehensive library holdings, and the richest variety of Near and Middle Eastern studies courses of any institution in the Western Hemisphere. The center conducts publication, community outreach, and scholarly exchange programs. See http://www .international.ucla.edu/cnes/. *(310) 825-1181*

**Latin American Institute**

The Latin American Institute is a major regional, national, and international resource on Latin America and hemispheric issues. The institute sponsors and coordinates research, academic and public programs, and publications on Latin America in the humanities, social sciences, and professional schools and links its programs and activities with developments in the field and in other institutional settings. By combining instruction, research, and service and by encouraging multidisciplinary and interdisciplinary approaches, the institute promotes the use of UCLA Latin American resources for the benefit of the campus, the broader community, and the public at large. See http://www.international.ucla.edu/lac/. *(310) 825-4571*

**Specialized Research Centers, Laboratories, and Institutes**

Additional research centers, laboratories, and institutes advance scholarship in all fields. The breadth of research conducted on campus is reflected in undertakings as diverse as the Center for Astrobiology (http://astrobioi .ology.ucla.edu)—which is developing new strategies for Mars exploration—and the Jonsson Comprehensive Cancer Center (http://www.cancermednet.ucla.edu)—one of only 39 comprehensive centers in the nation.

Interdisciplinary activities in the social sciences include the nationally respected UCLA Anderson Forecast (http://uclaforecast.com) in UCLA’s John E. Anderson Graduate School of Management and the Center for Study of Evaluation (http://www.cse.ucla.edu) in the Graduate School of Education and Information Studies, which is at the forefront of efforts to improve the quality of schooling in America.

In the health sciences, research ranges from improving the quality of life for Alzheimer patients and caregivers at the UCLA Alzheimer Disease Center (http://www.adc.ucla.edu) to epidemiology, immunology, and the clinical management of AIDS at the UCLA AIDS Institute (http://www.ucliaids institute.org) and the Center for Clinical AIDS Research and Education (http://uclacarecenter.com).

The Fernald Child Study Center (http://www .psych.ucla.edu/centers_Programs/fcscl/) focuses on the study and treatment of a variety of childhood behavioral problems and learning disorders.

In the physical sciences and engineering, the Institute for Pure and Applied Mathematics (http://www.ipam.ucla.edu) makes connections between a wide spectrum of mathematicians and scientists and broadens the range of applications in which mathematics is used. On other frontiers, the Center for Embedded Networked Sensing (http://research .cens.ucla.edu), a National Science Foundation Science and Technology Center, develops embedded networked sensing systems to monitor and collect information on plankton colonies, endangered species, soil and air contaminants, medical patients, and buildings, bridges, and other man-made structures.

The Center for the Study of Urban Poverty (http://sscnet.ucla.edu/issr/csup/) initiates new research on issues related to urban poverty and sponsors seminars in the field. The Center for Policy Research on Aging (http://www.spa .ucla.edu/cpra/) addresses the significant issues of an aging society through policy analysis, dissemination of information, and technical assistance to the public and private sectors.

**Supporting Resources**

As UCLA students and scholars advance knowledge, illuminate the past, shape the present, and uncover the future, they rely on resources that support their endeavors in all fields. From a top-rated library to outdoor nature reserves, the campus is well-equipped to meet diverse scholastic needs.

**Art Galleries and Museums**

The leading arts and cultural center in the West, UCLA museums, galleries, and gardens provide eclectic resources ranging from the ancient to the avant-garde.

**Fowler Museum at UCLA**

The Fowler Museum at UCLA is internationally known for the quality of its collections, which encompass the arts and material culture of much of the world, with particular emphasis on West and Central Africa, Asia and the Pacific, and the Americas, past and present. It supports UCLA instruction and research and sponsors major exhibitions, lecture
programs, and symposia. The museum is open to the public Wednesday through Sunday. For more information on hours and admission, see http://www.fowler.ucla.edu.  (310) 825-4361

GRUNWALD CENTER FOR THE GRAPHIC ARTS

Housed in the UCLA Hammer Museum, the Grunwald Center for the Graphic Arts holds a distinguished collection of over 45,000 prints, drawings, and photographs, including nearly 10,000 works from the prestigious Armand Hammer Daumier and Contemporaries Collection. A study and research facility for the benefit of students and the community, the center’s permanent holdings include significant European and American examples from the fifteenth century to the present. It is particularly noted for its collection of German Expressionist prints and works on paper by Matisse and Picasso, as well as the Richard Vogler Cruikshank Collection and the Frank Lloyd Wright Collection of Japanese prints. The center is open only by appointment. See http://www.hammer.ucla.edu/collections/4/.  (310) 443-7078

FRANKLIN D. MURPHY SCULPTURE GARDEN

Situated on a picturesque five-acre expanse that spans the heart of north campus, the Murphy Sculpture Garden contains a collection of over 70 major works by Rodin, Matisse, Calder, Lachaise, Lipchitz, Moore, Miró, Hepworth, and many other late nineteenth- and early twentieth-century masters. All works in this distinguished collection are private gifts to the University. Tours may be arranged. See http://www.hammer.ucla.edu/collections/4/.  (310) 443-7000

NEW WIGHT GALLERY

The New Wight Gallery is an exhibit space for visual arts, including student and faculty exhibitions. The gallery is housed in the Broad Art Center. See http://www.art.ucla.edu/gallery.html.  (310) 825-3281

UCLA HAMMER MUSEUM

The UCLA Hammer Museum regularly presents its collection of Impressionist and Post-Impressionist paintings by such artists as Monet, Pissarro, Sargent, Cassatt, and Van Gogh. The museum organizes and presents major changing exhibitions devoted to examinations of historical and contemporary art in all periods. Cultural programming, including children’s performance and storytelling series, music, poetry readings, and “Dialogues on Art,” are presented throughout the week. For information on programming, hours, and docent tours, see http://www.hammer.ucla.edu.  (310) 443-7000

LIBRARIES

The UCLA Library, a campuswide network of libraries serving programs of study and research in many fields, is among the top 10 ranked research libraries in the U.S. The total collections number more than eight million volumes, and nearly 80,000 serial titles are received regularly.

Reference librarians are available in all library units to answer questions about using online systems and to provide assistance with reference and research topics.

Students locate and identify materials through the library’s web-based online information systems. The UCLA Library Catalog contains records for all UCLA Library holdings and other campus collections, including the Archive Research and Study Center of the Film and Television Archive, Chicano Studies Research Center Library, Ethnomusicology Archive, Institute for Social Science Research Data Archives Library, Instructional Media Library, and William Andrews Clark Memorial Library. It also provides library item location and circulation status.

Other available catalogs include the UC Libraries Catalog (Melvyl) WorldCat, RLG Union Catalog, numerous abstracting and indexing databases, and gateways to other systems. The Melvyl Catalog contains information on library holdings at all 10 UC campuses.

While continuing to develop and manage collections of traditional printed materials, the UCLA Library also makes a number of digital resources available for campus use through the library site. These include College Library electronic reserves and electronic journals, texts, reference resources, periodical indexes, and abstracts. See http://www.library.ucla.edu.

The Sculpture Garden mixes major artworks with a lush place to study or relax.

The Center for the Graphic Arts holds over 45,000 prints, drawings, and photographs and artists’ books from the Renaissance to the present.

The Center for the Graphic Arts holds over 45,000 prints, drawings, and photographs and artists’ books from the Renaissance to the present.
The UCLA Library is among the top research libraries in the U.S.

CHARLES E. YOUNG RESEARCH LIBRARY
The Young Research Library primarily serves graduate research in the humanities, social sciences, education, public affairs, government information, and maps. Most of its collections are arranged in open stacks. The building also houses reference, circulation, graduate reserve, and periodicals services and the Microform and Media Service, with microcopies of newspapers, periodicals, and other materials. The Department of Special Collections contains rare books and pamphlets, primarily in the humanities, social sciences, and visual arts, from the fifteenth to twentieth century, University Archives, early maps and atlases, early California newspapers, manuscript collections, transcripts of oral history, ephemera, microfilm, tape recordings, prints, paintings, and drawings, including original architectural drawings. See http://www.library.ucla.edu/libraries/yr/.  

COLLEGE LIBRARY
The College Library, located in the Powell Library Building, features collections and services in support of the undergraduate curriculum in the humanities, social and physical sciences, and mathematics. Course reserve materials, including books, articles, audiotapes, homework solutions, lecture notes, and Academic Publishing Service Reader, are available for loan. The College Library Instructional Computing Commons, located on the first floor of Powell Library, provides students with access to computers and multimedia equipment, and Night Powell provides study space in a late-night reading room. See http://www.library.ucla.edu/libraries/college/.  

EUGENE AND MAXINE ROSENFELD MANAGEMENT LIBRARY
Located in the John E. Anderson Graduate School of Management complex, the Rosenfeld Management Library houses materials on accounting information systems, arts management, business history, corporate history, entrepreneurship, finance, general management and management theory, industrial relations, international and comparative management, management information systems, management strategy and policy, marketing, operations, research, production and operations management, public/not-for-profit management, and real estate. See http://www.anderson.ucla.edu/library.xml.  

HUGH AND HAZEL DARLING LAW LIBRARY
The Darling Law Library collects published case decisions, statutes, and codes of the federal and state governments of the U.S. and other common law jurisdictions, legal treatises and periodicals in Anglo-American and international law, and appropriate international and comparative law holdings. The Law Library reports to the dean of the School of Law. See http://www.law.ucla.edu/home/index.aspx?page=11.  

LOUISE M. DARLING BIOMEDICAL LIBRARY
The Darling Biomedical Library, located in the Center for the Health Sciences, serves all the UCLA health and sciences departments and schools and the UCLA Medical Center. Its collections focus on materials related to medicine, nursing, dentistry, public health, physiological sciences, biology, molecular biology, biochemistry, zoology, plant sciences, psychology, and life sciences, as well as rare works in the history of health and life sciences, botanical illustration, and Arabic and Persian medical manuscripts. See http://www.library.ucla.edu/libraries/biomed/.  

MUSIC LIBRARY
The collections of the Music Library in the Schoenberg Music Building include books, music scores, sound recordings, microforms, and interactive media on Western music history and criticism; world music styles, cultures, and traditions; and music theory, aesthetics, philosophy, and organology. Music Special Collections include rare printed and manuscript books, scores, and opera librettos; personal papers of prominent Southern California composers, performers, and writers on music; and archives of film, television, and radio music; it also houses the Archive of Popular American Music, a special collection of published and manuscript sheet music, recordings, and related materials. See http://www.library.ucla.edu/libraries/music/.  

RICHARD C. RUDOLPH EAST ASIAN LIBRARY
Located in the Young Research Library, the Rudolph East Asian Library collects Chinese, Japanese, and Korean language materials in the humanities and social sciences. The collection is particularly strong in Japanese Buddhism, religion, Chinese and Japanese fine arts, Chinese archaeology, premodern history and classical literature on both China and Japan, and Korean literature and religion. See http://www.library.ucla.edu/libraries/eastasian/.  

SCIENCE AND ENGINEERING LIBRARY
The Science and Engineering Library (SEL) collections on engineering, mathematics, and the physical sciences are housed in three separate locations. SEL/Chemistry in Young Hall houses materials on chemistry, biochemistry, and molecular biology; solid-state, elementary particle, high-energy, mathematical, nuclear, and plasma physics; acoustics; spectroscopy; optics; and astrophysics. SEL/Engineering and Mathematical Sciences in Boelter Hall houses materials on aeronautics, astronomy, and atmospheric sciences; bioengineering; chemical, civil, electrical, environmental, manufacturing, mechanical, and nuclear engineering; computer science and electron-
ics; energy technology; mathematics; metals and materials; pollution; and statistics. SEL/Geology-Geophysics in the Geology Building houses materials on geology, geophysics, geochemistry, space physics, planetary science, regional geology, paleobiology, micropaleontology, invertebrate paleontology, ore deposits, geomorphology, hydrology, and chemical oceanography. See http://www.library.ucla.edu/libraries/SEL/.

**SPECIAL ARCHIVES AND COLLECTIONS**

In addition to the extensive collections of the University Library, a rich array of other information resources are independently managed by individual UCLA departments and centers.

**CULTURAL CENTER COLLECTIONS**

The Center for African American Studies Library (http://www.bunche.ucla.edu/lmc/library_main.html) contains materials reflecting the African American experience in the social sciences, arts, and humanities. The American Indian Studies Center Library (http://www.aisc.ucla.edu/lib/aisclibrary.htm) houses a collection on American Indian life, culture, and state of affairs in historical and contemporary perspectives, while the Asian American Studies Center Reading Room (http://www.aasc.ucla.edu/library/default.htm) features Asian and Pacific American resources.

Materials related to Chicano and Latino cultures are housed in the Chicano Studies Research Center Library (http://www.chicano.ucla.edu/library/default.htm) and the William Andrews Clark Memorial Library (http://www.humnet.ucla.edu/humnet/clarklib/) contains rare books, manuscripts, and other noncirculating materials on English culture (1640 to 1750). The English Reading Room (http://www.english.ucla.edu/err/) features a non-circulating collection of English and American literature, literary history, and criticism.

**INSTRUCTIONAL MEDIA COLLECTIONS AND SERVICES AND LABORATORY**

The Instructional Media Collections and Services, located in the Powell Library Building, is UCLA’s central resource for the collection and maintenance of educational and instructional media. Materials from the collection are loaned to regularly scheduled UCLA classes and may be rented by organizations and individuals from the campus community and beyond. Staff members monitor compliance with University guidelines and federal copyright law governing the use of video recordings. Reference books from educational and feature film distributors are available. Staff members assist in researching media on any subject and obtaining materials from outside sources. See http://www.oid.ucla.edu/imlib/. *(310) 206-1211*

The Instructional Media Laboratory provides access to course-or textbook-related audio, interactive, and videotape programs. Students, assigned by faculty to study specific supplementary materials, may learn at their own pace and time. See http://www.oid.ucla.edu/units/imlab/.

**UCLA FILM AND TELEVISION ARCHIVE**

The UCLA Film and Television Archive is the world’s largest university-based collection of motion pictures and broadcast programming. The archive’s holdings of over 220,000 original film and television materials serve both the UCLA community and national and international constituencies.

The Motion Picture Collection is the country’s largest collection after the Library of Congress. Among its outstanding collections are 27 million feet of Hearst Metrotone News film dating back to 1919. Other noteworthy holdings include studio print libraries from Twentieth Century-Fox, Paramount, Warner Brothers, Sony/Columbia, Republic, RKO, New World Pictures, and Orion. Special collections document the careers of William Wyler, Hal Ashby, Tony Curtis, Rosalind Russell, Stanley Kramer, Cecil B. DeMille, Harold Lloyd, and other persons of prominence in the American film industry.

The Television Collection is the nation’s largest university-based collection of television broadcast materials. Its titles include kinescopes, telefilms, and videotapes spanning television history from 1946 to the present, with emphasis on drama, comedy, and variety programming. A special collection of over 100,000 news and public affairs programs is also maintained.

The archive’s exhibition program presents evening screenings and discussions that focus on archival materials, new work by independent filmmakers,
The Botanical Garden offers thousands of plants for study and enjoyment.

The Japanese Garden is a Kyoto-style retreat.

and an array of international films. See http://www.cinema.ucla.edu.  _CAL (310) 206-8013

The Archive Research and Study Center (ARSC) in the Powell Library Building provides on-site viewing of the Film and Television Archive's collections and research consultation to students, faculty, and researchers.  310) 206-5388

OTHER COLLECTIONS

The Ethnomusicology Archive (http://www.ethnomusic.ucla.edu/archive/) houses sound and audiovisual recordings of folk, ethnic, and non-Western classical music, while the Institute for Social Science Research Data Archives Library (http://www.isrr.ucla.edu/da/) contains a collection of statistical databases for the social sciences. The University Elementary School Gonda Family Library (http://www.ues.gseis.ucla.edu/library/index.php) features contemporary materials for children from kindergarten through junior high school and adult works on children's literature.

COMPUTER SUPPORT

The exciting pace of computer technology demands an environment where information systems are recognized as a strategic requirement with a strong focus of attention, and where there is a solid technology foundation already in place. UCLA provides that environment and ensures hardware, software, and training to support research and study.

ACADEMIC TECHNOLOGY SERVICES

Academic Technology Services (ATS) provides resources and services that support the UCLA distributed computing environment. Through its five service areas ATS seeks to facilitate cross-departmental information technology initiatives, provide specialized resources to faculty and students in pursuit of their research and instructional goals, and leverage the volume purchasing power of the University. See http://www.ats.ucla.edu.  310) 825-6635

Training and consulting services include classes and online seminars in statistical applications, high-performance computing, scientific visualization, and geographic information systems. See http://www.ats.ucla.edu/classes/.  310) 825-7431

Through Software Central, ATS informs the UCLA community of software available at educational or special volume discounts and provides technical support for many applications. See http://www.ats.ucla.edu/software/.  310) 206-4780

RESEARCH COMPUTING TECHNOLOGIES

Research Computing Technologies offers integrated services to faculty. Areas of expertise include technical and administrative grant development support; storage and management tools for research and instructional data; analysis and interpretation of complex data sets through statistical and visualization support; high-performance network consulting services for research; and high-performance computing through Beowulf clusters, consulting support for faculty to access the National Supercomputer Centers, and support for the development of central and local commodity-based Linux clusters. See http://www.ats.ucla.edu/rct/.  310) 206-7323

DISABILITIES AND COMPUTING PROGRAM

The Disabilities and Computing Program (DCP) provides adaptive technology services and support to students, faculty, and staff with disabilities, to faculty who are working with students with disabilities, and to departments. The DCP also coordinates access to computers, local area networks, and online resources for people with disabilities. See http://www.dcp.ucla.edu.  310) 206-7133

STUDENT COMPUTER LABORATORIES

Student laboratories are supported through Academic Technology Services and the College Library Instructional Computing Commons. See Student Services later in this chapter for information.

PARKS, RESERVES, AND NATURAL SCIENCE RESOURCES

The geography of Southern California is conducive to research in the natural sciences. The diverse region is a natural laboratory supported by numerous UCLA resources for study.

BIOLOGICAL COLLECTIONS

The Biological Collections of the Ecology and Evolutionary Biology Department include marine fishes from the Eastern Pacific and Gulf of California, and birds and mammals primarily from the Western U.S., Canada, Mexico, and Central America. The department also maintains a more limited collection of amphibians, reptiles, and fossil vertebrates. See http://www.eeb.ucla.edu/dickey/index.html.  310) 825-1282

DIVISION OF LABORATORY ANIMAL MEDICINE

The Division of Laboratory Animal Medicine is responsible for the procurement, husbandry, and general welfare of animals required for teaching and investigative services. It also administers the veterinary medical and husbandry programs throughout the campus. See http://www.dlam.ucla.edu.  310) 794-0161

HANNAH CARTER JAPANESE GARDEN

One mile from the UCLA campus in Bel Air, the Japanese Garden provides a unique illustration of art and nature for courses such as landscape architec-
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ture, environmental design, East Asian studies, and art classes. The Kyoto-style terraced garden was designed by Japanese artisans using native plants and artifacts. Traditional features such as a teahouse, shrine, antique stone water basins, and a koi pond are enjoyed by faculty, students, school and community groups, and others. Visits are by reservation only. See http://www.japanesegarden.ucla.edu. ☏(310) 794-0320

MARINE SCIENCE CENTER

The Marine Science Center coordinates marine-related teaching and research on campus and facilitates interdepartmental interaction of faculty members and students. UCLA offers one of the broadest interdisciplinary educational programs in marine sciences in the U.S. Field trips for marine-related courses and access to research sites in the Santa Monica Bay, Channel Islands, and the Southern California Bight are provided by UCLA's 68-foot research vessel Sea World UCLA. See http://www.msc.ucla.edu. ☏(310) 206-8247

MILDRED E. MATHIAS BOTANICAL GARDEN

The Mathias Botanical Garden is a living museum with one of the most important botanical collections in the U.S. With specimens from all over the world, the seven-acre expanse on south campus specializes in tropical and subtropical plants, including some 5,000 species in 225 families. The botanical garden also has a research herbarium containing 180,000 dried plant specimens. School and community group tours are available as are individual guided tours. See http://www.botgard.ucla.edu. ☏(310) 825-1260

STUNT RANCH SANTA MONICA MOUNTAINS RESERVE

The University of California founded the UC Natural Reserve System (NRS) in 1965 to preserve undisturbed natural areas representing the state's vast ecological diversity for students, teachers, and researchers from public and private educational institutions to use as outdoor classrooms and living laboratories. The Stunt Ranch Santa Monica Mountains Reserve, administered by the Los Angeles campus, officially joined the UC NRS in November 1995. The 310-acre site is a 40-minute drive from UCLA and includes fine examples of chaparral and oak woodland ecosystems. The reserve lends itself to programs that focus on the natural ecosystems and issues of resource management in the urban/wildland interface. Undergraduate and graduate courses in the departments of Anthropology, Earth and Space Sciences, Ecology and Evolutionary Biology, Geography, Physics and Astronomy, and the Institute of the Environment utilize Stunt Ranch and other NRS sites. See http://stuntranch.ucnrs.orgl. ☏(310) 206-3887

STUDENT SERVICES

Like a small city, UCLA has its own police department and fire marshal, an equivalent to the phone company, health center, corner restaurants, and shops. Hundreds of services for the campus community facilitate academic and personal endeavors.

SERVICES FOR STUDY

From academic advising to advanced computer support, UCLA services for study give students the tools they need to achieve academic success.

ACADEMIC COUNSELING

Many sources of academic counseling are available. Faculty advisers and counselors in the College and each school help students with major selection, program planning, academic difficulties, degree requirements, and petitions.

Advisers in each major department counsel undergraduates concerning majors offered and their requirements, and possible career and graduate school options (see Advising and Academic Assistance in the Undergraduate Study section of this catalog). In addition, special graduate advisers are available in each department to assist prospective and currently enrolled graduate students.

BRUIN ONLINE

Bruin OnLine (BOL) is the campus Internet service provider for UCLA students, faculty, and staff and a vehicle for accessing campus network communication services. Using BOL, students enroll in classes or access student records through URSA, check class availability in the Schedule of Classes, search the UCLA Library collections, access their Study Lists through MyUCLA, and connect to a range of campus events, programs, and services.

Bruin OnLine services include dial-up access to the campus backbone network and the Internet, e-mail accounts, and space for personal webpages. Wireless Internet access is available in select campus locations for BOL account holders. BOL Internet access software can be downloaded from the BOL website. Help desk services are available online, by telephone, and at the BOL office in Kerckhoff Hall. See http://www.bol.ucla.edu. ☏(310) 825-7452
**About UCLA**

Student laboratories are supported through Academic Technology Services (ATS) and the College Library Instructional Computing Commons (CLICC), a collaborative effort between ATS, Center for the Digital Humanities, Social Sciences Computing, Office of Instructional Development, and College Library. Some 15 computer laboratories are available throughout the campus, each with computers, peripherals, software, and services that cater to specific areas of study. See http://www.computerlabs.ucla.edu. ✆ (310) 206-0271

**Course Web Pages**

The Instructional Enhancement Initiative assures that all undergraduate nontutorial courses in the College of Letters and Science and the Henry Samueli School of Engineering and Applied Science provide an individual course website for faculty members, teaching assistants, and enrolled students. The sites facilitate the distribution of supplementary course materials, lecture notes, homework assignments, research links, and electronic communication, including virtual office hours and class bulletin boards for interactive question and answer sessions. Instructors decide which of these online capabilities are best suited to their course websites.

**Lecture Notes and Course Readers**

For certain courses, students may subscribe to Lecture Notes, which publishes concise weekly summaries of about 100 lecture classes. See http://www.uclaestore.com/ucla/outerweb/lecturenotes.asp. ✆ (310) 825-8016

Academic Publishing provides custom course readers, obtaining 5,000 copyright authorizations each year. See http://www.uclaestore.com/ucla/outerweb/academicpublishing.asp. ✆ (310) 825-2831

**MyUCLA**

MyUCLA provides a portal to individual student information. Features include a personalized Study List showing classes and class information such as grades; a notifications section for important announcements; a subscriptions section to access online information from newspapers, journals, or magazines or from University departments, clubs, and organizations; a personal calendar; and links to UCLA online resources, including URSA, the Schedule of Classes, and UCLA General Catalog. WebMail provides students an intuitive way to access private e-mail accounts from any computer via MyUCLA.

Letters and Science students are able to obtain additional services, including the ability to view their counseling appointments, check the status of petitions, and track their honors progress. See http://my.ucla.edu.

**University Records System Access**

Through University Records System Access (URSA) UCLA students acquire academic, financial, and personal information from their University academic records and enroll in classes. URSA operates Sunday from 6 p.m. through Tuesday at 1 a.m. and Tuesday through Saturday from 6 a.m. to 1 a.m., including holidays. See http://www.ursa.ucla.edu.

For most students, URSA provides the easiest way to gain real-time access to academic, financial, and personal records. The site is designed with an intuitive visual interface that walks students through the different steps of the procedure they are trying to accomplish, whether it be to check their billing accounts, change address information, view and print Study Lists or Degree Progress Reports (DPRs) or see term grades. URSA also provides a convenient way to enroll in classes, to verify enrollment appointment times, and to view real-time enrollment counts.

**Veterans Affairs and Social Security Services**

The Veterans Affairs coordinator, 1113 Murphy Hall, provides information for veterans and eligible dependents about veterans’ educational benefits, tutorial assistance, and the work-study program; issues fee waivers to dependents of California veterans who are deceased or disabled because of service-connected injuries and who meet the income restrictions in Education Code Section 10652; and certifies student status for recipients of Social Security benefits.

**Services for Health and Safety**

**Arthur Ashe Student Health and Wellness Center**

The Ashe Student Health and Wellness Center in Westwood Plaza is an outpatient clinic for UCLA students. Most services are subsidized by registration fees, and a current BruinCard is required for service. Core (prepaid) services include visits, most procedures, X rays, and some laboratory procedures. Noncore (fee) services, such as pharmaceuticals, injections, orthopedic devices, and some laboratory procedures, are less costly than elsewhere. If students withdraw during a school term, all Ashe Center services continue to be available on a fee basis for the remainder of that term, effective from the date of withdrawal. ✆ (310) 825-4073

The cost of services received outside the Ashe Center, such as emergency room services, is each student’s financial responsibility. Students are required to purchase supplemental medical insurance either through the UCLA-sponsored Graduate and Undergraduate Student Health Insurance Plans or other plans that provide adequate coverage. Adequate
medical insurance is a condition of registration. See Registration in the Undergraduate Study and Graduate Study sections of this catalog.

Consult the Ashe Center website for specific information on its primary care, women’s health, and men’s health clinics, as well as on dental care which is available to students at discounted rates. See http://www.studenthealth.ucla.edu.

For emergency care when the Ashe Center is closed, students may obtain treatment at the UCLA Medical Center Emergency Room on a fee-for-service basis.

MENTAL HEALTH SERVICES

Services for mental health range from routine counseling and psychotherapy to a phone hot line.

Student Psychological Services
Student Psychological Services (SPS) offers short-term personal counsel and psychotherapy in Wooden Center West. ☎ (310) 825-0768

Psychologists, clinical social workers, and psychiatrists assist with situational stresses and emotional problems from the most mild to severe. These may include problems with interpersonal relationships, academic stress, loneliness, difficult decisions, sexual issues, anxiety, depression, or other concerns affecting the personal growth of students.

Service is confidential and available to regularly enrolled students. Students are seen individually by appointment or may choose from a number of groups offered each term. Emergency and walk-in counseling is also available. See http://www.sps.ucla.edu.

SPS is also a designated Sexual Harassment Information Center, as well as a campus Harassment Information Center, available to all UCLA students (see Harassment in the Appendix for more information).

UCLA Peer Helpline

UCLA Peer Helpline is an after-hours crisis intervention and referral hot line staffed by trained UCLA volunteers. Students can call and talk to a peer counselor about school stress, relationship problems, loneliness, depression, drug problems, suicide, or anything else that is on their mind. ☎ (310) 825-HELP

STUDENT SAFETY AND SECURITY

Dial 911 from any campus phone for police, fire, or medical emergencies. For nonemergency information, contact the UCLA Police Department. See http://www.ucpd.ucla.edu. ☎ (310) 825-1491

The police department provides a free Campus Escort Service every day of the year from dusk to 1 a.m. Uniformed community service officers (CSOs)—specially trained UCLA students—walk students, staff, faculty, and visitors between campus buildings, local living areas, or Westwood Village. See http://www.ucpd.ucla.edu/ucpd/cso/escorts.html. ☎ (310) 794-WALK

The free Evening Van Service provides a safe, accessible, and convenient mode of transportation around campus at night. Vans provide transportation between Ackerman Union, westside apartments, Lot 36, campus buildings, and residence halls. See http://www.ucpd.ucla.edu/ucpd/cso/vanroutes.html. ☎ (310) 825-9800

UCLA Sexual Violence Prevention and Education Services—including workshops, self-defense classes, counseling, and referrals—increase physical and psychological preparedness and heighten awareness of the complex issues of rape, sexual assault, and relationship violence. See http://www.thecenter.ucla.edu/sexviol.html. ☎ (310) 825-3945

Cardiopulmonary resuscitation (CPR) and basic emergency care courses are offered by the Center for Prehospital Care and can be organized most days and times. See http://www.cpc.mednet.ucla.edu. ☎ (310) 267-5959

The Office of Environment, Health, and Safety (EH&S) works to reduce workplace hazards on campus and to promote safety at all levels of the University community. EH&S is a consulting resource for UCLA departments and personnel who want to learn how to make the workplace safe. It handles requests for safety information and training, regulatory interpretation and applicability, approval for potentially hazardous procedures, resolution of safety problems, and surveillance and monitoring of persons and workplaces. See http://www.ehs.ucla.edu. ☎ (310) 825-5689

UCLA Emergency Numbers

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<thead>
<tr>
<th>Police, Fire, or Medical Emergency</th>
<th>911</th>
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<tbody>
<tr>
<td>UCLA Police Department (24 hours)</td>
<td>(310) 825-1491</td>
</tr>
<tr>
<td>UCLA Emergency Medical Center (24 hours)</td>
<td>(310) 825-2111</td>
</tr>
<tr>
<td>Campus Escort Service (dusk to 1 a.m.)</td>
<td>(310) 794-WALK</td>
</tr>
<tr>
<td>Helpline (8 p.m. to midnight)</td>
<td>(310) 825-HELP</td>
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ASSOCIATED STUDENT SERVICES

Founded when UCLA opened in 1919, the Associated Students UCLA provides services to the campus community through student government, publications, and services and enterprises. Every registered UCLA student is a member of ASUCLA. See http://www.asucla.ucla.edu.
ABOUT UCLA

STUDENT GOVERNMENT

Many facets of student life at UCLA are sponsored or organized by student government. Getting involved in the decision-making process is rewarding and offers avenues of expression students may not find in other aspects of their university experience.

Graduate Students Association

The Graduate Students Association (GSA) is the official organization representing UCLA graduate students in academic, administrative, campus, and statewide areas. GSA appoints or elects graduate student members to important campus organizations and committees from the Student Fee Advisory Committee to the committees of the Academic Senate. It sponsors various graduate student journals, programs, and social events, including the Melnitz Movies film program. See http://gsa.asucla.ucla.edu.

(310) 206-8512

Undergraduate Students Association

Undergraduate student government is embodied in the Undergraduate Students Association (USA). Its governing body, the Undergraduate Students Association Council (USAC), is comprised of elected officers as well as appointed administrative, alumni, and faculty representatives. Every UCLA undergraduate is a member of USA.

The breadth of USA activities offers an invaluable service to the campus and surrounding communities and provides students the opportunity to participate in and benefit from these endeavors. For example, USA programs benefit both campus and community through programs to tutor youths and adults, address health needs of ethnic communities, combat poverty and homelessness, and better the environment.

Student government also supports approximately 20 student advocacy groups on campus from the African Student Union to the Vietnamese Student Union. See http://students.asucla.ucla.edu.

CAMPUS EVENTS

Each year approximately 40,000 students, faculty, and staff attend programs of the Campus Events Commission (CEC) including a low-cost film program, a speakers program, and performances by dozens of outstanding entertainers.

The Speakers Program brings entertainers, politicians, and literary figures to campus and presents two annual awards programs—the Jack Benny Award for comedic excellence and the Spencer Tracy Award for outstanding screen performance. Speakers and awardees have included notables as varied as Bill Gates, Whoopi Goldberg, and Tom Hanks.

The Concert Program brings new and name performing artists like Rage Against the Machine or A Tribe Called Quest to UCLA for free and affordably priced concerts. See http://students.asucla.ucla.edu/cec/. (310) 825-1958

The Cultural Affairs Commission sponsors art exhibits in the Kerckhoff Hall Art Gallery and the Jazz/Reggae Festival. (310) 825-6564

PUBLICATIONS AND BROADCAST MEDIA

Publications and media provide a training ground for aspiring writers, journalists, photographers, and radio and television announcers while serving the communication needs of the campus community. Most publications offices are in Kerckhoff Hall. See http://studentmedia.ucla.edu.

Daily Bruin

The Daily Bruin, with a circulation of 15,000, is one of the largest daily newspapers in Los Angeles. As the principal outlet for campus news, the Bruin is published each weekday of the academic year (once a week during the summer) and is distributed free from kiosks around campus and local areas. Students work as reporters, editors, designers, photographers, and advertising sales representatives; new staff members are welcome. See http://www.dailybruin.ucla.edu. (310) 825-9898

Newsmagazines

Seven print newsmagazines reflecting the diversity of the campus community are published each term. Al-Talib, Fem, Ha’Am, La Gente de Aztlan, Nommo, OutWrite, and Pacific Ties deal respectively with issues relevant to the Muslim; feminist; Jewish; Chicano, Latino, and Native American; African American; lesbian, gay, bisexual, and transgender; and Asian communities. Each includes news and features on political and cultural affairs both on and off campus. Prospective staffers are welcome.

Online Media

Student Media supports the Bruinwalk community portal website.

UCLAradio

UCLAradio broadcasts live over the Internet from http://www.uclaradio.com and features college alternative, hip-hop, jazz, and world music. It also covers select Bruin football, basketball, and baseball games and a lineup of sports talk shows. Studios are in Ackerman Union; all positions, including on-air, news staff, and advertising representatives, are open to students. (310) 825-6955

(310) 825-6955

(310) 825-1958

(310) 825-6564

(310) 825-9898

(310) 825-6955
UCLAtv
UCLAtv, the student-run television station, broadcasts over the campus cable network (channel 29)—available in the residence halls and select campus buildings—and the Internet from http://www.uclatv.com. It gives students an opportunity to practice television-related skills and to provide information, entertainment, and a forum for the free expression and exchange of ideas to the UCLA community. Station facilities are in Kerckhoff Hall and Ackerman Union.

UCLA Yearbook
The UCLA yearbook, Bruinlife, is one of the largest student publication efforts on campus. Available each summer, it contains photographs and information on undergraduate students, graduating seniors, athletic teams, fraternities and sororities, and campus activities. A separate publication, the First Year Book, is produced for new UCLA students each fall. Students who would like to participate may contact the yearbook staff. See http://www.bruinlife.com. ☎️ (310) 825-2640

UCLA Restaurants
ASUCLA operates more than a dozen restaurants and three coffee houses on campus, assuring a range of eating options from Italian to sushi. From the residence halls to the student union, a restaurant is never far. Hours vary, especially during summer and holidays. For hours and locations of all the restaurants, see http://www.asucla.ucla.edu-restaurants-hours.asp.

UCLA Store
In terms of sales, the UCLA Store is the biggest college store in the nation. There are five locations on campus. Author signings, sales, and other special events are announced in the Daily Bruin or on the UCLA Store site. See http://www.uclaestore.com/uclagm/.

The UCLA Store–Ackerman Union has eight departments. The Textbooks department carries required and recommended texts for most undergraduate and many graduate courses and operates a buyback service so students can sell used texts. BookZone offers reference books and a wide selection of titles in literature, science, history, and technical disciplines, including the UCLA Faculty Authors section. The Computer Store carries personal computers, peripherals, accessories, and software at low academic prices. Essentials offers school and office supplies, including consumables for computer printers. BearWear specializes in UCLA emblematic merchandise. Fast Track carries active sportswear for men and women, plus an extensive Clinique counter. Market is a convenience store, with snacks, health and beauty aids, gifts, greeting cards, and cut flowers. The store also houses a sporting goods department. ☎️ (310) 825-7711

UCLA Store–Health Sciences, http://www.uclaestore.com/uclahss/, ☎️ (310) 825-7721, specializes in books and supplies for students in dentistry, medicine, nursing, public health, and related areas. UCLA Store–lu Valle Commons, ☎️ (310) 825-7238, carries art supplies and books, as well as textbooks and supplies for all on-campus Extension courses and selected academic programs (architecture and urban design, art, design, film, information studies, law, management, public policy, social welfare, theater, urban planning). North Campus Shop, and Hill Top Shop in Sunset Village, are convenience store locations.

Other Services and Enterprises
ASUCLA oversees a variety of other services ranging from a copy center and post office to a hair salon and travel agency. Most are located in Ackerman Union.

Students preparing to graduate can use the Campus Photo Studio, ☎️ (310) 206-8433, for their senior yearbook portraits. Graduation Etc., http://www.collegestore.org/ge2/default.asp, ☎️ (310) 825-2587, sells and rents caps, gowns, and hoods for degree ceremonies and provides announcements, diploma mounting, and other graduation-related products and services.

On the lighter side, ASUCLA operates the X-Cape Arcade with pool tables and pinball, video, and electronic games. ☎️ (310) 206-0829

Services for Student Life
From housing to transportation, basic student needs are facilitated by services designed to enhance all aspects of student living.

Accommodations
The UCLA Housing website is the best guide for finding the right kind of accommodation for different lifestyles and budgets. It includes detailed information about the different residence options, dining plans, support and extracurricular programs, and an
online housing application. See http://www.housing.ucla.edu. ☏ (310) 206-7011

On-Campus Housing
Many students, especially those in their first year, choose to live on campus. Besides the convenience, it’s a good way to meet other people and to find out about social and academic activities. Four residence halls, two residential suites, and five residential plazas accommodate over 9,100 undergraduates. Three more residential houses accommodate 120 transfer and upper division students. All on-campus housing is coed and within walking distance to classrooms.

Rooms in undergraduate residences are furnished and usually shared between two to three students. Meals are served daily at residential restaurants, and students may choose from a variety of meal plans.

To apply for on-campus housing, the application must be completed online by the deadlines set by the housing office. See http://www.housing.ucla.edu/myhousing/. Students applying for Winter or Spring Quarter are assigned on a space-available basis in the order applications are received.

Per-person costs for the academic year start at just over $8,900. Consult the housing office for the range of price options. See http://www.housing.ucla.edu/rates/.

Off-Campus Housing
The UCLA Community Housing Office provides information and listings for University-owned apartments, cooperatives, private apartments, roommates, rooms in private homes, and short-term housing. Rental listings are updated daily. Fraternity and sorority housing provides another option for members of the Greek system.

Within walking distance of campus, the University maintains seven off-campus apartment buildings for full-time undergraduate students. Apartments vary from singles to three-bedroom units, with bedrooms usually shared by two or three students. Not all types of apartment spaces are available to entering students. ☏ (310) 206-7011

Off-campus apartments for married, single-parent, and single graduate students include unfurnished studio, one-, two-, and three-bedroom units, some located within walking distance of campus and others about five miles from campus. Assignment to several of the apartment units is by wait list; students should not wait until they have been accepted to UCLA to apply. Verification of marriage and/or copies of children's birth certificates must accompany applications for married and family housing. ☏ (310) 398-4692

Many of the fraternities and sororities at UCLA own chapter houses. Complete information and membership requirements are provided by Fraternity and Sorority Relations. See http://www.greeklife.ucla.edu/housing.htm. ☏ (310) 825-6322

The Community Housing Office also has bus schedules, area maps, and neighborhood profiles. A current BruinCard or letter of acceptance is required for service. See http://www.cho.ucla.edu. ☏ (310) 825-4491

BANKING
Automated Teller Machines representing several major banks are located in Ackerman Union and near restaurants and shops around campus.

The University Credit Union has an office in West Los Angeles and a branch office in Ackerman Union. See http://www.ucu.org.

BRUINCARD
The UCLA BruinCard is a mandatory student identification card that is used to electronically confirm student status and eligibility for services. Supportive photo identification, such as a driver's license or passport, is required when the card is issued.

The primary benefit of the BruinCard is convenience. It is a versatile card that serves the following functions: confirmation of student status; I.D. card for faculty, staff, and students; residence hall access and meal card; library card; recreation card; debit card (if activated) for purchases at campus stores and restaurants on and off campus; time-management card for departments using the Kronos system; and access to the Santa Monica Big Blue Bus system.

Students with a hold from an office with which they have an outstanding obligation (financial, academic, or administrative) may not receive services until the hold is released by the initiating office. For details on outstanding holds and initiating offices, check URSA at http://www.ursa.ucla.edu.
BruinCard centers are in 123 Kerckhoff Hall, 107 UCLA Wilshire Center, and 150A Sproul Hall. See http://www.bruincard.ucla.edu to check account balance, make deposits, view recent transactions, and report lost or stolen cards.  (310) 825-2336

CAREER CENTER
The UCLA Career Center, located in the Strathmore Building, offers career planning and employment assistance free to all UCLA students. See http://career.ucla.edu.  (310) 206-1915

Career Planning and Exploration
Career counselors provide assistance in selecting a major, setting realistic career goals, investigating career options, evaluating graduate and professional school programs, and developing skills to conduct a successful job search. Information on local, national, and international internship opportunities can assist students in exploring different career possibilities, making important professional contacts, and obtaining valuable on-the-job experience. The Career Center Library offers a collection of over 3,000 resources, including career-related books and directories, videos, periodicals, and other materials. In addition, the Career Center offers workshops on a variety of career-related topics; many are repeated several times each term.

Employment Assistance
Students who need extra money to finance their college degree can find a large volume of part-time, temporary, and seasonal employment leads advertised through the Career Center’s 24-hour BruinView™ online listings. Students and recent graduates looking for full-time, entry-level career positions may access hundreds of current professional, managerial, and technical openings in numerous career fields. Seniors and graduate students may participate in campus interviews for positions in corporations, government, not-for-profit organizations, elementary and secondary schools, community colleges, and four-year academic institutions. Annual career fairs and special events offer additional opportunities to meet potential employers.

CENTER FOR WOMEN AND MEN
The Center for Women and Men in the Student Activities Center offers services to all UCLA students, with special focus on gender-related issues and concerns and reentry/nontraditional student services.

The center presents workshops and support groups on topics such as assertiveness training, child care, career and leadership development, healthy relationships, mentorship for women in the sciences, men’s issues, returning to school, single parenting, sexual violence prevention and education, and health and wellness. It also offers referrals for medical, legal, career planning, personal counseling, and other services both on and off campus. In addition, rape services consultants (RSCs)—individuals who provide information, support, and resources for members of the UCLA community who have been raped or sexually assaulted—can discuss options and alternatives, help identify and assist in contacting the most appropriate support services, and answer any questions that may arise. See http://www.thecenter.ucla.edu.  (310) 825-3945

The center is also a designated Sexual Harassment Information Center and campus Harassment Information Center available to all UCLA students (see Harassment in the Appendix for more information).

CENTRAL TICKET OFFICE
Tickets for UCLA events are available at the Central Ticket Office (CTO) in the James West Alumni Center. As part of its service, CTO offers students with current BruinCards discount tickets to campus athletic and cultural events and local movies. Students may also purchase tickets to off-campus events through Ticketmaster, as well as student discount tickets for Los Angeles area buses. See http://www.tickets.ucla.edu.  (310) 825-2101

DEAN OF STUDENTS
The Office of the Dean of Students in Murphy Hall helps students, either directly or by referral, with whatever needs they might have. Direct services include general counseling; sending emergency messages to students; and assisting in understanding University policies and procedures, including grievance procedures regarding student records, discrimination, and student debts.

In addition, the office publishes Official Notices in the Daily Bruin at various times during the year. Such notices are important, and all students are held responsible for the information in them.

The Office of the Dean of Students may also administer campus discipline and enforce the standards of citizenship that students are expected to follow at UCLA. Standards involve complying with the policies and regulations governing this campus and being aware that violation of those policies or regulations can result in disciplinary action. Refer to Student Conduct: University Policies in the Appendix for more information. See http://www.deanofstudents.ucla.edu.  (310) 825-3871

EARLY CARE AND EDUCATION
UCLA Early Care and Education (ECE) operates three child care centers near the University and student housing. Care is provided for children two months to six years old at most centers. Fees depend on the age of the child. A limited number of state grants and partial scholarship subsidies is available for eligible student families. See http://www.ece.ucla.edu.  (310) 825-5086
The Child Care Resource Program helps parents make off-campus child care arrangements and coordinates a Choosing Child Care Forum each month. ☏(310) 825-8474

The University Parents Nursery School is a multicultural cooperative school for two- to five-year-old children of UCLA students, faculty, and staff. See http://www.upns.bol.ucla.edu. ☏(310) 397-2735

The University Village Kindergarten Program offers a multicultural, full-day science-based curriculum for five-year-old children of UCLA students, faculty, and staff. It also offers summer enrichment activities. See http://www.ece.ucla.edu/UVK_Program.asp. ☏(310) 915-5827

**INTERNATIONAL STUDENT SERVICES**

International student services in Bradley Hall provide support for UCLA’s international community, particularly for nonimmigrant students. An orientation program helps international students plan their academic objectives, and programs throughout the year allow them to share viewpoints with American students and the community.

**Dashew Center for International Students and Scholars**

The Dashew Center for International Students and Scholars assists students with questions about immigration, employment, government regulations, financial aid, academic and administrative procedures, cultural adjustment, and personal matters. The center seeks to improve student and community relationships, helps international students with language, housing, and personal concerns, and sponsors cultural, educational, and social programs. The center is a designated Sexual Harassment Information Center for international students and a Harassment Information Center available to all UCLA students (see Harassment in the Appendix for more information). In addition, the center provides visa assistance for faculty members, researchers, and postdoctoral scholars. See http://www.internationalcenter.ucla.edu. ☏(310) 825-1681

**OFFICE FOR STUDENTS WITH DISABILITIES**

The Office for Students with Disabilities (OSD) in Murphy Hall provides academic support services to regularly enrolled students with documented permanent or temporary disabilities in compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and University policies. Services include campus orientation and accessibility, note takers, readers, sign language interpreters, Learning Disabilities Program, registration assistance, test-taking facilitation, special parking assistance, real-time captioning, assistive listening devices, on-campus transportation, adaptive equipment, support groups and workshops, tutorial referral, special materials, housing assistance, referral to the Disabilities and Computing Program, and processing of California Department of Rehabilitation authorizations. There is no fee for any of these services. All contacts and assistance are handled confidentially. See http://www.osd.ucla.edu. ☏(310) 825-1501, TDD (310) 206-6083, fax (310) 825-9656

For information on the Disabilities and Computing Program, see Computer Support under Supporting Resources earlier in this section.

**OFFICE OF OMBUDS SERVICES**

The Office of Ombuds Services responds to issues and concerns from students, staff, faculty, and administrators. Acting impartially, ombuds persons may investigate unresolved conflicts or facilitate the resolution of problems for which there are no established guidelines and may also, where possible and when requested by the visitor, assist in resolving an issue through mediation (including sexual harassment cases). The office is in the Strathmore Building. See http://www.ombuds.ucla.edu. ☏(310) 825-7627

The office is also a designated Sexual Harassment Information Center for students, faculty, and staff, as well as a campus Harassment Information Center available to all UCLA students (see Harassment in the Appendix for more information).

**PARKING AND COMMUTER SERVICES**

Parking, ridesharing, and other transportation options and services are offered through UCLA Transportation Services. There are several commuting alternatives for students to get to and from campus without driving their cars. Both full-time and part-time riding opportunities are available.
Commuter Assistance-Ridesharing

The Commuter Assistance-Ridesharing (CAR) Office is the best place for information on transportation options. Many students form or join existing UCLA carpools or vanpools. More than 135 vanpools commute to UCLA from nearly 80 Southern California communities. Full- and part-time riding opportunities are available, and registered two- and three-person student carpools are given top priority to receive parking (see below).

Information on these and other commuting options, including an extensive network of public transit, are available online or at the CAR office in the Strathmore Building at Strathmore Drive and Westwood Plaza. See http://www.transportation.ucla.edu. ☎️(310) 794-RIDE

Parking Permits

Due to limited availability, parking at UCLA is offered to students who demonstrate the greatest need. Student parking permits are assigned through a point system that considers class standing, commute distance, employment, dependent children, and professional school obligations. Students are encouraged to apply on time and follow all application and payment guidelines in order to increase their chances of receiving a permit. Permits are not guaranteed.

When assigning parking permits to students, UCLA Parking Services gives the highest priority to carpools. Carpool permits are guaranteed to all qualified two- and three-person student carpool groups that apply on time. Student carpools park in central campus parking areas and share a discounted permit fee. Students interested in forming a carpool who need help finding other students living near them should call the CAR office. All members of a proposed student carpool must apply in person as a group. ☎️(310) 794-RIDE

Most student permits are assigned for the academic year and can be paid for annually or quarterly. Renewal forms for students paying quarterly are automatically mailed before the Winter and Spring Quarter payment due dates. Students who are not offered a parking assignment during a given term or who wish to change their parking area need to reapply the following quarter.

Student Parking Request forms, along with important quarterly due dates and information on how to apply for a parking permit, are available online, by phone, or in person at Parking Services. Parking request forms can also be downloaded at http://www.transportation.ucla.edu/appmain.htm. ☎️(310) 825-9871

Students with permanent disabilities who have disabled persons' placards or DMV-issued disabled persons' license plates, and students with short-term disabilities, may apply to the Office for Students with Disabilities for parking assignments and on-campus transportation assistance. See http://www.osd.ucla.edu. ☎️(310) 267-2004

Parking permits and access cards to campus lots and structures are not transferable and may be purchased only from UCLA Parking Services. Resale is prohibited and subjects both buyer and seller to disciplinary action.

POST OFFICES

Campus mail is handled by UCLA Mail, Document, and Distribution Services, which offers full-service document processing and delivery for the campus community. See http://www.maildoc.ucla.edu. ☎️(310) 794-6371

The United States Postal Service operates two express post offices for the campus, including a branch in Ackerman Union.

STUDENT LEGAL SERVICES

Through Student Legal Services in Dodd Hall, currently registered and enrolled students with legal problems or questions about their legal rights can get assistance from attorneys or law students under direct supervision of attorneys. They help students resolve legal problems, including those related to landlord/tenant relations; accident and injury problems; criminal matters; domestic violence and harassment; divorces and other family law matters; automobile purchase, repair, and insurance problems; healthcare, credit, and financial aid issues; consumer problems; and University-related issues. Assistance is available only by appointment. See http://www.studentlegal.ucla.edu. ☎️(310) 825-9894

STUDENT ACTIVITIES

The opportunities to participate in extracurricular activities at UCLA are virtually unlimited and provide a good way for students to expand their horizons beyond classroom learning.

CLUBS AND ORGANIZATIONS

Joining a club or organization is a great way to meet other students with shared interests and to get involved in campus life. UCLA has over 800 different organizations recognized by the Center for Student Programming—more than are found on almost any other university campus in the country.

CENTER FOR STUDENT PROGRAMMING

Organizations registered with the Center for Student Programming (CSP) include political, recreational, community service, cultural, academic, religious, and residential clubs. It only takes three people to start a new club if their interests are not already represented. CSP also handles complaints of misconduct against officially recognized student
ABOUT UCLA

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One major CSP division is Fraternity and Sorority Relations.

Fraternity and Sorority Relations
Fraternities and sororities have been at UCLA since the 1920s. Today UCLA counts over 60 national and local Greek-letter organizations that make up one of the largest Greek systems on the West Coast.

Fraternity and Sorority Relations (FSR) interprets University policies, procedures, and regulations and acts as a liaison between established Greek organizations and the University. It coordinates Greek-letter social organizations that participate in programs such as the Greek Leadership Conference, Membership Recruitment, Greek Week, New Member Forums, Dating Expectations Programs, intramural tournaments, and University-sponsored programs. See http://www.greeklife.ucla.edu. (310) 825-6322

FSR is a designated campus Harassment Information Center available to all UCLA students (see Harassment in the Appendix for more information).

COMMUNITY PROGRAMS OFFICE
The UCLA Community Programs Office (CPO) was established in 1970 by concerned students, staff, and faculty who felt that the pedagogical role of students should not only consist of classroom instruction but should be relevant to social issues as well.

Currently, the CPO houses over 25 student-initiated community and student support projects that encompass educational, legal, social, medical, and academic services to underserved communities in the Los Angeles area. CPO is unique in its multicultural and ethnically diverse environment and the experience it offers in campus and community programming. See http://www.communityprograms.ucla.edu. (310) 825-5969

PERFORMING ARTS
Concerts, dance recitals, and theater productions are all part of exceptional programs offered by the Music, Ethnomusicology, Theater, Film, Television, and Digital Media, and World Arts and Cultures departments and by UCLA Live.

DEPARTMENT EVENTS
The Ethnomusicology Department provides students with the opportunity to perform in various world music and jazz ensembles that provide concerts listed in the department’s schedule of events. See http://www.ethnomusic.ucla.edu.

The Music Department features performances by ensembles ranging from music theater to opera. In addition, the Gluck Fellows Music Outreach Program provides community outreach through free performances throughout the Los Angeles and Southern California region. See http://www.music.ucla.edu.

The Theater Department presents a series of major productions to the general public, and the Film, Television, and Digital Media Department features student-directed films and television programs throughout the year. The School of Theater, Film, and Television’s annual festival is a week-long celebration of film, digital media, animation, screenwriting, and acting that features everything from performance art to the classics. See http://www.filmtv.ucla.edu.

The World Arts and Cultures Department presents events and concerts involving departmental faculty, guest artists, and students. Student performances include M.F.A. concerts, an undergraduate and graduate student-produced concert, and the Senior Concert/Colloquium. Students also perform in more informal programs, such as the end-of-term student works festival or Patu Hana, that feature many world dance forms. See http://www.wac.ucla.edu.

UCLA LIVE
Since 1937, UCLA Live has served as the premier West Coast showcase for world-class performing artists and ensembles as well as innovative new work in dance, music, theater, and performance art.

UCLA Live presents more than 200 public concerts and events each year, often sponsoring debut performances of new works by major artists. Through UCLA Live, the campus hosts a varied and active performance program, ranging from regular concerts by the Los Angeles Chamber Orchestra to events with Ladysmith Black Mambazo, Yo-Yo Ma, Alvin Ailey American Dance Theater, Jessye Norman, Mikhail Baryshnikov, Pina Bausch Tanztheater Wuppertal, Twyla Tharp, Stomp, Pinchas Zukerman, and Branford and Wynton Marsalis. Subject to availability, discount tickets are offered to students, faculty, and staff. See http://www.uclalive.org. (310) 825-4401

SPORTS AND ATHLETICS
Athletics play a major role in the University’s mission to provide a well-rounded education both in and out of the classroom. UCLA continues to live up to its reputation as a national leader in intercollegiate sports and now ranks first in the U.S. in the number of National Collegiate Athletic Association (NCAA) championships won (100). In 2005-06 the UCLA athletic programs (men and women) placed second in the Directors Cup national all-around excellence survey. In the 23-year history of the former USA Today survey, the men’s program placed first 11 times, while the women’s program placed first five times in the final nine years. UCLA was the first university in the country to win five NCAA men’s

UCLA also has produced a record number of professional athletes such as Troy Aikman, Eric Karros, Reggie Miller, Natalie Williams, and Corey Pavin and Olympians such as gold medalists Lisa Fernandez, Karch Kiraly, Gail Devers, Peter Vidmar, Dot Richardson, and Jackie Joyner-Kersee.

ATHLETIC FACILITIES
The major indoor arena at UCLA is the famed Pauley Pavilion, which seats 12,800 for UCLA basketball, volleyball, and gymnastics events. It was the site of the 1984 Summer Olympics gymnastics competition. Immediately adjacent, Drake Stadium is the home of UCLA track and field and soccer competitions and site of many outdoor events, including the U.S. Olympic Festival '91. The Los Angeles Tennis Center, a 5,800-seat outdoor tennis stadium and clubhouse, was the site of the 1984 Olympic tennis competition. Easton Softball Stadium, which seats 1,050, is the home of the championship women's softball team. The Morgan Intercollegiate Athletics Center houses the UCLA Athletic Hall of Fame. Off-campus facilities include Jackie Robinson Stadium for varsity baseball and the renowned Rose Bowl in Pasadena, home of the UCLA football team.

MEN'S INTERCOLLEGIATE SPORTS
UCLA is a member of the Pacific-10 Conference, which includes Arizona State University; University of Arizona; University of California, Berkeley; Stanford University; University of Southern California; University of Oregon; Oregon State University; Washington State University; and the University of Washington. UCLA teams have won an overall total of 70 NCAA men's championships—second highest in the nation—including 19 in volleyball, 16 in tennis, 11 in basketball, eight each in track and field and water polo, four in soccer, two in gymnastics, and one each in golf and swimming. Students can participate on the varsity level in football, basketball, track, baseball, tennis, volleyball, water polo, soccer, and cross-country.

WOMEN'S INTERCOLLEGIATE SPORTS
With 11 different varsity sports, the UCLA women's program is one of the most extensive in the country, and UCLA has played an important role in establishing women's sports as part of the NCAA. Women's teams have won an overall total of 30 NCAA titles—fifth highest in the nation—including 10 in softball, five each in gymnastics, track and field, and water polo, three in volleyball, and two in golf. Other nationally ranked teams are those in basketball, swimming, tennis, cross-country, and soccer.

UCLA RECREATION
To help students learn new skills, meet people with similar interests, relieve stress, and increase fitness, the Department of Cultural and Recreational Affairs (CRA) oversees programs from intramural sports to outdoor adventures. See http://www.recreation.ucla.edu. ☏ (310) 825-3701

INTRAMURAL AND CLUB SPORTS
The UCLA Intramural Sports Program consists of team, dual, and individual sports competition in tournament or league play. Over 2,200 teams and 16,000 participants compete throughout the year in various sports activities ranging from basketball to water polo. UCLA students and recreation membership holders are eligible. Varying skill levels are offered in almost all activities, and the emphasis is on friendly competition.

The Club Sports Program offers students the chance to organize, coach, or participate in sports that fall beyond the scope of intramurals but are not offered at the varsity level. Recognized teams exist in archery, badminton, baseball, men's crew, cycling, dragon boat, equestrian, fencing, field hockey, men's gymnastics, ice hockey, kendo, men's and women's lacrosse, roller hockey, men's and women's rugby, running, sailing, snowboarding and skiing, men's and women's soccer, surfing, table tennis, tae kwon do, triathlon, men's and women's volleyball, water skiing, men's water polo, and wrestling.

OUTDOOR ADVENTURES
Outdoor Adventures offer students the chance to get away and enjoy the wonders of local and distant mountains and waterways. Activities designed for beginning to experienced outdoors people include camping, rock climbing, scuba diving, windsurfing, canoeing, kayaking, and hiking. ☏ (310) 206-1252

CLASS PROGRAMS
Noncredit recreation classes in arts, dance, fitness sports, martial arts, swimming, tennis, yoga, and a variety of group fitness programs are offered for beginning and intermediate levels. Private lessons in tennis, fitness activities, swimming, racquetball, martial arts, and golf are also available.

Fitness is offered either as a recreation class or on a drop-in basis. A Fitness Pass must be purchased to participate in drop-in fitness classes.
FACILITIES

For registered students who prefer independent recreation and exercise, CRA offers access to many facilities. The Wooden Recreation and Sports Center has multiple gymnasiums, racquetball/handball/squash courts, a weight training facility, rock climbing wall, exercise/dance and martial arts studios, and a games lounge. The Sunset Canyon Recreation Center offers activities in an outdoor park setting that features a 50-meter swimming pool, 25-yard family pool, picnic/barbecue areas, play fields, outdoor amphitheater, 8 lighted tennis courts, sand volleyball court, and various meeting rooms and lounges, as well as a challenge course. The UCLA Marina Aquatic Center offers sailing, windsurfing, kayaking, rowing, and other activities. Students also have the use of Pauley Pavilion, Drake Stadium, Sycamore Tennis Courts, Los Angeles Tennis Center, Intramural Fields, Student Activities Center, and Kaufman Hall for recreational sports and activities.

YOUTH AND FAMILY PROGRAMS

Youth and Family Programs offer exciting activities for children 3 to 17 years old. Summer programs include Camp Adventure for ages 11 to 15, Camp Bruin Kids for ages 5 to 10, Camp Bruin Tots for ages 4 and 5, Bruins on Broadway for ages 9 to 14, Camp Explore for ages 7 to 11, Camp Extreme for ages 14 to 16, Sunset Sleepover for ages 7 to 12, Camp Voyager for ages 11 to 13, Counselors in Training for ages 15 to 17, group and private lessons, and the Family Outdoor Entertainment Series. Activities combine play with skill development and deepen the fun in learning.

UCLA ALUMNI ASSOCIATION

Celebrating more than 73 years of serving the UCLA community, the UCLA Alumni Association has more than 84,000 members, making it one of the largest alumni groups in the nation. Whether a person is a recent graduate, a pioneer Bruin, or somewhere in between, membership in the Alumni Association is the best way to stay connected to UCLA and its growing excellence.

Membership dues enable the Alumni Association to serve as an advocate on campus and to play the vital role of guardian of the value of every UCLA degree. Dues also support programs such as Blue and Gold Week, Dinners for 12 Strangers, Spring Sing, senior events, class reunions, and the scholarship program.

The association offers many benefits and services, including career services. Members make friends, pursue lifelong learning, save money, and make a difference. UCLA graduates, Bruin parents, and friends of the University are invited to take advantage of all the association has to offer. Offices are in the James West Alumni Center. See http://www.uclalumni.net. ☎ (310) 825-2586 or, outside Los Angeles County, (800) 825-2586.

OUTSTANDING GRADUATE STUDENT AWARD

The Outstanding Graduate Student Award recognizes graduate students for their academic excellence, research contributions, and service to the University and community. Candidates must be scheduled to receive their degrees sometime within the current academic year. Nominations close the end of July for the next year. Awards are presented at the annual UCLA Awards Ceremony in June. All recipients of the Outstanding Graduate Student Award receive a $500 honorarium, life membership in the UCLA Alumni Association, and the Chancellor’s Service Award. ☎ (310) 206-1995
The Office of Undergraduate Admissions and Relations with Schools (UARS) invites prospective students to visit UCLA for individual or group tours of the campus. Reservations are required. See http://www.admissions.ucla.edu/tours.htm.

**UNDERGRADUATE ADMISSION**

Undergraduate Admissions and Relations with Schools  
1147 Murphy Hall  
(310) 825-3101  
http://www.admissions.ucla.edu

Prospective UCLA undergraduates should give careful thought to adequate preparation in reading, writing, mathematics, laboratory sciences, languages, visual and performing arts, and other subject areas related to a degree objective or major. High school honors level and advanced placement courses are good preparation regardless of the desired major. To be competitive, UCLA applicants need to present an academic profile much stronger than that represented by the minimum UC admission requirements.

**APPLYING FOR ADMISSION**

To apply for admission to UCLA, complete the UC application for admission and scholarships. Applicants may apply for the Fall Quarter at http://www.universityofcalifornia.edu/admissions/. Applicants may also download and print an application from the same website.

One application is used for the nine UC campuses with undergraduate programs. Students apply to one UC campus for a nonrefundable application fee; an additional fee is charged for each additional campus.

**WHEN TO APPLY**

All majors and programs in the College of Letters and Science, the School of Arts and Architecture, the School of Theater, Film, and Television, the School of Nursing, and the Henry Samueli School of Engineering and Applied Science are open for Fall Quarter. The application filing period is November 1-30 of the prior year. The Henry Samueli School of Engineering and Applied Science currently accepts transfer applications for the Winter and Spring Quarters. See http://www.admissions.ucla.edu/apply/ for up-to-date information on application procedures.

**NOTIFICATION OF ADMISSION**

The UC Undergraduate Application Processing Service mails out notices to acknowledge receipt of applications. Subsequently, UCLA UARS notifies students of the admission decision. The length of time before admission notification varies. In general, Fall Quarter freshman applicants are notified beginning in late March and transfers in late April.

Students who are offered admission are asked to submit a Statement of Intent to Register and a Statement of Legal Residence. A nonrefundable deposit, also required at this time, is applied to the University registration fee as long as students register in the term to which they are admitted.

**ENTRANCE REQUIREMENTS**

Entrance requirements established by the University follow the guidelines set forth in the California Master Plan for Higher Education, which requires that the top one eighth of the state’s high school graduates be eligible for admission to the University of California. Requirements are designed to ensure that all eligible students are adequately prepared for University-level work.

Fulfilling the minimum admission requirements does not assure admission to UCLA. Admission is based on demonstrated high scholarship in preparatory work going well beyond the minimum eligibility requirements. UCLA offers admission to those students with the best overall academic preparation, viewed in the context of the applicants’ academic and personal circumstances and the overall strength of the UCLA applicant pool. For details, see http://www.admissions.ucla.edu.

**ADMISSION AS A FRESHMAN**

Students are considered freshman applicants if they have not enrolled in a regular session of any college-level institution since graduation from high school. Students who attend summer session immediately following high school graduation are still considered freshman applicants.

**MINIMUM ADMISSION REQUIREMENTS**

To be considered for admission as a freshman, students must meet the subject requirement, the scholarship requirement, and the examination requirement.
### Subject Requirement

The subject requirement, sometimes called A to G requirements, is a sequence of high school academic courses required for admission to the University. Each course must be completed with a grade of C or better. The requirement consists of 15 year-long courses, seven of which must be taken during the last two years in high school. These are the minimum requirements; students should exceed these requirements whenever possible.

- **History/Social Science.** Two years of history/social science, including one year of world history, cultures, and geography, and one year of U.S. history or one-half year of U.S. history and one-half year of civics or American government.

- **English.** Four years of college preparatory English that include frequent and regular writing, and reading of classic and modern literature. No more than one year of ESL-type courses can be used to meet this requirement.

- **Mathematics.** Three years of college preparatory mathematics that include the topics covered in elementary and advanced algebra and two- and three-dimensional geometry (four years are recommended, including trigonometry and calculus). Approved integrated mathematics courses taken in the seventh and eighth grades may be used to fulfill this requirement if the high school accepts them as equivalent to its own mathematics courses.

- **Laboratory Science.** Two years of laboratory science (three years are recommended) that provide fundamental knowledge in at least two of the three foundational subjects: biology, chemistry, and physics. Advanced laboratory science courses that have biology, chemistry, or physics as requisites and offer substantial new material may be used to fulfill this requirement. The last two years of an approved three-year integrated science program that provides rigorous coverage of at least two of the three foundational subjects may also be used to fulfill this requirement.

- **Language Other than English.** Two years of the same language, other than English (three to four years are recommended). Courses should emphasize speaking and understanding and include instruction in grammar, vocabulary, reading, composition, and culture. Courses in languages other than English taken in the seventh and eighth grades may be used to fulfill part of this requirement if the high school accepts them as equivalent to its own language courses.

- **Visual and Performing Arts.** One year-long approved arts course from a single VPA discipline: dance, drama/theater, music, or visual art.

- **College Preparatory Electives.** One year (two semesters), in addition to those required in a to f above, selected from the following areas: history, English, advanced mathematics, laboratory science, language other than English (a third year in the language used for e requirement or two years of another language), social science, and visual and performing arts (non-introductory level courses).

<table>
<thead>
<tr>
<th>Subject Requirement</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. History/Social Science</td>
<td>2 years</td>
</tr>
<tr>
<td>b. English</td>
<td>4 years</td>
</tr>
<tr>
<td>c. Mathematics</td>
<td>3 years</td>
</tr>
<tr>
<td>d. Laboratory Science</td>
<td>2 years</td>
</tr>
<tr>
<td>e. Language Other than English</td>
<td>2 years</td>
</tr>
<tr>
<td>f. Visual and Performing Arts</td>
<td>1 year</td>
</tr>
<tr>
<td>g. College Preparatory Electives</td>
<td>1 year</td>
</tr>
</tbody>
</table>

### Scholarship Requirement

Eligibility for admission to the University of California is based on a combination of the grade-point average in the academic subject requirement and the ACT Assessment plus Writing Tests or the SAT Reasoning Test, and SAT Subject Test scores. For details, refer to Introducing the University at http://www.universityofcalifornia.edu/admissions/ITU.pdf.

### Examination Requirement

All freshman applicants must submit scores from the following tests:

1. Either the ACT Assessment plus Writing Tests score or the new SAT Reasoning Test score.
2. Two SAT Subject Tests in two different subject areas: English (literature), history/social studies, mathematics (level 2 only), science, or languages other than English. Applicants to the Henry Samueli School of Engineering and Applied Science are strongly encouraged to take the following SAT Subject Tests: mathematics level 2 and a science test (biology E/M, chemistry, or physics) that is closely related to the applicant's intended major.

The tests should be taken by December of the senior year, as they are part of the review process. Students should request that test results be sent directly to UCLA when they take each test.

### Admission Selection

Many elements are considered in the selection process, but the primary ones are (1) academic grade-point average, (2) scores on the ACT Assessment plus Writing Tests or the SAT Reasoning Test, and the two required SAT Subject Tests, (3) quality, content, and level of coursework throughout the entire high school program, including the senior year, and (4) number of and performance in honors and advanced placement (AP) courses.

Freshman applicants who are admitted must have an official, final high school transcript (showing the date of graduation) sent to UCLA. Sixth or seventh semester transcripts are not required.

Because admission requirements and selection criteria may change, freshman applicants should see...
Admission as a Transfer Student

Students are considered transfer applicants if they have been a registered student (1) at another college or university or (2) in college-level extension courses. (This does not include attending a summer session immediately following high school graduation.) Students may not disregard their college record and apply for admission as a freshman.

In accordance with the California Master Plan for Higher Education, first preference is given to California community college applicants. Applicants transferring from other UC campuses are next in priority, followed by applicants transferring from other colleges and universities. Each application receives a comprehensive review, integrating all available information. Students attaining senior standing are generally not admitted.

Academic criteria are as follows: junior-level standing (60 semester/90 quarter transferable units completed) by the end of the spring term before transfer, grade-point average in transferable courses, significant preparation for the major, completion of the English composition and mathematics requirements, and progress toward completion of the Intersegmental General Education Transfer Curriculum (IGETC) or UCLA general education requirements.

For details on transfer admission requirements, refer to the guidelines in the application. See http://www.admissions.ucla.edu/prospect/Adm_tr/tradms.htm.

Intercampus Transfers

Undergraduate students registered in a regular session at any campus of the University (or those previously registered who have not since registered at any other school) may apply for transfer to another campus of the University. Submit the UC Application for Transfer Admission and Scholarships with the required application fees. The filing periods are the same as those for new applicants. Students who have attended another UC campus and wish to be considered for admission to UCLA must have been in good standing when they left that campus. Intercampus transfers are not automatic; students must compete with all other applicants.

Transfer Credit and Credit by Examination

The University awards unit credit to transfer students for certain courses completed at other accredited colleges and universities. To be accepted for credit, the courses must be comparable to those offered at the University, as determined by UARS. All courses that meet the criteria are used in determining eligibility for admission.

To convert semester units into quarter units, multiply the semester units by 1.5. For example, 12 semester units × 1.5 = 18 quarter units.

College credit for examinations given by national testing services is generally not allowed, except for the AP Tests given by the College Board and the International Baccalaureate. See http://www.admissions.ucla.edu/Prospect/APCredit.htm.

International Applicants

To be considered for admission to the University of California, international students must have completed secondary school with a superior average in academic subjects and have earned a certificate of completion that would enable them to be admitted to a university in the home country.

The application for admission, copies of official certificates, and detailed records of all secondary schools attended should be submitted as early as possible after the filing period opens. This allows time for the necessary correspondence and, if students are admitted, to obtain passport visas.

Proficiency in English. Students whose native language is not English must have sufficient command of English to benefit from instruction at UCLA. To demonstrate that command, they are required to take the UCLA English as a Second Language Placement Examination (ESLPE) before the term in which they are to register. Failure to sit for the ESLPE results in a hold on student records. Depending on the ESLPE results, students may be required to successfully complete one or more English as a second language courses. In addition, they are advised to take the Test of English as a Foreign Language (TOEFL) as a preliminary means of testing their ability. Make arrangements for this test by contacting TOEFL/TSE Publications, P.O. Box 6151, Princeton, NJ 08541-6151, (609) 771-7100 or at http://www.ets.org. Have the test results sent directly to the UCLA Office of Undergraduate Admissions and Relations with Schools.

Second Bachelor’s Degree

By policy, second bachelor’s degrees are not generally granted, except in the School of Nursing.
REGISTRATION

Enrollment and Degree Services
1113 Murphy Hall
(310) 825-1091, option 6
http://www.registrar.ucla.edu

Registration consists of paying fees and enrolling in classes.

1. Registration fees and other University charges are due the 20th of each month. Billing and Receivable (BAR) accounts can be viewed through URSA.
2. Enrollment in classes is completed via URSA at http://www.ursa.ucla.edu.

Students must complete both processes by the established deadlines to be officially registered and enrolled for the term.

PAYING FEES

Details on fee payment, enrollment procedures, and deadlines are in the Schedule of Classes at http://www.registrar.ucla.edu/schedule/.

eBill

BAR accounts are administered electronically (eBill) through URSA. Monthly financial activity is displayed for the current month, as well as account activity for the last 24 months. URSA also provides a link to the Student Financial Services website (http://www.sfs.finance.ucla.edu) where students can find important communications from the University regarding registration and University policies. Students can pay their BAR account electronically using Visa, MasterCard, or Discover Card through URSA only. Students can also print a remittance document from the eBill webpage and mail payments with a check or money order. UCLA converts checks into electronic payments.

ANNUAL UNDERGRADUATE FEES

Although the exact cost of attending UCLA varies, there are some fees that all UCLA students must pay. Each entering and readmitted student is required to submit a Statement of Legal Residence. Legal residents of California are not required to pay tuition. Students classified as nonresidents must pay annual tuition in addition to registration fees. For a definition of residence and nonresidence, see the Appendix.

Fees are subject to change without notice by The Regents. See http://www.registrar.ucla.edu/fees/ for updates. The registration fee covers student expenses such as counseling, facilities, registration, graduation, and health services. The fee is charged whether or not students make use of these services.

Annual Fees for 2007-08

<table>
<thead>
<tr>
<th>Fees</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>University registration fee</td>
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<tr>
<td>Educational fee</td>
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<td>Undergraduate Students Association fee</td>
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<td>Ackerman Student Union fee</td>
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<td>Ackerman/Kerckhoff Seismic fee</td>
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<td>Wooden Recreation Center fee</td>
<td>45.00</td>
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<td>Student Programs, Activities, and Resources Center fee</td>
<td>93.00</td>
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<tr>
<td>Student Health Insurance Plan (SHIP)</td>
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<tr>
<td><strong>Total for California residents</strong></td>
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<tr>
<td>Nonresident educational fee</td>
<td>6,402.00</td>
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<tr>
<td>Nonresident tuition</td>
<td>19,068.00</td>
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<tr>
<td><strong>Total for nonresidents</strong></td>
<td><strong>$27,333.23</strong></td>
</tr>
</tbody>
</table>

COURSE MATERIALS FEES

The College of Letters and Science and each school are authorized to assess course materials fees. Some course materials fees are assessed based on actual enrollment at the end of the fourth week of classes. Students are responsible for ensuring that all Study List errors and omissions are corrected prior to this time. All students in a course with an approved course materials fee are assessed the fee, regardless of major. The fee is nonrefundable. Students who are approved for a Late Add enrollment in a course after the fourth week are required to pay the course materials fee, which is billed through BAR, for the entire term.

For fee amounts and updates, see http://www.registrar.ucla.edu/fees/.

MISCELLANEOUS FEES

Miscellaneous fees include charges for late registration fee payment. Late fees also apply if students file their Study List late or do not pay off BAR balances on time. Fees are charged if any check is returned by a bank for any reason. Charges are assessed for most petitions and other special requests. A full list of miscellaneous fees is posted at http://www.registrar.ucla.edu/fees/miscfee.htm.

STUDENT HEALTH INSURANCE PLAN

All UCLA undergraduate students are automatically assessed for and enrolled in the Undergraduate Student Health Insurance Plan (USHIP) as a condition of registration at UCLA. Continued enrollment in a qualified medical/health insurance plan must be maintained during all registered terms.

The USHIP fee is billed each term along with other UCLA fees. USHIP fulfills all of the requirements mandated for a qualified medical/health insurance plan as defined by the University. The Ashe Student Health and Wellness Center is the primary health-
care provider for USHIP and is where all nonemergency medical care must be initiated for USHIP claim payment consideration. See http://www.studenthealth.ucla.edu.

Waiving USHIP
Students may waive USHIP if they (1) maintain active enrollment in a qualified medical/health insurance plan that meets all established requirements, (2) apply for a USHIP waiver within established deadlines, and (3) correctly complete the online USHIP waiver form.

Students must apply for a USHIP waiver online. See the Ashe Center website for details, including a definition of a qualified private medical/health insurance plan. Follow the Online Services link from http://www.studenthealth.ucla.edu.

Deadlines for Waiving USHIP
Third-party individuals may not waive USHIP for another student. Waivers must be submitted by the stated deadlines whether or not fees have been paid by that date. Deadlines are strictly enforced.

The schedule for waiving out of USHIP is as follows:

- Fall Quarter: September 1-20
- Winter Quarter: December 1-20
- Spring Quarter: March 1-20
- Fall Semester: August 1-20
- Spring Semester: December 1-20

The above information serves as official notice of the UCLA mandatory medical/health insurance requirement. All students are responsible for providing complete and accurate information that must be submitted by the stated deadlines.

Hepatitis B Vaccination Requirement
The California State Legislature requires as a condition of enrollment that students 18 years and younger take the hepatitis B vaccination series. The vaccine is given in three doses. The second dose is given one month after the first, and the third is given five months after the second. Students who have not had the vaccine should start the series before their first term begins. Because this is a state requirement, students who have not completed the immunization series by the time their third term begins will not be allowed to enroll.

Students who have already been immunized may fill out the form at https://www.studenthealth.ucla.edu/root/nbhepb.htm.

Fee Waiver Requests
Late registration, processing, and penalty fees are waivable on request in writing to the office assessing the fees only if they were incurred through the fault of the University or because a student suffered sudden and debilitating injury or accident.

Reduced Fee Programs
UCLA recognizes the need for part-time study in special circumstances. Undergraduate resident students—when approved for enrollment in 10 units or less by the dean of their program—may be eligible for a one-half reduction in the educational fee. The reduction is based on total units enrolled as of Friday of the third week of classes.

File a Request for Fee Reduction with the academic dean’s office by Friday of the second week. Except for these qualified and approved part-time students, there is no reduction in the University registration, educational, student union, or Undergraduate Students Association fee.

Undergraduate nonresident students with College or school approval for enrollment in 10 units or less pay only half the nonresident tuition fee. File a Request for Fee Reduction with the College or school office by Friday of the second week of classes for the applicable term.

Full-time University employees may apply for a reduction of the registration and educational fees at their Campus Human Resources office. Students who use the part-time fee reduction may not also use the UC employee reduction.

Enrolling in Classes
New students should see an academic counselor before enrolling in classes (counseling is required in the Henry Samueli School of Engineering and Applied Science). Counselors help new students choose courses and formulate a schedule tailored to their academic interests or degree objectives.

The Orientation program takes new students through a step-by-step process designed to insure that they enroll in an effective program.

The Schedule of Classes (http://www.registrar.ucla.edu/schedule/) contains listings of class times, meeting rooms, instructors, and all information necessary for enrolling in classes. Use the Schedule and academic counseling to assemble a program of courses.
URSA ENROLLMENT

Students enroll in classes through University Records System Access (URSA), which is accessed at http://www.ursa.ucla.edu. The site walks students through the enrollment procedure.

Students are assigned specific times—called appointments—when they are allowed to enroll. Use URSA to determine enrollment appointments.

Also use URSA for other enrollment-related tasks, such as adding, dropping, or exchanging classes, signing onto the wait list for a class and checking waitlist status, or changing the grading basis for a class. For more information, see the URSA and Enrollment sections of the Schedule of Classes at http://www.registrar.ucla.edu/schedule/.

IN-PERSON ENROLLMENT

For classes that require written approval or specialized processing, students may enroll in person at 1113 Murphy Hall Monday through Friday from 9 a.m. to 5 p.m.

STUDY LIST

A Study List is the record of courses a student is enrolled in for the term. At 11:59 p.m. on Friday of the second week of instruction the Study List of enrolled courses becomes official, and all wait lists are eliminated. Students should verify their Study List through URSA after each enrollment transaction. Students are responsible for all courses and the grading basis as listed on URSA and cannot receive credit for courses not listed.

After Friday of the second week, most changes to the Official Study List can be made with a fee via URSA. Some changes require an Enrollment Petition along with approval signatures.

See Enrollment in the Schedule of Classes for deadlines and complete instructions.

Errors or omissions should be corrected before the College or school deadlines for changes by petition. Unapproved withdrawal from or neglect of a course entered on the Study List results in a failing grade.

CONCURRENT ENROLLMENT

Concurrent enrollment—defined as taking courses during regular sessions for credit at UCLA and, at the same time, at another college institution, including UCLA Extension—is not permitted except in extraordinary circumstances, and no credit is given for such courses unless the approval of the UCLA College or school has been obtained by petition prior to enrollment.

INTERSEGMENTAL CROSS-ENROLLMENT

At the discretion of the appropriate campus authorities on both campuses, California Senate Bill 361 allows undergraduate students enrolled in any campus of the California community colleges, the California State University, or the University of California to enroll without formal admission in a maximum of one course per academic term at a campus of either of the other systems on a space-available basis. Enrollment in precollege courses is excluded.

UCLA students qualify for intersegmental cross-enrollment if they meet all the following requirements:

1. Complete at least one term at UCLA as a matriculated student
2. Enroll for a minimum of 6 units for the current term
3. Earn a grade-point average of 2.0 (C) for work completed
4. Pay appropriate tuition and fees at UCLA for the current term
5. Complete appropriate academic preparation as determined by the host campus
6. Have California residence status

Obtain a concurrent enrollment application from the College or school. An administration fee is charged for each academic term such enrollment is requested.

INTERCAMPUS VISITOR PROGRAM

Undergraduate students enrolled at one campus of the University of California may have the opportunity to attend another UC campus for one quarter or semester on the Intercampus Visitor Program. UCLA students obtain applications from Enrollment and Degree Services, 1113 Murphy Hall. Observe the deadlines on the application. Applications are reviewed by a student’s College or school. Letters and Science students should consult College Academic Counseling in A316 Murphy Hall; students in Arts and Architecture should contact the Student Services Office in 2200 Broad Art Center; Theater, Film, and Television students should consult the Student Services Office in 103 East Melnitz Building; Engineering students should contact the Office of Academic and Student Affairs in 6426 Boelter Hall.

SIMULTANEOUS UC ENROLLMENT

Undergraduate students may enroll simultaneously in courses offered by another UC campus. Eligible students must be registered (fees paid), in good standing, and enrolled in at least 12 units at UCLA. Students may simultaneously enroll in no more than one UC host-campus course not to exceed 6 units. Before attending the host campus, both campuses must give approval. Approval to enroll simultaneously on another UC campus does not guarantee
credit toward specific degree or general education requirements. Application of host-campus courses to UCLA graduation requirements is determined by the College or school. Details are on the application form. Obtain applications and directions for submitting forms from the following offices: honors students, A311 Murphy Hall; student athletes, Morgan Center; AAP students, 1209 Campbell Hall; all other Letters and Science students, College Academic Counseling, A316 Murphy Hall; Arts and Architecture, Theater, Film, and Television, Engineering and Applied Science, and Nursing students, their respective Student Affairs Office. The application is also available at http://www.registrar.ucla.edu/forms/simulenroll.pdf.

FINANCIAL SUPPORT

Financial Aid Office
A129J Murphy Hall
(310) 206-0400
http://www.fao.ucla.edu

The deadline for filing all undergraduate financial aid applications is March 2 (or the Friday before that date if March 2 falls on a weekend). Applications received after the deadline are considered late, and limited aid is offered.


APPLYING FOR FINANCIAL AID

Students do not need to come from low-income families to qualify for financial aid. However, those who apply for need-based aid—including grants, loans, work study, and some scholarships—must demonstrate financial need, which is defined as the difference between the cost of attending UCLA and the amount that they and their families should be able to contribute.

No financial aid can be awarded to international students in their first year of attendance at UCLA.

To qualify for aid, students must also comply with minimum progress standards, which set unit and grade-point average requirements as defined in the Appendix of this catalog.

Free Application for Federal Student Aid

To evaluate financial need, all students who apply for aid must provide financial information on the Free Application for Federal Student Aid (FAFSA). If students are financially independent according to the federal financial aid guidelines, their own financial circumstances are analyzed rather than those of their parents. The University expects that students and their families bear as much of the cost of a student’s education as their circumstances permit.

The FAFSA is used to apply for all federally funded programs, funds administered by UCLA, and Cal Grants administered by the California Student Aid Commission. Loans that are not need based are also available to all students who complete FAFSA. Students should complete the FAFSA at http://www.fafsa.ed.gov by March 2. Be sure to indicate that the data is to be sent to UCLA by using the UCLA Title IV code: 001315.

Prospective Students

In addition to using the FAFSA to apply for aid, prospective students who apply to UCLA with the UC application for admission and scholarships may use the application to apply for undergraduate scholarships.

Continuing Students

Continuing students may access their FAFSA renewal applications at http://www.fafsa.ed.gov beginning in January and should complete them by March 2 for on-time consideration. International students can obtain their applications for aid from the Financial Aid Office beginning in January.

TYPES OF FINANCIAL AID

The four basic types of aid are scholarships, grants, loans, and work-study employment. Since most students are eligible for several of these, the Financial Aid Office usually offers a combination.

Aid can be merit based—awarded on the basis of standards such as academic achievement, or need based—awarded on the basis of financial need as determined by FAFSA. Most scholarships are merit based, while grants, loans, and work study are generally need based.

Scholarships

The Undergraduate Scholarship Program at UCLA rewards academic excellence and assists with the expenses of an undergraduate education.

Financial need is required only for University and name (endowed) scholarships other than those listed below. Each year approximately $300,000 is awarded from the many different scholarship funds. Awards range from $100 to $2,000 and are not renewable. Entering students apply for scholarships on the UC application for admission and scholarships. Continuing students must apply using the Continuing Undergraduate Scholarship Applica-
 tion at http://www.fao.ucla.edu. The application is available at the beginning of January and is due by March 2.

**Regents Scholarships**

One of the highest honors conferred on an undergraduate student is the Regents Scholarship, which is awarded for four years to students entering from high school and for two years to entering juniors. A UCLA faculty committee selects Regents Scholars on the basis of exceptional academic achievement and promise. Scholars receive a yearly honorarium if they have no financial need. Scholars who establish financial need by filing the FAFSA receive a combination of grants and scholarships to cover the amount of their need. Regents Scholars also receive special privileges.

**UCLA Alumni Scholarships**

Alumni Scholarships are available to California high school graduates who will be UCLA freshmen in the Fall Quarter. Additional scholarships are available to community college transfer students with a 3.75 GPA. Students should have demonstrated leadership ability, be involved in extracurricular activities, and show academic excellence and promise. Alumni Scholarships are merit based and competitively awarded. Freshman award amounts range from $4,000 to $15,000 and are paid over four years; transfer awards are $4,000 each and are paid over two years. Annual renewals require a combination of 30 hours of service annually to UCLA and the Alumni Association.

The Dr. Ralph J. Bunche Freshman Alumni Scholarships, also presented by the UCLA Alumni Association and named in honor of the Nobel Peace Prize laureate and UCLA alumnus, are given to students from historically underrepresented backgrounds to encourage students who add to the diversity of the UCLA campus community. Award amounts range from $4,000 to $15,000. Awards are paid over four years; annual renewals require a combination of 30 hours of service annually to UCLA and the Alumni Association.

In addition to the monetary awards, Alumni Scholars receive special privileges. Recipients who receive work study or loans as part of a financial aid package receive additional alumni grant monies the first year. Alumni Scholars are eligible to receive additional grant monies in their second, third, and fourth years up to $5,000.

Applicants need not be related to UCLA alumni to apply. The UCLA Alumni Association administers these programs. For more information and applications, see http://www.uclalumni.net/Scholarships/.

**ROTC Scholarships**

ROTC Scholarships are awarded on a competitive basis to U.S. citizens regardless of parents’ income. Scholarships provide tuition, a book allowance, fees, and a tax-free monetary allowance between $250 and $500 per month during the academic year. Applications for scholarships may be obtained by calling—Army, (310) 825-7381; Air Force, (310) 825-1742; Navy/Marine Corps, (310) 825-9075—or by writing to Armed Forces Opportunities, P.O. Box 2865, Huntington Station, NY 11746-2102. When writing, specify if the scholarship is desired for Army, Air Force, or Navy/Marine Corps. Applications for Army scholarships can also be obtained by calling (800) 872-7682 or by e-mail to atccps@usacc.army.mil; applications for Air Force scholarships can also be obtained at http://www.afrotc.com. Completed applications should be submitted prior to August 15 (Air Force and Navy/Marine Corps) or by November 15 (Army) for early consideration, but no later than December 1 (all services) of the year preceding college matriculation. Two- and three-year scholarship applications are also available and are considered when received.

**Grants**

Grants are based on need and do not have to be repaid. When awarding policies and funds permit, the financial aid package includes a grant.

**Federal Pell Grants**

Federal Pell Grants are based on exceptional need. They are awarded to undergraduate students who are U.S. citizens or eligible noncitizens and who have not earned a bachelor’s degree. Amounts for 2007-08 range from $400 to $4,050. Students who file the FAFSA are automatically considered for a Pell Grant. Eligibility is determined by the federal government. Award amounts depend on a student’s Estimated Family Contribution (EFC) and whether enrollment is full time or below.

**Academic Competitive Grants**

Academic Competitive Grants (ACG) are available to first- and second-year undergraduate students who have completed a rigorous high school curriculum and are U.S. citizens, Pell Grant eligible, and enrolled full time. Sophomores must also have a 3.0 grade-point average at the time they advance a grade level to qualify for the second year of ACG. ACG provides up to $750 for the first year of study and up to $1,300 for the second year.
Science and Mathematics Access to Retain
Talent Grants
Science and Mathematics Access to Retain Talent (SMART) Grants are available to third- and fourth-year undergraduate students who are U.S. citizens, Pell Grant eligible, enrolled full time, and majoring in physical, life, or computer sciences, engineering, mathematics, technology, or a critical foreign language. Students must have a 3.0 cumulative grade-point average to qualify. SMART provides up to $4,000 per year for the third and fourth year of study.

Cal Grants A and B
California residents who attend at least half-time are eligible to apply for a California Student Aid Commission Cal Grant award. The FAFSA and GPA Verification Form are the official applications for these programs. Cal Grant A awards assist low- and middle-income students with tuition and fee costs. They are based on need and grade-point average. Cal Grant B awards are intended to assist low-income and disadvantaged students with living expenses, books, supplies, and transportation costs. First-year awards may also cover registration fee costs. Renewal award recipients receive registration fee assistance. New awards are limited to students who have completed no more than one full-time semester or two full-time quarters or 16 semester units of part-time study or the equivalent.

State University Grants
State grants provide eligible on-time applicants with financial assistance from state funds. Awards range from $100 to $9,000 and are based on student need. All undergraduate students who are U.S. citizens or eligible noncitizens and who apply on time are considered.

Federal Supplemental Educational Opportunity Grants
Federal Supplemental Educational Opportunity Grants (FSEOG) are awarded to undergraduates with financial need. Awards range from $100 to $4,000. Recipients must be U.S. citizens or eligible noncitizens. Preference is given to Pell Grant and Cal Grant recipients. Only on-time, grant-eligible students are considered.

LOANS
Loans allow students to postpone paying some of the costs of their education until they have completed school. A financial aid offer includes a long-term, low-interest loan.

Borrowers must realize their commitment and responsibility to repay according to repayment schedules. Before accepting a loan, students should assess their total educational debt and ability to repay after graduation. The University makes every effort to assist students during the repayment of their obligation, but University services, including registration and the release of official transcripts, are withheld if the loan becomes delinquent. Seriously delinquent accounts are referred to a professional collection agency for action. All first-time borrowers must attend a debt management session before funds are released.

All loan recipients must come to the Student Loan Services Office (A227 Murphy Hall, http://www.loans.ucla.edu) for a loan exit interview before leaving UCLA for any reason. This interview helps students understand their loan agreement and their rights and responsibilities. If students fail to participate in an exit interview, the University places a hold on their academic records and registration materials. Call for an interview before graduating, transferring, or withdrawing from UCLA.

Federal Perkins Loans
Low-interest Federal Perkins Loans are awarded to eligible, on-time applicants who are U.S. citizens or eligible noncitizens. The loan limit per academic year is $4,000 for undergraduate students and $6,000 for graduate and professional students. The actual award amount may be less, based on annual funding and UCLA’s institutional awarding policy. The loan interest rate is 5 percent. Loan repayment and interest accrual begin either six or nine months after graduation or dropping below half-time enrollment.

Federal Family Education Loan Program

Federal Stafford Loans
Federal Stafford Loans are low-interest subsidized and unsubsidized loans financed by participating banks and other lending institutions. Loans are available to undergraduate, graduate, and professional students who are U.S. citizens or eligible noncitizens. The interest rate is fixed at 6.8 percent. Loan repayment begins six months after graduation or dropping below half-time enrollment.
Subsidized Federal Stafford Loans are awarded to students who have demonstrated need. Interest is paid by the federal government until six months after the student leaves school or drops below half-time enrollment.

Unsubsidized Federal Stafford Loans are available to all students regardless of income. Interest accrues from the date of disbursement, but students can avoid the extra costs of accrual by making regular interest payments while in school.

**Federal Parent Loans for Undergraduate Students**

Federal Parent Loans for Undergraduate Students (PLUS) are designed to help parents meet the total cost of education. Parents may be eligible to borrow up to the cost of a student’s education for the academic year less any other financial aid received. This loan is available only to parents who do not have adverse credit histories. The interest rate is fixed at 8.5 percent. Parents may want to consult a tax adviser to see if this interest is tax deductible.

**Private Loans**

Private loans are available to students who have received the maximum award amounts under the Federal Family Education Loan Program and require additional funding. These loans are sponsored by banks and private lending institutions. Interest rates and repayment schedules vary. These loans must be certified by the Financial Aid Office before funds can be disbursed.

<table>
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<th>Annual Limits</th>
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<td><strong>Subsidized Stafford Loans</strong></td>
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<td>Juniors/Seniors</td>
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<td>Graduates (beyond bachelor's degree)</td>
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| **Unsubsidized Stafford Loans**  
(includes any subsidized funds awarded) |
| Freshmen | $3,500 |
| Sophomores | 4,500 |
| Juniors/Seniors | 5,500 |
| Graduates (beyond bachelor's degree) | 8,500 |
| **Additional Unsubsidized Funding**  
(for independent students and students whose parents are denied PLUS loans) |
| Freshmen | $4,000 |
| Sophomores | 4,000 |
| Juniors/Seniors | 5,000 |
| Graduates (beyond bachelor's degree) | 12,000 |

**Emergency Loans**

Students need not be receiving financial aid to apply for emergency loans (eLOANS). They may borrow up to $200 for immediate emergency needs; the amount is repayable on the 20th of the month following the month in which the loan was made. To qualify, applicants must be registered UCLA students with satisfactory loan repayment records. Applications are available from the Student Loan Services Office, A227 Murphy Hall. See http://www.loans.ucla.edu/eloan.html.

**WORK-STUDY PROGRAM**

The Federal Work-Study Program (FWS) is intended to stimulate and promote part-time student employment, particularly for those from low-income families who are in need of earnings to pursue their studies.

Under FWS, the federal government pays a portion of the students’ wage and the employer pays the balance. Through this program, students may work for the University, government agencies, or public and private nonprofit agencies. Students employed through FWS provide essential services to the University and community and have the opportunity to hold jobs that may relate to their educational objectives or enable them to gain valuable work experience.

**MAJORS AND DEGREES**

Students may choose from over 126 majors in a wide variety of disciplines offered through the undergraduate degree programs of the College of Letters and Science, School of the Arts and Architecture, Henry Samueli School of Engineering and Applied Science, School of Nursing, and School of Theater, Film, and Television. For a complete list of major programs and degrees, see the table in the front of this catalog.

**PLANNING A MAJOR**

New students should obtain academic counseling before enrolling in classes at UCLA. Counselors can help new students formulate degree objectives based on interests, abilities, and career goals. As students begin to decide on a major, counselors can help them start fulfilling College or school requirements as well as the department requirements necessary for completion of the degree program.

**DECLARING A MAJOR**

Regulations and procedures for declaring a major vary for the College and each school. Students in the College of Letters and Science do not need to declare a major in their freshman year and can attend with an undeclared major until the end of their sophomore year. Certain schools require students to choose a major when applying for admission, or require early declaration. Check specific policies for declaration with the school or department adviser.

All students must declare a major by the beginning of their junior year (90 quarter units). To declare a major, obtain a Petition to Declare a Major at the College or school office. There is no fee for the petition.
INDIVIDUAL MAJORS

Highly motivated students who find that no single major accommodates their specific interest in a given subject may propose designing their own major. Proposals are prepared with faculty guidance and sponsorship and are thoroughly examined for cogency, completeness, and academic merit. Requirements for individual majors vary among the College and schools.

CHANGING MAJORS

Changing majors requires the approval of the College or school and the department. To change majors, obtain a Petition for Change of Major at the department office.

DEGREE REQUIREMENTS

As soon as they are accepted for admission to UCLA, new students should learn the requirements necessary to receive a bachelor’s degree and begin planning an appropriate program of study. All undergraduate students must satisfy three types of requirements for a degree:

1. University requirements
2. College or school requirements
3. Department requirements

UNIVERSITY REQUIREMENTS

The University of California has established two requirements that all undergraduate students must satisfy in order to graduate: Entry-Level Writing or English as a Second Language (ESL), and American History and Institutions. It is each student’s responsibility to see that these requirements are fulfilled.

ENTRY-LEVEL WRITING

Because proficiency in English composition is so important to successful performance in many courses, Entry-Level Writing is the only requirement for graduation that students must satisfy before entering UCLA or during their first year in residence. They may meet this requirement by

1. Scoring 3, 4, or 5 on one of the College Board Advanced Placement Tests in English OR
2. Scoring 5, 6, or 7 on the International Baccalaureate High Level English A Examination OR scoring 6 or 7 on the International Baccalaureate Standard Level English A Examination OR
3. Scoring 680 or better on the SAT II Subject Test in Writing OR
4. Presenting transfer credit for an acceptable college-level course in English composition (passed with a grade of C or better) at another institution OR
5. Passing the University of California Analytical Writing Placement Examination (all freshmen from California high schools should have taken the examination during the month of May before they enrolled; others take an examination at UCLA early in their first term)

If students do not meet the requirement in one of the ways described above, Academic Senate regulations require them to enroll in either English Composition A or 2 (determined by performance on the Analytical Writing Placement Examination) or 2I (determined by performance on both the Analytical Writing Placement Examination and English as a Second Language Placement Examination) as early as possible during their first year in residence. Each course must be taken for a letter grade and passed with a grade of C or better. Students receiving a final grade of C− or less must repeat the course during their next term in residence. Satisfaction of the Entry-Level Writing requirement is a requisite to English Composition 3 and all subsequent English courses.

ENGLISH AS A SECOND LANGUAGE

The English as a Second Language Placement Examination (ESLPE) is required of all entering UCLA students whose native language is not English and who have not otherwise satisfied the English as a Second Language (ESL) requirement. Neither the Test of English as a Foreign Language (TOEFL) nor any other English proficiency test can be submitted or accepted in lieu of the ESLPE. Undergraduate students may take the ESLPE only. Unauthorized retakes of the examination result in an invalid examination score.

Nonnative-speaking first-year students who have taken the Analytical Writing Placement Examination are evaluated on the basis of their composition and informed if they need to take the ESLPE before the term in which they are to register. Failure to take the ESLPE results in a hold on student records. Results of the ESLPE and the Analytical Writing Placement Examination are reviewed to determine which track (Entry-Level Writing or ESL) is a more appropriate placement. Students placed in the Entry-Level Writing track may satisfy the Entry-Level Writing requirement by following the guidelines listed above. If students are placed in the ESL track, they must complete the requirement by taking the designated courses through the ESL track.

Nonnative-speaking transfer students who have completed the English Composition 3 and English 4W equivalent courses at their transfer institution may nonetheless be held for the UCLA ESL requirement at the discretion of Undergraduate Admissions and Relations with Schools. This includes but is not
limited to all students who received a grade below B in either of these equivalent courses. Any transfer student held by UARS to the ESL requirement must take the UCLA English as a Second Language Placement Examination (ESLPE) before the term in which they are to register. Failure to sit for the ESLPE results in a hold on student records. Depending on the ESLPE results, students may be required to successfully complete one or more courses in the English as a Second Language series to satisfy the ESL requirement.

Results of the ESLPE are used to determine placement into the required sequence of ESL courses or exemption from the ESL requirement. In the case of a nonpassing score on the examination, students are placed in one or more of the credit-bearing courses—English as a Second Language 33A, 33B, 33C, and 35. Students must begin taking courses during their first term in residence at UCLA and must complete the courses in sequence with grades of C or better (C− or a Passed grade is not acceptable). All units are applied toward graduation but cannot be applied toward general education requirements. Certain ESL courses fulfill major prerequisite requirements and provide upper division elective units.

American History and Institutions

The American History and Institutions requirement is based on the principle that a U.S. citizen attending an American university should understand the history and public institutions of the U.S. under the federal and state constitutions. Candidates for a bachelor's degree must satisfy the American History and Institutions requirement by one of the following methods:

1. Completing a year's course in American history or American government, or a one-year combination of both, in high school with an average grade of B or better OR
2. Completing any one of the following UCLA courses with a grade of C or better, or a grade of Passed:
   - Asian American Studies M171D
   - Chicana and Chicano Studies M159A, M159B, M183
   - Economics 183
   - Geography 136

Equivalent courses completed in UCLA Extension or at another college institution, and accepted by the Board of Admissions, may be used to fulfill the requirement OR
3. Presenting a satisfactory result of the requirement, by examination, as administered at another college or university within the state OR
4. Scoring 500 or better on the SAT II Subject Test in American History OR
5. Scoring 3, 4, or 5 on the College Board Advanced Placement Test in American History.

Candidates for an instructional credential, but not for a degree, must take one of the following courses: History 143A, 143B, Political Science 145B, or 145C.

Students attending the University on an F-1 or J-1 visa may petition for exemption from this requirement by showing proof of temporary residence in the U.S.

For more information on this requirement, contact the undergraduate History Department counselor in 6248 Bunche Hall. (310) 825-3720

College or School Requirements

The College and each school with undergraduate programs establish their own degree requirements. These generally include a (1) unit requirement, which defines the total number of units to be completed, (2) scholarship requirement, which defines a minimum grade-point average, (3) residence requirement, which defines the amount of study that must be undertaken in residence at the UCLA campus, and (4) course requirements, which may include general education courses, reading and composition courses, foreign language courses, and core courses for the field of study. See the College and Schools section of this catalog for details on requirements set by the College and by each of the schools.

Department Requirements

Each department or interdepartmental program sets its own degree requirements in addition to those established by the College or school. Department requirements generally include (1) preparation for the major, which are lower division courses designed to prepare students for advanced study and (2) the major, which are upper division course requirements. Requirements for each department are listed in the Curricula and Courses section of this catalog.

Degree Policies

Students are responsible for degree policies and regulations as described in the Academic Policies section of this catalog.
UNDERGRADUATE RESEARCH

UNDERGRADUATE RESEARCH CENTERS

The Undergraduate Research Centers (URC) assist students in the arts, humanities, and social sciences (A334 Murphy Hall, 310-825-2935) and in science, engineering, and mathematics (2121 Life Sciences, 310-794-4227) by supporting scholarly, critical, and creative research. The centers provide mentoring and tutorials, manage the Student Research Program (SRP), and administer research stipends and scholarships. They also sponsor three student-run publications—the Undergraduate Science Journal, Aleph humanities and social sciences journal, and Westwind literary journal; organize campuswide conferences and events; and coordinate the Student Research Forum that promotes a broader and deeper understanding of university research and helps entry-level student researchers define their place in the larger research community. See http://www.college.ucla.edu/ugresearch/index.html.

CENTER FOR ACADEMIC AND RESEARCH EXCELLENCE

The Center for Academic and Research Excellence (CARE) provides enrichment opportunities for students majoring in the sciences, engineering, and mathematics who seek careers in scientific research and teaching and whose success through graduate training will increase the numbers of historically underrepresented individuals in academic and technological fields. CARE offers a variety of research opportunities during the academic year and summer that provides students the financial support to dedicate themselves to research. CARE programs, many sponsored by grants through federal agencies such as the National Institutes of Health (NIH) and the National Science Foundation (NSF), are for UCLA students as well as students from other universities. Offices are in 2121 Life Sciences. See http://www.college.ucla.edu/urc-care/careintro.htm.

STUDENT RESEARCH PROGRAM

Administered by each Undergraduate Research Center, the Student Research Program offers undergraduates, especially lower division and first-year transfer students, opportunities to become actively involved in the University research community. Working with faculty members on research projects, SRP students gain valuable research training and experience, as well as preparation for advanced undergraduate work and graduate school. Students enroll in course 99 in any department and receive 1 unit of course credit for each 30 hours of research completed during the term. See http://www.college.ucla.edu/urc-care/srp.htm or http://www.college.ucla.edu/ugresearch/srp.html.

UNDERGRADUATE RESEARCH FELLOWS PROGRAM

The Undergraduate Research Fellows Program (URFP) is available on a competitive basis and by application for undergraduate students who have financial need and who want to participate in two terms of research through SRP. The commitment to the SRP project is for Winter and Spring Quarters, and stipends are set at $1,000 per term. Applications are accepted during Fall Quarter only, and the deadline for submission of applications is November 30. See http://www.college.ucla.edu/urc-care/scholurfp.htm or http://www.college.ucla.edu/ugresearch/sch_urf.html.

UNDERGRADUATE RESEARCH SCHOLARS PROGRAM

The Undergraduate Research Scholars Program (URSP) offers scholarships from foundations, industry, and individual donors to continuing students (junior-level standing and higher). Applicants must have a strong commitment to research and must complete an honors thesis or a comprehensive independent studies project during the senior year. Applications are accepted during Spring Quarter for the following academic year. See http://www.college.ucla.edu/urc-care/scholursp.htm or http://www.college.ucla.edu/ugresearch/sch_ursp.html.

ACADEMIC RESEARCH COURSES

All academic departments offer undergraduate research courses that allow students to obtain academic credit for their research experiences. Students enrolled in the courses are often upper division students with Student Research Program experience. Department requirements for credit vary, but all departments require a research proposal to enroll in upper division tutorial courses and a research report to receive credit when the research project is completed. Senior students working toward honors or highest honors in many majors must complete a two-term (or more) research project that culminates in an honors thesis. Arrangements must be made with a faculty mentor before students can register for the course. See the undergraduate adviser in the department of interest for more information.
INTERNERSHIP, STUDY ABROAD, AND SERVICE PROGRAMS

Rewarding opportunities in the form of internships, community service work, industry and business positions, local, national, and international programs, and community-based teaching provide students with insights into a range of professional fields and the chance to apply academic theories firsthand.

EDUCATION ABROAD PROGRAM

The University of California offers international study programs in cooperation with over 150 host universities and colleges in 35 countries throughout the world. About 4,000 UC students, primarily undergraduates, take part in the program each year. Participating students remain registered on their home campuses while studying abroad and receive full academic credit for their work. Some 1,100 international students attend University of California campuses under the auspices of the Education Abroad Program (EAP). University of California faculty members, who serve as directors at many Study Centers, provide academic counsel to students while abroad. Full credit is granted for courses satisfactorily completed, and approved courses are recorded on official UC transcripts. With careful planning, study abroad should not delay progress toward graduation. Application of units earned abroad toward major or college requirements depends on UC departmental or college criteria.

The cost of study is comparable to the cost of studying on campus. In some cases, EAP costs less.

While on EAP, students are eligible for financial assistance. Those already receiving UC financial aid continue to receive grants, loans, and scholarships while abroad. Aid is based on the cost of studying at each EAP location and on individual need. Students who do not currently receive UC financial support may qualify for financial aid while on EAP. In addition to UC financial aid, EAP provides support through various scholarships and grants. Scholarships may also be available based on country, academic merit, or academic field of study. Contact the UCLA EAP Office and Financial Aid Office for additional information.

Graduate students who have completed at least one year of graduate work and have the approval of their graduate adviser and the dean of the Graduate Division may participate at most study centers.

Full details about the academic programs abroad, requirements, and application procedures are available in B300 Murphy Hall. Most EAP applications are due six to eight months before departure for the program. See http://www.international.ucla.edu/eap/ for more information and workshop deadlines and http://www.eap.ucop.edu for course listings for each EAP location. ☎️ (310) 825-4995

INTERNERSHIP AND STUDY ABROAD SERVICES

Internship and Study Abroad Services, an office of the UCLA Career Center, offer access to a variety of off-campus learning experiences. The office is in 200 Strathmore Building. See http://career.ucla.edu/InternshipStudyAbroad/. ☎️ (310) 825-0831

NATIONAL INTERNSHIP PROGRAM

The Washington, DC, program allows students to do fall, winter, spring, and summer 10-week internships. Internships are available with elected officials, government agencies, public interest groups, international organizations, the media, and a wide range of public and private enterprises. In Sacramento, internships are available only in the summer. Stipends, loans, and scholarships are available to students through the program.

LOS ANGELES INTERNSHIP PROGRAM

Local internships are available throughout the year in fields such as advertising, business, engineering, film, law, media, politics, public affairs, sales, and social services.

INTERNATIONAL OPPORTUNITIES

The Internship and Study Abroad office advises students on study, travel, volunteer, international internship, and short-term work opportunities outside the U.S., offering information on overseas study programs open to UCLA students. The office maintains a library of current materials related to study, travel, and other opportunities abroad.

QUARTER IN WASHINGTON, DC

The Center for American Politics and Public Policy (CAPPP) selects undergraduates each fall, winter, and spring to participate in its Quarter in Washington Program. The program offers an exciting opportunity to combine UCLA courses with research and field experience. Students live at the UC Washington Center for up to 12 weeks, dividing their time between courses taught by UC faculty members and a part-time field internship placement. They are registered as UCLA students and earn credit for all
classes taken. The core course is multiple-listed in political science, sociology, and history, meets the capstone requirement for the Public Affairs minor, applies toward the Civic Engagement minor, and is eligible for College Honors by petition. At least one course in a subject other than political science, such as economics or history, is offered each quarter. All courses take advantage of Washington's unique resources for study and research.

Center administrators help students find a field placement, which is central to a research seminar each student takes, in a Washington organization. Placements have included ABC News, the Brookings Institute, CNN, the Department of Justice, the Kennedy Center, Studio Theatre, the Center for Strategic and International Studies, various members of Congress, and the White House. For information, contact the CAPPP Office by e-mail at info@cappp.ucla.edu. See http://www.cappp.ucla.edu.

**RESERVE OFFICERS’ TRAINING CORPS**

The University of California, in accordance with the National Defense Act of 1920 and with the concurrence of The Regents, offers courses and programs in military training. This voluntary training allows students to qualify for an officer’s commission in the Army, Navy, Air Force, or Marine Corps while completing their college education. ROTC courses are offered by three departments within the College of Letters and Science: Aerospace Studies (Air Force), Military Science (Army), and Naval Science (Navy and Marine Corps). Equipment, uniforms, and textbooks are provided. The programs provide a monthly stipend to eligible students while on contract and additional financial benefits, including tuition and fee scholarships, to qualified students. Individual programs are described in the Curricula and Courses section of this catalog.

**TEACHING OPPORTUNITIES**

Exciting teaching programs prepare undergraduate students for careers in teaching or education and allow them to serve in classrooms in the Los Angeles area. Many teaching opportunities are offered in conjunction with the Graduate School of Education and Information Studies (GSE&IS), which helps coordinate programs leading to various instructional credentials or to graduate study.

**EDUCATION STUDIES MINOR**

The Education Studies minor provides an introductory course sequence for students who might want to pursue a career in education. The program office is in 1009 Moore Hall. See http://www.gseis.ucla.edu/edminor/.

**MATHEMATICS/EDUCATION PROGRAM**

The Mathematics/Education Program, offered jointly by GSE&IS and the Department of Mathematics, leads to a teaching credential and master’s degree in education for mathematics majors considering a career in secondary school teaching. The program offers courses in education for students completing courses required for a Bachelor of Science degree in a major within the Department of Mathematics. During their senior year, participants serve as teaching interns in an observational teaching program under the direction of a teaching coordinator. During the year following graduation, students take additional graduate courses and teach full-time in a secondary classroom with a full salary. For information, contact Mathematics Student Services, 6356 Math Sciences. See http://www.math.ucla.edu/ugrad/matheduc.shtml.

**SCIENCE TEACHER EDUCATION PROGRAM**

The Science Teacher Education Program, cosponsored by the College and GSE&IS, allows science majors to observe and participate in classrooms in schools in the Los Angeles area and to begin teacher education courses. Students earn a master’s in education and a teaching credential in one academic year beyond the baccalaureate. For details, e-mail Dr. Arlene Russell at russell@chem.ucla.edu or contact any science department undergraduate counseling office. See http://www.nslc.ucla.edu/STEP/.

**TEACHER EDUCATION PROGRAM**

The Teacher Education Program allows students to obtain both a Master of Education degree and a preliminary multiple or single subject credential in a full-time, two-year program that provides clinical classroom experience. See http://www.centerx.gseis.ucla.edu/tep/.

**TEACHLA**

TeachLA University Internship Program is a collaboration between GSE&IS, Los Angeles Unified School District (LAUSD), United Teachers Los
Angeles, and UCLA Extension. Over a five-term period, interns teach at an LAUSD school and engage in coursework. On successful completion, interns receive a preliminary multiple or single subject credential. See http://www.centerx.gseis.ucla.edu/cla/.

UCLA CENTER FOR COMMUNITY LEARNING

The UCLA Center for Community Learning serves faculty members, undergraduate students, and community partners through academic courses and programs, including credit-bearing internships, service learning courses, community-based research, and service scholarships. It is home to the undergraduate minor in Civic Engagement, the only one of its kind among research universities. The center works closely with the Center for Community College Partnerships and is the undergraduate curricular arm of the Chancellor’s UCLA in LA Initiative.

The center provides opportunities for undergraduate students to link community-based learning with classroom education or service scholarships through AmeriCorps. The office is in A265 Murphy Hall. See http://www.college.ucla.edu/up/ccl/. ☏ (310) 825-7867

UNIVERSITY OF CALIFORNIA CENTER SACRAMENTO

The University of California Center Sacramento (UCCS) Program is an academic state government program sponsored by the UC Office of the President. The center's long-term goal is to bring together UC faculty members with undergraduate and graduate students to pursue research related to state government, politics, and public policy.

The quarterly experiential learning program offers students an opportunity to participate in an intensive internship and take research seminar courses that investigate policy issues from UC faculty members. Along with internship placement and academic courses, the center offers a speaker series featuring prominent guests from state government. The residential program is open to juniors and seniors who have completed a significant part of their upper division and major courses. UCCS is open to students in all fields of study. Contact the UCLA Center for Community Learning, A265 Murphy Hall. See http://uccs.universityofcalifornia.edu. ☏ (310) 825-2295

LOWER DIVISION SEMINAR PROGRAMS

COLLEGIUM OF UNIVERSITY TEACHING FELLOWS

The Collegium of University Teaching Fellows (CUTF) permits the finest UCLA advanced graduate students to develop and teach lower division seminars in their area of expertise. These unique courses cover all areas, from the humanities to the life, physical, and social sciences. Undergraduate students take courses that are at the cutting edge of a discipline and benefit from a small-seminar environment. GE and honors credit is granted for most seminars, which are offered in Winter and Spring Quarters only. Enrollment is limited. For further information, contact the Office of Instructional Development in 70 Powell Library. See http://www.oid.ucla.edu/students/cutf/. ☏ (310) 206-8998

HONORS COLLEGIUM

The Honors Collegium offers a unique educational experience where students learn how to think critically and creatively and how to communicate effectively. Courses emphasize the breadth of an inter-disciplinary approach to learning and focus on small classes and individual attention. See http://www.college.ucla.edu/up/honors/hchome.html.

FIAT LUX SEMINARS FOR FRESHMAN STUDENTS

In 2002-03, UCLA established a program of innovative freshman seminars. The one-unit seminars, taught by faculty members in areas of their expertise, span the rich array of disciplines studied at UCLA. The seminars inform freshman students about topics of intellectual importance and enable them to participate in critical discussion of these topics with a small group of peers and faculty. Since the seminars illuminate the many paths of discovery explored by UCLA faculty members, the program takes its name from the motto of the University of California: Fiat Lux – Let There be Light! For details about course offerings each term, see the Schedule of Classes at http://www.registrar.ucla.edu/schedule/. For more information, see http://www.college.ucla.edu/fiatlux/.

ADVISING AND ACADEMIC ASSISTANCE

Academic assistance is available in the form of staff and student counselors, faculty advisers, student services, tutorials, and special programs.
**Orientation Program**

The Orientation Program introduces students to UCLA campus life through special programs, academic counseling, and educational planning. During Orientation, students work in small groups with peer counselors and gain insight into necessary academic skills. They learn how to plan their academic program and become familiar with educational opportunities, student services, and facilities available at UCLA. Individual counseling sessions help students adjust to University life and fulfill the advising requirements of the College or school. Sessions for family members are also offered.

During the summer, Orientation offers three-day, two-night residence hall live-in programs for first-year students and one-day programs for transfer students. There is a fee for participation. For more information, contact the Orientation Program office in 201 Covel Commons. See http://www.orientation.ucla.edu.

**Colleges and School Advisers**

The College and each school and academic department at UCLA have a staff of academic counselors and advisers to help students plan their academic program, monitor their progress toward the bachelor's degree, provide information about degree requirements, and assist with academic problems. See the Schedule of Classes for a listing of counselors and advisers.

**ASK Peer Counselors**

The ASK Peer Counseling Program is an extension of College Academic Counseling. ASK peer counselors are College of Letters and Science undergraduates trained to provide counseling and respond to student questions and concerns in convenient walk-up settings. No appointments are required. Counselors make referrals and provide information about academic rules and regulations, deadlines, and petitions.

Students can find ASK counselors weekdays when school is in session at various locations across campus. For details about locations and operating hours, see http://www.college.ucla.edu/ask/. Students may also e-mail questions to ask@college.ucla.edu.

**Counseling Assistants**

Letters and Science counseling assistants (CAS) are graduate students who help lower division students with course selection, major requirements, and graduate school information. Many CAS serve as teaching assistants and can give unique perspectives on courses and faculty. See http://www.college.ucla.edu/up/counseling/counselors/cas.htm.

For appointments, go to Window 1, A316 Murphy Hall. CAS are also available in selected departments and through http://my.ucla.edu.

**Academics in the Commons**

Academics in the Commons, home to Covel Tutorials, offers registered UCLA students academic success and preprofessional career planning workshops plus free individual and small-group tutoring aimed at developing academic skills and critical thinking. Programs are staffed by carefully selected and trained peer tutors and workshop leaders, and conveniently located in Covel Commons in Sunset Village. For details on all the services below, see http://www.college.ucla.edu/up/aitc/.

**Academic Workshops**

Academics in the Commons offers the Academic Workshop Program that promotes academic success through a variety of workshops. For specific topics, dates, and times, see http://www.college.ucla.edu/up/aitc/workshops.html.

**Covel Composition and ESL Tutorials**

Covel Composition and ESL Tutorials offer free tutoring services to undergraduate students writing papers for their UCLA courses, especially those who are enrolled in English Composition 2, 3, and Writing II courses. Composition tutors are trained undergraduate students who have been recommended by faculty members for their outstanding writing and communication skills. They help students at any stage of the writing process, from generating and organizing ideas to polishing final drafts.

ESL tutors are graduate students or experienced composition tutors with advanced ESL-related training who assist nonnative speakers of English with grammar, composition, reading, pronunciation, and listening comprehension skills.

Covel Composition and ESL Tutorials are located in 228 Covel Commons. See http://www.college.ucla.edu/up/aitc/tutoring.html. ☎(310) 206-1491

**Covel Mathematics and Science Tutorials**

Covel Mathematics and Science Tutorials offer free group tutoring sessions for many introductory courses in chemistry, life sciences, mathematics, and physics. Trained undergraduate tutors, selected for their academic excellence and communication skills, meet with students in weekly sessions to help them improve problem-solving skills and test-taking strategies. Covel Mathematics and Science Tutorials are located in 230 Covel Commons. See http://www.college.ucla.edu/up/aitc/tutoring.html. ☎(310) 206-6965
**TUTORIALS FOR STUDENT ATHLETES**

Tutorials for Student Athletes provide tutoring in the evening and on weekends for intercollegiate athletes whose practice and competition schedules prevent them from participating in other tutorial services. Eligible student athletes can receive regular individual or small group assistance in a wide range of courses, provided they request tutoring within the first four weeks of the term. Trained tutors clarify course content, teach study strategies and, in consultation with course instructors, develop problem-solving exercises and practice examinations to build learning and performance skills. The coordinator is in 209 Covel Commons. See [http://www.college.ucla.edu/up/aitc/tutoring.html](http://www.college.ucla.edu/up/aitc/tutoring.html). ☎ (310) 206-8124

**ACADEMIC ADVANCEMENT PROGRAM**

The Academic Advancement Program (AAP), a multiracial program, has a three-fold mission: (1) to ensure the academic success, retention, and graduation of its more than 6,500 students, (2) to increase the numbers of its students entering graduate and professional schools, and (3) to develop the academic, political, scientific, economic, and community leadership necessary to transform society in the twenty-first century. Programs are oriented toward furthering long-term academic and personal growth.

Students are eligible for AAP if their academic profiles and personal backgrounds may impact their University experience and their retention and graduation from UCLA. Students are also eligible if they are part of any federally funded program that requires counseling, tutoring, or mentoring. For more information, contact the AAP Office in 1232 Campbell Hall. See [http://www.college.ucla.edu/up/aap/](http://www.college.ucla.edu/up/aap/). ☎ (310) 825-1481

**ACADEMIC COUNSELING**

Counselors at AAP encourage students to explore their talents, believe in themselves, and aspire to academic and personal excellence. Counselors, including two science counselors, work with students to plan their academic programs, monitor progress toward the degree, provide information about degree requirements, and discuss graduate school and career options. ☎ (310) 825-1481

**PEER COUNSELING**

Peer counselors are upper division AAP students who assist entering students with the transition to the University and provide them with a perspective on life at UCLA. ☎ (310) 825-1481

**TUTORIAL SERVICES**

AAP tutorial services promote academic excellence in over 450 courses. Most tutors are upper division AAP students who provide the intellectual challenge, encouragement, and personal support that students need to recognize their own authority as thinkers and learners. Most tutoring is done in small groups that foster discussion and allow students to listen to and articulate new and different perspectives.

**PROGRAM LEADING TO UNDERGRADUATE SUCCESS**

The Program Leading to Undergraduate Success (PLUS) is a federally funded component of AAP that provides intensive counseling, tutoring, workshops, and social and cultural programs for first-generation college, low-income freshmen. Applications are available at 1201A Campbell Hall. See [http://www.college.ucla.edu/trio/plus/](http://www.college.ucla.edu/trio/plus/). ☎ (310) 206-1805

**MENTORING PROGRAMS**

AAP offers several programs aimed at helping students achieve academic and professional goals.

**Arts IN Mentoring Program**

Arts IN works to support students in specific arts-related research projects in established partnerships such as Arts IN Civic Engagement, Arts IN Education, Arts IN Global Health, Arts IN Labor, Arts IN Science, and Arts IN International. The objective is to mentor underrepresented and underresourced students who would normally not consider the arts as a viable area of study leading to a career in the arts. See [http://www.college.ucla.edu/up/aap/counseling/gmp_artsin.htm](http://www.college.ucla.edu/up/aap/counseling/gmp_artsin.htm). ☎ (310) 794-4186

**Community Development and Social Justice Program**

The Community Development and Social Justice Program assists undergraduate students interested in graduate and professional schools. The program works with the Schools of Public Affairs, Public Health, Law, and Medicine to increase their enrollment of AAP students committed to working toward social equity. Students work as interns, under the supervision of a professional staff member, at a community-based organization. See [http://www.college.ucla.edu/up/aap/rozaparks/](http://www.college.ucla.edu/up/aap/rozaparks/). ☎ (310) 794-4186

**Educators for Tomorrow Scholars Program**

The Educators for Tomorrow (EFT) Scholars Program aims to advance a new generation of socially conscious leaders interested in careers in education. It provides AAP students with opportunities to meet faculty members and students in the Graduate School of Education and Information Studies and to get involved in community service programs, internships, and service learning courses. Students in the program work with teachers at local public schools...
as volunteers, receive a stipend of up to $3,000, and participate in educational roundtables. See http://www.college.ucla.edu/up/aap/counseling/gmp_eft.htm. ☎(310) 794-4186

**Graduate Mentoring Program**
The AAP Graduate Mentoring Program (GMP) offers AAP students the opportunity to obtain valuable research-oriented academic preparation in virtually any academic major, including science, mathematics, engineering, social sciences, and arts and humanities. The program initiatives are designed to encourage students to pursue Ph.D. degrees, medical degrees, and other advanced degrees by providing them research experience under the guidance of graduate mentors. See http://www.college.ucla.edu/up/aap/counseling/gmp.htm. ☎(310) 794-4186

**McNair Research Scholars Program**
The McNair Research Scholars Program prepares undergraduate students for the best graduate programs in the country and to excel in graduate school on the way to earning a Ph.D. in the humanities or social sciences. The program selects 22 students annually from those populations most severely underrepresented in graduate programs and the professoriate in 11 targeted departments in the humanities, social sciences, and behavioral sciences. See http://www.college.ucla.edu/up/aap/counseling/gmp_mcnair.htm. ☎(310) 794-4186

**Research Rookies Program**
The Research Rookies Program gives first- and second-year AAP undergraduate students the opportunity to develop entry-level research projects in the humanities and social sciences. Over two academic terms, students meet regularly with graduate mentors and a faculty member. See http://www.college.ucla.edu/up/aap/counseling/gmp_rookies.htm. ☎(310) 794-4186

**Scholarships**
There are many opportunities for eligible students in AAP to receive both merit and/or need-based scholarship funds. Some awards require application; others are available through nomination. ☎(310) 206-8405

**Summer Programs**
Two six-week AAP academic summer programs—the Freshman Summer Program and the Transfer Summer Program—prepare students to succeed by exposing them to the rigor and demands of academic life and to undergraduate programs, services, and learning resources.

Students enroll in two or three University courses that meet UCLA requirements for graduation and receive personal attention, in either small groups or individual sessions, from teaching assistants and tutors. They are encouraged to live on campus and to participate in cultural and social events, interact with students of diverse backgrounds, build a network of friends, and broaden their life experiences and world outlook. ☎(310) 206-1571

# Academic Excellence

Eligible students receive the following honors and awards in recognition of academic achievement.

**Dean’s Honors List**
The School of the Arts and Architecture, Henry Samueli School of Engineering and Applied Science, School of Nursing, and School of Theater, Film, and Television award Dean’s Honors to deserving students each term, and the deans of the four divisions in the College of Letters and Science award Dean’s Honors. Honors are based on the grade-point average attained within a specified number of units. Consult the College or school for further information.

**Latin Honors**
The College and schools award Latin honors according to overall grade-point average at graduation. To be eligible students must have completed at least 90 (98 for the School of Nursing) University of California units for a letter grade. The levels of honors are *summa cum laude*, *magna cum laude*, and *cum laude*. Specific requirements vary for each level and are detailed in the College and Schools section of this catalog. See the Schedule of Classes for the most current calculations of Latin Honors.

**Departmental Honors**
In the College of Letters and Science, departmental honors and highest honors are awarded at graduation on the recommendation of a student’s major department, based on successful completion of a departmental honors program. Students should consult their department for its requirements.

**Departmental Scholar Program**
Departments in the College of Letters and Science and each school, except the School of Nursing, may nominate exceptionally promising juniors and seniors as Departmental Scholars to pursue bachelor’s and master’s degree programs simultaneously.
Nominations are submitted to the College or school dean for recommendation to the dean of the Graduate Division. Students interested in becoming Departmental Scholars should consult their departments well in advance of application dates for graduate admission (see the calendar at the beginning of this catalog).

**HONOR SOCIETIES**

**Alpha Lambda Delta and Phi Eta Sigma**
Membership in the national freshman honor societies is based solely on academic achievement during the freshman year. To be eligible students must have a 3.5 grade-point average with 12 graded University of California units in the first term of their freshman year, or a cumulative 3.5 GPA at the end of the second and/or third terms. Invitations are issued in Winter Quarter, and initiation is held during Spring Quarter. For more information, contact the Office of the Dean of Students, 1206 Murphy Hall. See http://www.studentgroups.ucla.edu/aldpes/.

**Golden Key**
Golden Key is an international interdisciplinary academic honors organization dedicated to excellence. Students qualify on the basis of objective academic criteria. No more than the top 15 percent of enrolled juniors and seniors may be eligible.

The society recognizes and encourages scholastic achievement and excellence in all undergraduate fields of study. It unites with collegiate faculties and administrators in developing and maintaining high standards of education, provides economic assistance to outstanding members by means of an annual scholarship for initiates and graduating seniors, and promotes scholastic achievement and altruistic conduct through voluntary service. Invitations are issued in Winter Quarter, and a reception is held in Spring Quarter. For further information, contact the Office of the Dean of Students, 1206 Murphy Hall. See http://www.studentgroups.ucla.edu/Goldenkey/.

**Phi Beta Kappa**
Phi Beta Kappa is a national honorary society in the humanities, liberal arts, and sciences, founded at the College of William and Mary in 1776. Membership is conferred for high scholastic standing and is determined by vote of the chapter council according to scholarship records. Students do not apply for Phi Beta Kappa membership.

At UCLA only graduating seniors and selected juniors are elected to membership. The annual election is held in May, with the initiation in June. At present, the minimum grade-point average considered is 3.67 (for 140 or more UC units); the minimum number of UC units considered is 90 (students at the 90-unit level must have at least a 3.85 GPA). A reasonable distribution of courses in the humanities and sciences is also required. A Passed grade is computed approximately as a B, depending on number of courses taken and graded units. Students who are elected are notified by mail. For further information, contact Phi Beta Kappa in the Honors Programs Office, A311 Murphy Hall. See http://www.college.ucla.edu/pbk/.

**Mortar Board**
Mortar Board is a national honor society for college seniors that recognizes outstanding and continual scholarship, leadership, and service to the campus community.

To be considered for membership, candidates must have completed 90 units and must have attained at least a B average or be in the highest 35 percent scholastically of the junior class, whichever is higher. Applications are available from the Center for Student Programming (105 Kerckhoff Hall) early in Winter Quarter and are due by mid-February. Approximately 40 members are selected each spring by the outgoing chapter. See http://www.studentgroups.ucla.edu/mboard/.

Applications are also available from the Office of the Dean of Students in 1206 Murphy Hall.

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Graduate Study

Graduate students at UCLA benefit from—and contribute to—the resources of one of the country's outstanding research universities. A distinguished faculty committed to research and teaching, an extensive library system ranked among the best in the nation, and excellent research centers, institutes, and laboratories in virtually every major discipline all provide extraordinary opportunities for graduate endeavor.

Graduate training at UCLA takes place in the classrooms, the laboratories, the libraries, in specialized seminars, through independent research, and in teaching experiences. Graduate education is enriched by several hundred postdoctoral and visiting scholars from other universities who engage in research and, in some instances, teaching at UCLA every year. This unique research environment promotes the quality of original work and study that is the hallmark of graduate education.

The degree of Master of Arts or Master of Science, or one of several professional degrees such as Master of Business Administration, is intended to develop mastery of a field and prepare students for the practice of a profession. The doctoral degree (Ph.D., Ed.D., and so forth) is designed to prepare students for creative activity and original research, often in association with college or university teaching.

**GRADUATE ADMISSION**

Graduate Admissions/Student and Academic Affairs
1255 Murphy Hall
(310) 825-1711
http://www.gdnet.ucla.edu

Meeting the minimum requirements does not ensure graduate admission, which is limited by the number of places and the amount of student support available in UCLA's graduate programs. Applicants are evaluated on scholastic qualifications and formal preparation for the graduate field of study. Departments may have other requirements for admission, which are listed by department at http://www.gdnet.ucla.edu/gasaa/deptinfo/deptinfointro.asp.

**APPLICATION FEE**

A nonrefundable application fee is required when the application is submitted.

**ENTRANCE REQUIREMENTS**

U.S. applicants to graduate standing must hold a bachelor's degree from a regionally accredited institution comparable in standard and content to that awarded at the University of California. Degrees granted on the basis, for example, of nonacademic prior learning, test scores, and other than organized supervised coursework in academic subjects are not considered comparable. A scholastic average of B or better (or its equivalent if the letter grade system is not used) is required in the last two years of undergraduate coursework and in any postbaccalaureate study.

Requirements for international applicants are listed below.

**SUPPORTING MATERIALS**

Supporting papers and materials to be submitted, including official transcripts of record and the nonrefundable application fee, are specified at http://www.gdnet.ucla.edu. Submitted materials are not returnable.

**GRADUATE RECORD EXAMINATION**

Applicants who apply for admission to a department or school that requires Graduate Record Examination (GRE) scores should arrange to take the examination no later than December so scores arrive on time. GRE scores should be sent directly to the prospective department and not to the Graduate Division.

GRE applications and information about both paper and computer-based testing are available from offices of the Educational Testing Service, P.O. Box 6000, Princeton, NJ 08541-6000 and at
GRADUATE STUDY

Letters of Recommendation
Most graduate professional schools, departments, and interdepartmental programs at UCLA require applicants to submit three letters of recommendation. Letters typically augment, validate, or explain information provided in the application and should be written by people qualified to analyze students’ abilities and academic promise. In some cases, these letters may mean the difference between acceptance and rejection. Letters should be sent directly to the prospective department. Forms to be used are available at http://www.gdnet.ucla.edu.

International Applicants
International applicants who have completed their postsecondary education outside the U.S. are expected to hold a degree, with above average scholarship, from a university or university-level institution. If their examinations have been graded Excellent, Very Good, Good, and Pass, applicants must have at least a Very Good general rating to qualify for admission. Applicants who hold a three-year ordinary or pass degree, or who hold a professional diploma in accounting, business, librarianship, social work, physical education, health education, and so forth, or a four-year degree, diploma, or higher certificate from a technical, vocational, or postsecondary specialized school, should not apply for graduate admission. Persons with memberships in professional associations such as Institutes of Chartered Accountants, the Institute of Chartered Secretaries and Administrators, and so forth, also do not qualify for graduate admission unless they also hold recognized university-level degrees or titles.

Students should submit official transcripts of record, in the original language in duplicate, for all college and university work. The original of an academic record that cannot be replaced must not be sent; a properly certified copy should be sent instead. Specific information for applicants from a variety of educational systems is available at http://www.gdnet.ucla.edu.

Proficiency in English
International students who hold a bachelor’s or higher degree from a university in a country where the official language is English and in which English is the spoken tongue and the medium of instruction are exempt from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) examination and the UCLA English as a Second Language Placement Examination (ESLPE). All other applicants must take the TOEFL, administered by the Educational Testing Service in some 95 foreign centers, or the IELTS, administered by IELTS test centers throughout the world. See http://www.ielts.org for the nearest test center. TOEFL applications are available from TOEFL Services, P.O. Box 6151, Princeton, NJ 08541-6151, (609) 771-7100 or at http://www.ets.org.

Students whose native language is not English are required to take the UCLA English as a Second Language Placement Examination (ESLPE), in addition to the TOEFL or IELTS examination, before the term in which they are to register. Failure to sit for the ESLPE results in a hold on student records. Those graduate students who believe that their initial ESLPE score is not reflective of their English language proficiency due to having recently arrived in the U.S. may sit for the examination a second time in the subsequent term only (retaking the examination in the same term is not counted as a valid result). In cases where students retake the examination in their second term of study, the most recent examination score is held to be valid. Unauthorized retakes of the examination result in an invalid examination score. Depending on the ESLPE results, students may be required to complete one or more courses in the English as a Second Language 33 series, beginning in their first term in residence at UCLA. The courses must be passed with a grade of C or better if taken for a letter grade, or B or better if taken on an S/U basis. Students should expect to spend a longer period of time at the University than would normally be necessary to complete a degree program if they are required to take any English as a second language courses. If they do not achieve a minimum score on the ESLPE, their admission is deferred until they have acquired the necessary proficiency in English. Neither the TOEFL, nor IELTS, nor any other English

About the UCLA Graduate Division
The UCLA Graduate Division administers policy established by the Academic Senate and its Graduate Council for master’s, doctoral, and graduate professional degree programs other than the professional degree programs in law, medicine, and dentistry, and for postdoctoral scholars. It oversees graduate recruitment and admissions (including the recruitment of a diverse student body), fellowships, teaching assistantships, graduate student researcher appointments, and other graduate student support, and the maintenance of high quality standards in all UCLA graduate programs. The dean of the Graduate Division also serves as vice chancellor of Graduate Studies.

Graduate Council. The Graduate Council is a standing committee of the UCLA Academic Senate. In keeping with the University’s commitment to the philosophy of shared governance, the council is responsible for the establishment of policy and standards for graduate education and postdoctoral scholars at UCLA; the approval, review, and monitoring of graduate degree programs; and recommendations regarding fellowships and assistantships.

Graduate Adviser. At matriculation, a graduate student usually selects or is assigned a graduate adviser who assists in program planning and completion of degree requirements. Sometimes this role is temporarily assumed by a faculty adviser assigned to the program as a whole. When the student’s master’s or doctoral committee is established, the chair of the committee assumes the adviser’s role.

Students should submit official transcripts of record, in the original language in duplicate, for all college and university work. The original of an academic record that cannot be replaced must not be sent; a properly certified copy should be sent instead. Specific information for applicants from a variety of educational systems is available at http://www.gdnet.ucla.edu.
proficiency test can be submitted or accepted in lieu of the ESLPE.

International students or permanent residents who are not native speakers of English, before they are allowed to serve as teaching assistants, must take and pass either the Test of Spoken English (TSE) offered at TOEFL centers in their home countries or the Test of Oral Proficiency (TOP) on arrival at UCLA. A passing score is 50 or higher on the TSE or 7.1 or higher on the TOP. A provisional pass is 45 on the TSE or between 6.4 and 7.0 on the TOP. Students with a provisional pass score are required to take an approved English as a second language oral skills course either before or during their first term of teaching assistant work.

Students who plan to serve as teaching assistants during their first term at UCLA must either take and pass the TSE before arrival or arrive on campus early enough to take the TOP examination before instruction begins. UCLA’s Office of Instructional Development (OID) conducts the TOP testing. For the examination schedule and other information, see http://www.oid.ucla.edu/top/. Students should also contact either their department or the TA Training Program. ☎ (310) 825-3106

ADMISSION TO THE SCHOOLS OF DENTISTRY, LAW, AND MEDICINE

Applicants for M.S. and Ph.D. programs in departments of the School of Medicine or Dentistry should apply for admission to the Graduate Division as described above. For admission to D.D.S., J.D., LL.M., S.J.D., and M.D. degree programs in the Schools of Dentistry, Law, and Medicine, consult the websites or write to the respective schools for information and application procedures.

ADMISSION TO PROGRAMS IN MOLECULAR, CELLULAR, AND INTEGRATIVE LIFE SCIENCES

The life and basic biomedical sciences departments at UCLA offer a mechanism for a combined recruitment, admission, and first-year program that provides Ph.D. students in the molecular, cellular, and integrative life sciences with maximal choice and flexibility in selecting a research specialization. Through UCLA ACCESS to Programs in Molecular, Cellular, and Integrative Life Sciences, students are able to select research projects from faculty mentors according to changing perceptions, interests, and goals without regard to traditional departmental boundaries. The first year of each degree program has a common curriculum and advising structure.

The following Ph.D. programs use UCLA ACCESS to recruit and admit students: Biochemistry and Molecular Biology, Molecular Biology, Molecular Cell, and Developmental Biology, and Molecular Cellular, and Integrative Physiology in the College of Letters and Science; Oral Biology in the School of Dentistry; Biological Chemistry, Cellular and Molecular Pathology, Human Genetics, Molecular and Medical Pharmacology, and Neurobiology in the David Geffen School of Medicine; Molecular Toxicology in the School of Public Health; and Microbiology, Immunology, and Molecular Genetics.

Admission

Applicants apply to UCLA ACCESS rather than to an individual department and must have completed an undergraduate major in a life or physical sciences discipline with superior scholastic achievement. Students should have preparation in physics, biology, and chemistry, as well as specialized courses within the major that may include cell biology, neurobiology, immunology, structural or computational biology, microbiology, virology, plant molecular biology, developmental biology, biochemistry, or molecular biology. In certain cases, background deficiencies may be remedied concurrently with graduate studies if recommended by the UCLA ACCESS steering committee. In addition to the UCLA Application for Graduate Admission, students should submit their scores on the Graduate Record Examination (GRE) General Test (Subject Test is optional) and three letters of recommendation from individuals who can provide direct knowledge of their academic record and potential for superior achievement in independent research. Admission is limited to Fall Quarter.

Obtain applications and information from the Program Coordinator, UCLA ACCESS to Programs in Molecular, Cellular, and Integrative Life Sciences, 172 Boyer Hall, UCLA, Box 951570, Los Angeles, CA 90095-1570. See http://www.uclaaccess.ucla.edu. ☎ (310) 206-6051

First-Year Course Requirements

Individual requirements vary based on background and scientific interest and are determined by the steering committee. In general a formal course of study consists of three lecture courses, three laboratory rotations, and two elective survey courses. In addition, participation is required in related activities on an informal basis.

During their first nine months in residence, students rotate for one term each through three laboratories selected from the UCLA ACCESS faculty list. They enroll in a 500-level course for 6 units of credit for each rotation.
An additional course in ethics (Microbiology, Immunology, and Molecular Genetics C234) is required.

All departments participating in UCLA ACCESS consider teaching experience to be an integral part of the graduate program. Students are required to complete two terms of teaching beginning in their second year. They are also required to complete a course on approaches and methods for successful teaching.

Transfer to the Degree-Granting Program

Students are admitted to UCLA graduate standing through UCLA ACCESS on a provisional basis for up to four terms. At the end of Spring Quarter, academic progress is evaluated by the steering committee. Students who receive a satisfactory evaluation select a faculty mentor as their doctoral committee chair. With concurrence of the mentor and the degree-granting program, students then transfer from UCLA ACCESS to that program for the remainder of their Ph.D. studies.

In the event students are unable to identify a suitable mentor and program by the end of their first year, one additional laboratory rotation approved by the steering committee is available during the summer quarter. Students who are unable to arrange for a laboratory after four rotations are recommended for release from their provisional graduate standing.

Special Admission Policies

No Degree Objective

UCLA has no special limited or unclassified categories of graduate admission. Under some circumstances, however, applicants may be admitted for coursework without a degree objective. For example, teachers with a master’s degree who wish some refresher study, or international students on a year’s stay in the U.S., may wish to apply in this manner. Requirements for admission are the same as those for degree programs, and the academic program must agree to accept the student for the no degree objective (NDO) status. All admission to NDO status must be specially approved by the dean of the Graduate Division, as must any University financial assistance for students on NDO status.

Duplication of Degrees

The University of California, in general, discourages the duplication of advanced degrees. At the same time, it recognizes that a professional degree does not duplicate an academic one, and that pressing needs may exist for degrees in different areas (see Concurrent and Articulated Degree Programs in the front of this catalog). Students who apply for a second academic degree at the same level or lower than the one they already hold are required to show compelling cause to the department. The Graduate Division is particularly concerned that a careful review and special justification be made by the graduate program in all cases where an applicant or continuing student is recommended for admission to a second doctoral program. This concern also extends to a recommendation for student support for pursuit of a second doctoral degree. All degree requirements and University regulations apply just as they do for a first degree. Courses already applied to the earlier degree may not be applied to the second.

Summer Sessions Courses

Enrollment in Summer Sessions courses does not constitute admission to graduate standing, nor does it substitute for the required continuous registration in Fall, Winter, and Spring Quarters. Students who wish to apply Summer Sessions courses to their subsequent graduate program should consult in advance with their departmental adviser. This is also true if they have been readmitted to graduate standing and wish to resume graduate study in Summer Sessions. Information and applications are available from Summer Sessions, 1147 Murphy Hall.

If students take Summer Sessions courses following the award of their bachelor’s degree, the grades do not appear on the undergraduate transcript (they are included on a separate transcript). After students are accepted by the Graduate Division, Summer Sessions grades are included on the graduate transcript and computed in the grade-point average.

Readmission

Students who have registered at any time as a graduate student at UCLA and are returning after an absence (except a formal leave of absence) must file an Application for Graduate Admission.

See the Academic Policies section of this catalog for readmission procedures.

Registration

Enrollment and Degree Services
1113 Murphy Hall
(310) 825-1091
http://www.registrar.ucla.edu

Registration consists of paying fees and enrolling in classes.

1. Registration fees and other University charges are due the 20th of each month. BAR (Billing and Receivable) accounts can be viewed through URSA.

2. Enrollment in classes is completed via URSA at http://www.ursa.ucla.edu.

Students must complete both processes by the established deadlines to be officially registered and enrolled for the term.

Graduate students must be either registered and enrolled or on an official leave of absence every term until their degrees are awarded. As an exception,
certain graduate students may be eligible to pay the filing fee (see below). Failure to register or be on an official leave of absence for any term constitutes withdrawal from UCLA.

Paying Fees
Details on fee payment, enrollment procedures, and deadlines are in the Schedule of Classes at http://www.registrar.ucla.edu/schedule/.

eBill
BAR accounts are administered electronically (eBill) through URSA. Monthly financial activity is displayed for the current month as well as past account activity for the last 24 months. URSA also includes a link to the Student Financial Services website (http://www.sfs.ucla.edu) where students can find important communications from the University regarding registration and University policies. Students can pay their BAR account electronically using Visa, MasterCard, or Discover Card. Students can also print a remittance document from the eBill webpage and mail payments with a check or money order.

Annual Graduate Fees
Although the exact cost of attending UCLA varies by program, there are some fees that all UCLA students must pay. Each entering and readmitted student is required to submit a Statement of Legal Residence to Graduate Admissions with the Statement of Intent to Register. Legal residents of California are not required to pay tuition. Students classified as nonresidents must pay annual tuition in addition to registration fees. For a definition of residence and nonresidence, see the Appendix.

### Estimated Annual Fees for 2007-08

<table>
<thead>
<tr>
<th>Fees</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee</td>
<td>$786.00</td>
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<tr>
<td>Educational fee</td>
<td>6,654.00</td>
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<tr>
<td>Graduate Students Association fee</td>
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<tr>
<td>Graduate Writing Center fee</td>
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<tr>
<td>Ackerman Student Union fee</td>
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<tr>
<td>Ackerman/Kerckhoff Seismic fee</td>
<td>113.00</td>
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<td>Wooden Recreation Center fee</td>
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<tr>
<td>Student Programs, Activities, and Resources Center fee</td>
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<tr>
<td>Student Health Insurance Plan (GSHIP)</td>
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<td><strong>Total for California residents</strong></td>
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<tr>
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<td>Nonresident tuition</td>
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<tr>
<td><strong>Total for nonresidents</strong></td>
<td><strong>$23,955.50</strong></td>
</tr>
</tbody>
</table>

Fees are subject to change without notice by The Regents. See http://www.registrar.ucla.edu/fees/ for updates.

Students in the Schools of Dentistry, Law, Management M.B.A. program, Medicine, Nursing, Public Affairs, Public Health, and Theater, Film, and Television should refer to the Schedule of Classes for explanation of additional fees.

Miscellaneous Fees
Miscellaneous fees include charges for late registration fee payment. Late fees also apply if students file their Study List late or do not pay off BAR balances on time. Fees are charged if any check is returned by a bank for any reason. Charges are assessed for most petitions and other special requests. There is also a fee for advancement to doctoral candidacy. A full list of miscellaneous fees is at http://www.registrar.ucla.edu/fees/miscfee.htm.

Student Health Insurance Plan
All UCLA graduate students are automatically assessed for and enrolled in the Graduate Student Health Insurance Plan (GSHIP) as a condition of registration at UCLA. Continued enrollment in a qualified medical/health insurance plan must be maintained during all registered terms.

The GSHIP fee is billed each term along with other UCLA fees. GSHIP fulfills all of the requirements mandated for qualified medical/health insurance plan as defined by the University. The Ashe Student Health and Wellness Center is the primary healthcare provider for GSHIP and is where all nonemergency medical care must be initiated for GSHIP claim payment consideration. See http://www.studenthealth.ucla.edu.

Waiving GSHIP
Students may waive GSHIP if they (1) maintain active enrollment in a qualified medical/health insurance plan that meets all established requirements, (2) apply for a GSHIP waiver within established deadlines, and (3) correctly complete the online GSHIP waiver form.

Students must apply for a GSHIP waiver online. See the Ashe Center website for details, including a definition of qualified private medical/health insurance plan. Follow the Online Services link from http://www.studenthealth.ucla.edu.

Deadlines for Waiving GSHIP
Third-party individuals may not waive GSHIP for another student. Waivers must be submitted by the stated deadlines whether or not fees have been paid by that date. Deadlines are strictly enforced.

The schedule for waiving GSHIP is as follows:
The above information serves as official notice of the UCLA mandatory medical/health insurance requirement. All students are responsible for providing complete and accurate information that must be submitted by the stated deadlines.

**Fee Refunds**
Students who formally withdraw from the University or take an approved leave of absence may receive partial refunds of fees. For more information, see Withdrawal in the Academic Policies section of this catalog or consult the Schedule of Classes for policy details and specific refund deadlines for each term.

**Fee Deferrals**
Academic apprentice personnel are eligible to receive a fee deferral for part or all of the registration fees assessed during the term in which they serve as an academic apprentice. Students are responsible for paying fees by the deferred payment deadline, which is two months after the standard term due date. Whether students attend UCLA, take a leave of absence, or withdraw from the University, they are responsible for the fees, but may be eligible to receive a partial fee refund, according to the refund schedule in the Schedule of Classes. Fees not paid by the deadline are subject to the late fee charge.

**Reduced Nonresident Tuition**
The annual nonresident tuition fee for graduate doctoral students who have advanced to candidacy is reduced by 100 percent, effective the term after the student is advanced. Doctoral students may receive this reduced nonresident tuition rate for a maximum of three years. After three years, the full nonresident rate is assessed.

**Filing Fee**
Graduate students may be eligible to pay the filing fee (half the quarterly registration fee) in lieu of full registration fees for the term in which they expect to complete final degree requirements and receive their degree. Doctoral students are not eligible to pay the filing fee unless registered the immediately preceding term.

Students who pay the filing fee are not eligible for University services beyond a maximum of 12 hours of faculty and staff time required to complete degree requirements and are not considered in the same status as registered students.

**Annual Budget Estimates**
Students admitted to the D.D.S., D.Env., Dr.P.H., J.D., M.B.A., M.F.A. in Film and Television, M.F.A. in Theater, M.D., M.P.H., M.P.P., and M.S.N. degree programs must add a professional school fee, which varies by school.

Budgets for the Schools of Medicine, Dentistry, and Nursing are higher due to specialized supplies; figures are available from the health professions counselor. Budgets are designed to serve as a guide and are subject to change without notice.

Nonresident tuition and certain University fees were under review at the time of publication. All fees are subject to change without notice by The Regents. See the Schedule of Classes fee charts for updates at [http://www.registrar.ucla.edu/fees/](http://www.registrar.ucla.edu/fees/).

**Enrolling in Classes**
The Schedule of Classes ([http://www.registrar.ucla.edu/schedule/](http://www.registrar.ucla.edu/schedule/)) contains listings of class times, meeting rooms, instructors, and all information necessary for enrolling in classes. Use the Schedule and academic counseling to assemble a program of courses.

**URSA Enrollment**
Students enroll in classes through University Records System Access (URSA), which is accessed at [http://www.ursa.ucla.edu](http://www.ursa.ucla.edu). The site walks students through the enrollment procedure.

Students are assigned specific times—called appointments—when they are allowed to enroll. Use URSA to determine enrollment appointments.

Also use URSA for other enrollment-related tasks, such as adding, dropping, or exchanging classes, signing onto the wait list for a class and checking waitlist status, or changing the grading basis for a class. For more information, see URSA in the Enrollment section of the Schedule of Classes at [http://www.registrar.ucla.edu/schedule/](http://www.registrar.ucla.edu/schedule/).

**In-Person Enrollment**
For classes that require written approval or specialized processing, students may enroll in person at 1113 Murphy Hall Monday through Friday from 9 a.m. to 5 p.m.

**Study List**
A Study List is the record of courses a student is enrolled in for the term. At 11:59 p.m. on Friday of the second week of instruction the Study List of enrolled courses becomes official, and all wait lists are eliminated. Students should verify their Study
List through URSA after each enrollment transaction. Students are responsible for all courses and the grading basis as listed on URSA and cannot receive credit for courses not listed.

After Friday of the second week, most changes to the Official Study List can be made with a fee via URSA. Some changes require an Enrollment Petition along with approval signatures.

See Enrollment in the Schedule of Classes for deadlines and complete instructions.

Errors or omissions should be corrected before the College or school deadlines for changes by petition. Unapproved withdrawal from or neglect of a course entered on the Study List results in a failing grade.

**FULL-TIME GRADUATE PROGRAM**

Three courses (or 12 units) per term are considered the normal enrollment for graduate students and are required for students not in doctoral candidacy to be counted for full-time standing in the University's official enrollment records. Therefore, students are directed by their departments to enroll full time whenever possible.

Throughout their appointments, teaching assistants (TAs) and graduate student researchers (GSRs) are required to be registered and enrolled in at least 12 quarter units. TAs or GSRs terminate their appointments if they take a leave of absence or withdraw. Course 375 for TAs and independent studies at the 500 level for GSRs may be counted toward the 12-unit load.

Graduate students holding fellowships must be enrolled in at least 12 units, both before and after advancement to candidacy. The 12-unit minimum required per term may include, among others, the 500 series (individual study or research).

Veterans are required to make normal progress toward the degree as stated by the major department. Information on Department of Veterans Affairs regulations is available from the Veterans Affairs coordinator, 1113 Murphy Hall.

**Continuous Registration Policy**

Graduate students must be either registered and enrolled or on an official leave of absence every term until their degrees are awarded. As an exception, certain graduate students may be eligible to pay the filing fee (see above). Failure to register or be on an official leave of absence for any term (Fall, Winter, or Spring Quarter) constitutes withdrawal from UCLA.

**REGISTRATION IN THE FINAL TERM**

If students are completing courses, using faculty time, library facilities, laboratories, or other University resources, or receiving University funds, they are required to register in the final term in which they expect to receive their degree.

When the award of a degree is expected at the end of a given term, but special circumstances (not involving preparation of the manuscript) over which a student has no control prevent the completion of all requirements before the first day of instruction in the next term, a student may petition for a waiver of registration for that term. Such petitions must be accompanied by a letter from the graduate adviser or department chair elaborating the exceptional circumstances.

Students who were registered for the preceding term and who completed all requirements for a degree in the interval between terms (before the first day of instruction) are not required to register to receive a degree at the end of the following term.

**HEALTH ASSESSMENT AND EVALUATION**

New students enrolling in the School of Dentistry, Medicine, or Nursing or the Department of Social Welfare must complete and return to the Arthur Ashe Student Health and Wellness Center the Health Evaluation forms provided by their departments. To schedule a clearance appointment, call (310) 825-4073, option 1, or go to http://www.studenthealth.ucla.edu. For specific questions related to requirements, contact the individual department.

**FINANCIAL SUPPORT**

As a major center for graduate study, UCLA offers its qualified graduate students substantial support through several types of financial assistance.

Information on available funding for entering (and reentering) students is included in the online Application for Graduate Admission. Continuing graduate students should complete the Fellowship Application for Continuing Graduate Students. Completed fellowship applications must be returned by the published deadlines. Some departments have earlier deadlines; consult the Graduate Division website at http://www.gdnet.ucla.edu for details.

**Financial Support for Entering Graduate Students** and **Graduate Student Support for Continuing Students** describe the full range of financial assistance available. They are revised annually and made available at the Graduate Division’s website. Students should
contact their department for more detailed information.

**Fellowships**
The University administers several awards on the basis of scholarly achievement. Most awards are available in open competition, though some are restricted to new students or to specific departments. Some fellowship and scholarship awards are made from University funds; others are made from endowment funds held in trust by the University and given by interested friends and alumni. Still others come from annual donations by educational foundations, industry, government, and individual benefactors.

Most fellowship, traineeship, and grant awards are for one academic year (three terms). Fellowships and grants provide stipends in varying amounts for qualified students. Nonresident fellowships cover the tuition, for periods of one to three terms, of selected graduate students who are not California residents.

**Assistantships**
Academic apprenticeships train qualified students for careers in teaching and research, and compensate them for their services. Teaching assistantships provide experience in teaching undergraduates, with faculty supervision. (Teaching assistants, associates, and fellows are eligible to receive partial payment at the beginning of the term in the form of an interest-free advance loan check. Interested students should apply to their departments.) Graduate student researcher appointments give students experience working on faculty-supervised research projects.

**Awards Based on Financial Need**
Because the cost of a graduate education may present a financial hardship, students who require assistance in meeting educational costs are encouraged to apply for aid based on their financial need. Need is defined as the difference between allowable school-related expenses and financial resources. Financial aid applicants must file the Free Application for Federal Student Aid (FAFSA). The priority filing deadline is March 2.

Students who need financial aid for Summer Sessions must submit a Summer Aid Application in addition to FAFSA. Summer applications are available at http://www.fao.ucla.edu beginning April 1 and should be filed by April 30 for on-time consideration.

Financial aid awards include work-study and low-interest loans. Students are usually awarded a financial aid package that is a combination of these forms of assistance. Further information is available from the Financial Aid Office, A129J Murphy Hall or at http://www.fao.ucla.edu.

**Degree Requirements**
The following information is for prospective applicants and those outside the University who are interested in the basic structure of UCLA graduate degree requirements. It is not meant to be comprehensive or to serve as a primary resource for continuing students. Official, specific degree requirements, including language requirements, are detailed in Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu. At the same website, Standards and Procedures for Graduate Study at UCLA provides detailed information and sets forth general policies, many of which emanate from the Academic Senate and its Graduate Council, regarding completion of degree requirements, master’s and doctoral committees, examinations, and foreign language requirements. General regulations concerning graduate courses, standards of scholarship, disqualification, appeal, leave of absence, normal progress toward degree, withdrawal, and a number of other matters also are included.

**Master’s and Doctoral Study**
Graduate students earn a master’s or doctoral degree by distinguished achievement in advanced study and research. In addition to coursework, there are various means of evaluating achievement in study, including qualifying and comprehensive examinations and various kinds of laboratory and fieldwork. Achievement in research is primarily assessed through evaluation of the master’s thesis or doctoral dissertation. In addition to advanced study and research, professional master’s and doctoral programs also may include professional training. This training may take the form of fieldwork, internships, or projects, and may lead to professional licensure.

**University Minimum Standards**
The requirements described here for master’s and doctoral degrees are minimum standards set by the University. Individual schools or departments may set higher standards and may require additional courses and examinations for their master’s degree. Each department also sets additional requirements for doctoral degrees according to the demands of the field of study. See Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu and
the departmental graduate adviser for details. Policies and regulations are outlined in *Standards and Procedures for Graduate Study at UCLA*, which is available from Graduate Admissions/Student and Academic Affairs, 1255 Murphy Hall or at http://www.gdnet.ucla.edu.

**ACADEMIC RESIDENCE**

For the master's degree, the minimum residence requirement consists of three academic terms of registration in graduate standing at the University of California, including at least two terms at UCLA.

For the doctoral degree, the minimum residence requirement is two years (six terms) of registration in graduate standing at the University of California, including one year (usually the second) in continuous residence at UCLA. If students earned a master's degree at UCLA, one year of this requirement will have been met. In most cases a longer period of residence is necessary, and from three to five years is generally considered optimal.

Academic residency for both degrees is established by successfully completing a minimum of one graduate or upper division course (4 units) during a term.

Students may earn one term of residence for summer study in either of these ways: (1) enroll in two six-week Summer Sessions taking at least 2 units of upper division and/or graduate work in each session OR (2) enroll in one eight-week session for at least 4 units of credit. Residence earned through Summer Sessions enrollment is limited to one third of the degree requirements.

To maintain satisfactory progress toward the degree, UCLA requires at least a B average in all courses taken in graduate standing at the University and in all courses applied toward a graduate degree, including those taken at another UC campus.

**FOREIGN LANGUAGE REQUIREMENTS**

Foreign language requirements are determined by individual departments and programs. If their program has a language requirement, students should fulfill it either before they begin graduate study or as soon as possible thereafter. All foreign language requirements must be satisfied before advancement to candidacy.

Many departments require graduate degree candidates to demonstrate proficiency in one or more foreign languages, so that they can acquire broad knowledge in their field of study and keep abreast of foreign developments in the field. Students are urged to complete language requirements as early as possible in their graduate career. If the department requires two or more foreign languages, students must complete at least one before the University Oral Qualifying Examination (unless, as is most common, the department requires that both be completed before the examination).

Some departments allow students to fulfill language requirements either by passing departmental examinations or by completing coursework in a foreign language. Certain departments may require additional languages, special competence, or other special procedures. In some departments, English satisfies the foreign language requirement if it is not the native language.

For further details on foreign language requirements, consult the departmental graduate adviser.

**CHANGING MAJORS**

Continuing graduate students may petition for a change of major after discussing plans with the new department. Forms are available from the departments and should be filed with Graduate Admissions/Student and Academic Affairs, 1255 Murphy Hall. Deadlines are generally the same as those for the graduate admissions procedure.

**PROGRAM OF STUDY AND SCHOLARSHIP**

**MASTER'S DEGREE**

At least nine graduate and upper division courses (or any number of fractional courses totaling 36 units) must be completed in graduate standing; at least five (20 units) of the nine must be graduate-level courses. These unit requirements represent the University minimum standard. Many master's degree programs have higher unit requirements.

UCLA offers master's degrees under two plans: Plan I, the Master's Thesis, and Plan II, the Master's Comprehensive Examination. Some departments offer both plans, and students must consult with their department to determine the plan for meeting their degree requirements. University minimum requirements are the same under either plan.

**Plan I: Master's Thesis**

After advancement to candidacy, students under Plan I must submit a thesis reporting on results of their original investigation of a problem. While the problem may be one of only limited scope, the thesis must show a significant style, organization, and depth of understanding of the subject.

A thesis committee, consisting of at least three faculty members who hold regular professorial appointments at the University, is nominated by the department and appointed by the dean of the Grad-
The thesis committee, which must be appointed before students may be advanced to candidacy, approves the subject and plan of the thesis, provides the guidance necessary to complete it, then reads and approves the completed manuscript. Approval must be unanimous among committee members.

Once the thesis committee and other concerned faculty members have approved the subject for the thesis, work may begin. Students are responsible for preparing the thesis in the proper form and for observing filing deadlines.

Plan II: Master's Comprehensive Examination
Following advancement to candidacy, students under Plan II must pass a comprehensive examination administered by a committee consisting of at least three faculty members appointed by the department. In some departments the comprehensive examination may serve as a screening examination for admission to doctoral programs. Information concerning this examination and its format is available in the departments.

Doctoral Examinations before Advancement to Candidacy
Prior to advancement to candidacy, doctoral candidates fulfill the coursework, teaching, and/or examinations required by the major department or group. They are supervised during this period by a departmental adviser and/or departmental guidance committee. This committee administers a departmental written and, in some cases, oral examination (not to be confused with the University Oral Qualifying Examination) after students complete the recommended or required work. All students are required to successfully complete a written qualifying examination and the University Oral Qualifying Examination before advancement to doctoral candidacy. Once all departmental and foreign language requirements are met, the department chair consults with the student and then nominates a doctoral committee.

University Oral Qualifying Examination
The doctoral committee, consisting of at least four faculty members nominated by the department, is appointed by the dean of the Graduate Division (consult Standards and Procedures for Graduate Study at UCLA for details on committee membership). To determine qualifications for advancement to candidacy, the committee administers the University Oral Qualifying Examination and, at its option, a separate written examination.

Doctoral Dissertation
Every doctoral degree program requires the completion of an approved dissertation that demonstrates the student’s ability to perform original, independent research and constitutes a distinct contribution to knowledge in the principal field of study.
Academic Policies

Students at UCLA are responsible for understanding the policies and regulations established by the Academic Senate. Should any variations exist between explanations in this catalog and regulations in the Manual of the Academic Senate, the manual prevails in all cases.

ACADEMIC CREDIT

Academic work at UCLA is measured by units of credit, which are used to evaluate the amount of time a student has devoted to a particular subject and to determine a student’s class level.

UNITS OF CREDIT

Most University courses are assigned a unit value. One unit represents three hours of work per week per term by the student, including both class attendance and preparation.

CLASS LEVELS

Undergraduate class levels are determined by the number of units completed as follows:

- Freshman (UFR) 0-44.9 units
- Sophomore (USO) 45-89.9 units
- Junior (UJR) 90-134.9 units
- Senior (USR) 135 or more units

Graduate class levels are based on the degree objective and whether or not students are advanced to candidacy for a doctorate.

REPETITION OF COURSES

Certain courses, as noted in their course descriptions, may be repeated for credit. Other courses taken at the University (except UCLA Extension) may be repeated only according to the following guidelines:

1. To improve the grade-point average, students may repeat only those courses in which they receive a grade of C– or lower; NP or U grades may be repeated to gain unit credit. Courses in which a letter grade is received may not be repeated on a P/NP or S/U basis. Courses originally taken on a P/NP or S/U basis may be repeated on the same basis or for a letter grade.
2. Repetition of a course more than once requires the approval of the College or school or the dean of the Graduate Division, and is granted only under extraordinary circumstances.
3. Degree credit for a course is given only once, but the grade assigned each time the course is taken is permanently recorded on the transcript.
4. For undergraduates who repeat a total of 16 units or less, only the most recently earned letter grades and grade points are computed in the GPA. After repeating 16 units, however, the GPA is based on all letter grades assigned and total units attempted.
5. For graduate students, all courses in which a letter grade is given, including repeated courses, are used in computing the GPA.

CREDIT FOR UPPER DIVISION TUTORIALS

Credit for upper division tutorial courses numbered 195 through 199 in a single term is limited to a maximum of 8 units. Subject to regulations governing Passed/Not Passed grades, students may take these courses on a Passed/Not Passed or a letter-grade basis, but the total number of units allowed in upper division tutorial courses for a letter grade is 32.

To enroll in an upper division tutorial course, students must have advanced junior standing and at least a 3.0 grade-point average in the major field, or must have senior standing. Students who have an outstanding Incomplete grade in an upper division tutorial course may not enroll in another upper division tutorial course until the grade of Incomplete has been removed. On the advice of the instructor and chair, the dean of the College or school may authorize exceptions to the limitations listed. Departments may impose additional limitations on upper division tutorial courses.

CREDIT BY EXAMINATION

Students with high scholastic standing may earn credit for regular UCLA courses by taking examinations rather than enrolling in the courses. This is accomplished by establishing, with a UCLA faculty member, an individual plan of study that may include oral and written work in addition to other requirements. To be eligible, undergraduate students must have completed a minimum of 12 units at UCLA.
Graduate students must be registered at the time of the examination and are limited to a maximum of three courses taken in this manner.

The results of these courses are entered on the record in the same way as regular courses, and grade points are assigned. Graduate credit earned by examination may be applied to minimum course requirements for master's degrees but cannot apply to academic residence requirements for master's or doctoral degrees.

Students need approval from the instructor, the department, and the College or school or the dean of the Graduate Division, from whom petitions for credit by examination (with fee) are available.

**GRADES**

The work of all students at UCLA is reported in terms of grades. Instructors are required to assign a final grade for each student registered in a course.

**UNDERGRADUATE GRADES**

The following grades are used to report the quality of undergraduate student work at UCLA:

- A+: Extraordinary
- A: Superior
- B+: Good
- B: Fair
- C+: Poor
- C: Fail
- P: Passed (achievement at grade C level or better)
- NP: Not Passed
- I: Incomplete
- IP: In Progress
- DR: Deferred Report

Grades A, B, C, and D may be modified by a plus (+) or minus (–) suffix. Grades A, B, C, and P denote satisfactory progress toward the degree, but a D grade must be offset by higher grades in the same term for students to remain in good academic standing. An F grade yields no unit or course credit.

**GRADUATE GRADES**

The following grades are used to report the quality of graduate student work at UCLA:

- A: Superior Achievement
- B: Satisfactorily demonstrated potentiality for professional achievement in field of study
- C: Passed the course but did not do work indicative of potentiality for professional achievement in field of study
- F: Fail
- S: Satisfactory (achievement at grade B level or better)
- U: Unsatisfactory
- I: Incomplete
- IP: In Progress
- DR: Deferred Report

The grades A, B, and C may be modified by a plus or minus suffix. The grades A, B, and S denote satisfactory progress toward the degree, but a C grade must be offset by higher grades in the same term for students to remain in good academic standing.

Courses in which a C grade is received, however, may be applied toward graduate degrees unless otherwise prohibited by the program requirements.

The Schools of Dentistry, Medicine, and Law use their own grading codes. Students who are interested in programs in any of these schools should consult the appropriate school announcement.

**GRADE POINTS**

Grade points per unit are assigned by the Registrar as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A−</td>
<td>3.7</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B−</td>
<td>2.7</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
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<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C−</td>
<td>1.7</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D−</td>
<td>0.7</td>
</tr>
<tr>
<td>NP</td>
<td>0.0</td>
</tr>
<tr>
<td>I</td>
<td>0.0</td>
</tr>
<tr>
<td>IP</td>
<td>0.0</td>
</tr>
<tr>
<td>DR</td>
<td>0.0</td>
</tr>
</tbody>
</table>

As indicated, a plus (+) or minus (–) suffix added to a grade raises or lowers the grade-point value, except in the case of A+, which carries the same number of grade points as the A grade. Courses in which students receive a P or S grade may count toward satisfaction of degree requirements, but these grades, as well as DR, I, IP, and NR, are disregarded in determining the grade-point average. (If an I grade is later removed and a letter grade assigned, units and grade points are included in subsequent GPAs.) NR indicates that no grade was received from the instructor.

**GRADE-POINT AVERAGE**

The grade-point average is determined by dividing the number of grade points earned by the number of units attempted. The total grade points earned for a course equals the number of grade points assigned times the number of course units. For example, if a student takes three four-unit courses and receives grades of A−, B−, and C+, then the GPA for the term equals the total grade points (34.8) divided by the total course units (12). The GPA is 2.9. For satisfactory standing, undergraduate students must maintain a C average (2.0 GPA) and graduate students a B average (3.0 GPA) in all courses taken at any campus of the University (except UCLA Extension).
Academic Policies

Only grades earned in regular session or Summer Sessions at any UC campus and grades earned by Arts and Architecture and Letters and Science undergraduate students in UCLA Extension courses prefixed by XLC are computed in the UCLA grade-point average. Grades earned at another institution or in UCLA Extension courses other than those prefixed by XLC do not affect the GPA.

Other schools and agencies may calculate GPAs differently from the University when evaluating records for admission to graduate and professional school programs. Students should contact them about their policies in this regard.

Passed/Not Passed Grades

Undergraduate students in good standing who are enrolled in at least 12 units (14 in the Henry Samueli School of Engineering and Applied Science) may take certain courses on a Passed/Not Passed (P/NP) basis.

The grade P is assigned for a letter grade of C or better. Units earned this way count toward degree requirements but do not affect the GPA. Students receive neither units nor course credit for an NP grade.

Students may enroll in one course each term on a P/NP basis (two courses if they have not elected the P/NP option in the preceding term). They may not elect the P/NP option for Summer Sessions courses without an approved petition. Their department or school may require that they take some or all courses in their major for a letter grade. Certain other courses or programs may also be exempt from the P/NP option; consult the College or school for details.

Students may make program changes to or from P/NP grading through the sixth week of instruction via URSA.

Courses that are offered only on a P/NP basis are designated PN in the Schedule of Classes.

Satisfactory/Unsatisfactory Grades

Graduate students in good standing (minimum 3.0 GPA) may enroll for Satisfactory/Unsatisfactory (S/U) grading in one graduate or upper division course outside the major field each term, in addition to any courses offered only on an S/U grading basis within the major. The grade S is assigned for a letter grade of B or better, but units earned in this manner are not counted in computing the GPA. Students receive neither units nor degree credit for a U grade. They may not elect the S/U option for Summer Sessions courses without an approved petition.

Courses taken on an S/U basis outside the major, and 500-series courses within the major, are applicable toward degree and/or academic residency requirements if so approved. Interdepartmental majors may not apply S/U courses to degree requirements, except for 500-series courses. Program changes to or from S/U grading may be made through the tenth week of instruction via URSA.

Courses that are offered only on a S/U basis are designated SU in the Schedule of Classes.

Incomplete Grades

Once an Incomplete (I) grade is assigned, it remains on the transcript along with the passing grade students may later receive for the course. The instructor may assign the I grade when work is of passing quality but is incomplete for a good cause (such as illness or other serious problem). It is the student’s responsibility to discuss with the instructor the possibility of receiving an I grade as opposed to a nonpassing grade.

If an I grade is assigned, students may receive unit credit and grade points by satisfactorily completing the coursework as specified by the instructor. Students should not reenroll in the course; if they do, it is recorded twice on the transcript. If the work is not completed by the end of the next full term in residence, the I grade lapses to an F, NP, or U as appropriate. The College or school may extend the deadline in unusual cases (not applicable to graduate students).

In Progress Grades

For certain courses extending over more than one term (identified by T1, T2, T3, or T4 in the Schedule of Classes), evaluation of student performance is deferred until the end of the final term of the course. Provisional grades of In Progress (IP) are assigned in the intervening term(s) and are replaced with the final grade when students complete the full sequence. The school or College faculty or the Graduate Division determines credit if they do not complete the full sequence and petition for partial credit.

Deferred Report Grades

Students may receive a Deferred Report (DR) grade when the instructor believes their work to be complete but cannot assign a grade because of disciplinary proceedings or other problems. If students are given a DR grade, the Office of the Dean of Students assists them in resolving the problem. For graduate students, the dean of the Graduate Division sets a
deadline by which the DR lapses to an F if the problem is not resolved and a grade assigned. The DR is changed to a grade, or perhaps to an Incomplete, when the instructor provides written confirmation that the situation is resolved. The DR grade is not included in determining the grade-point average.

**CORRECTION OF GRADES**

All grades except DR, I, and IP are final when filed by the instructor in the end-of-term course report. Thereafter, a grade change may be made only in case of a clerical or procedural error or other unusual circumstances. No grade may be revised by reexamination or, with the exception of the I and IP grades, by completing additional work. Students who are dissatisfied with a grade should review their work with the instructor and receive an explanation of the grade assigned. All grade changes are recorded on the transcript. See the Appendix for further details and procedures for appealing grades.

**ABSENCE AND READMISSION**

To be registered for a term, students must enroll in courses and pay fees according to deadlines specified in the Schedule of Classes. Students who do not register are subject to the following policies on absence and readmission.

**CANCELLATION**

Before the first day of classes, students may cancel registration by (1) mailing a written notice to Enrollment and Degree Services, Attn: Cancellation Clerk, 1113 Murphy Hall, UCLA, Box 951429, Los Angeles, CA 90095-1429 or (2) faxing a written notice to (310) 206-4520. Refund is as follows: fees paid by new undergraduate students are refunded except for the nonrefundable acceptance of admission fee and service fee; fees paid by new M.B.A. and Dentistry students are refunded except for their respective nonrefundable acceptance of admission fee; for new graduate, continuing, and reentering students, a service fee is deducted from the amount of fees paid.

Graduate students who cancel their registration and do not apply for a formal leave of absence must compete for readmission to return to the University.

**WITHDRAWAL**

Withdrawing from the University means discontinuing attendance in all courses in which students are enrolled. Students who withdraw during a term need to file a Notice of Withdrawal, available from their academic dean’s office (undergraduates) or departmental office (graduate students).

When students officially withdraw, a percentage of the registration fee may be refunded depending on the date the withdrawal form is filed.

Claims for refund must be presented within the academic (fiscal) year to which the claim is applicable. Consult the Schedule of Classes for policy details and specific refund dates.

Students may withdraw only if they have not taken any final examinations or otherwise completed the work in any classes. For undergraduates, one withdrawal places no restriction on readmission or continuation if they started the term in good academic standing. If they withdraw after one or more previous withdrawals or while in academic difficulty, a restriction may be placed on their continuance in undergraduate standing. Before withdrawing, they are urged to consult faculty, departmental, or College advisers to consider the full implications of this action.

Undergraduates may also withdraw from a term retroactively, provided no final examinations have been taken and no coursework has been completed. No withdrawals are accepted once they have officially graduated from the University.

Students who register and subsequently discontinue coursework or stop payment on registration checks without an approved petition for withdrawal, leave of absence, or cancellation receive F, NP, or U grades, as appropriate, for all courses in which they are enrolled for that term. A fine is assessed if any check for registration fee payment is returned by a bank for stopped payment, insufficient funds, or any other reason. No fees are refunded, and future registration privileges may be curtailed or revoked.

**UNDERGRADUATE READMISSION**

Students who complete a term (Fall, Winter, or Spring Quarter), and do not register the following term, may return to UCLA the subsequent term as a continuing student and be eligible to register and enroll in advance.

**ONE-TERM ABSENCE**

Students on a one-term absence who plan to attend another institution—including UCLA Extension—should discuss plans with their College or school counselor before enrolling elsewhere. On returning to UCLA, they must have an official transcript mailed from the institution directly to UCLA Undergraduate Admissions and Relations with Schools (UARS). Once students request a transcript, they must complete a Transfer Credit Evaluation
GRADUATE LEAVE OF ABSENCE

To return to the University after an absence of more than one term, complete an undergraduate readmission application and file it with the Registrar's Office in accordance with published deadlines. A nonrefundable fee applies.

Students must submit official transcripts from all institutions (including UCLA Extension) and a completed Statement of Legal Residence with readmission applications. Coursework is evaluated when official transcripts are received. The paper records of nonregistered students, including transcripts submitted for transfer credit, are retained by the Registrar's Office for five academic years after the last registered term.

Students who have not registered for five years must resubmit official transcripts of all work completed outside UCLA. Readmission is generally approved if students were in good academic standing (2.0 grade-point average) when they left the University, if coursework completed elsewhere in the interim is satisfactory, and if readmission applications are filed on time. The College or school may have other regulations. Contact the readmission clerk for more information. ☎(310) 825-1091, option 6

TRANSCRIPTS AND RECORDS

The transcript reflects all undergraduate and graduate work completed in UCLA regular session and Summer Sessions. It lists chronologically the courses, units, grades, cumulative GPA, transfer credits, and total units.

Official UCLA transcripts are printed on security paper to safeguard against unauthorized duplication, alteration, and misrepresentation. The paper has a multicolor security background design and a border with the words "University of California, Los Angeles." Authentication details are located in the lower right-hand corner of the transcript, and the transcript legend is located on the reverse of the document. Transcripts are issued in blue envelopes marked “Official Transcripts Enclosed.”
CLOSURE OF STUDENT RECORDS

Student records are closed to revisions in enrollment, grading, and academic actions on award of a degree. Students are responsible for requesting review of their record prior to award of their degree. See UCLA Procedure 220.1 Student Grievances Regarding Challenge to Content of Student Records Under the Family Educational Rights and Privacy Act, which may be found at http://www.adminvc.ucla.edu/appm/_entry_200.html.

Changes requested by an individual after award of a degree are considered by the College or school only under extraordinary circumstances. Supportive documentation is required. On action of the academic dean, a statement of the request for revision and a note of the change will be recorded only in the memoranda section of the transcript.

Two versions of official UCLA student records are available from Academic Record Services, 1134 Murphy Hall. These are the academic transcript and the verification transcript. Each is designed to meet specific needs.

ACADEMIC TRANSCRIPT

The academic transcript is a student’s complete academic record, including a listing of courses taken, transfer credit, units, grades, grade-point average (GPA), earned UCLA degrees, and in-progress term information. In-progress information includes a list of the courses that a student enrolled in during the term the document was requested and other in-progress information such as a change in major or the removal of an I grade.

Grades for completed terms are processed immediately following the conclusion of final examinations. Complete academic transcripts are available approximately two weeks after the last day of the term. For graduating students, academic transcripts with the graduation date included are available approximately seven weeks after the end of the term. Students who require earlier proof of graduation should contact a degree auditor in 1113 Murphy Hall. A fee may be charged for this service.

The minimum period required for processing and issuing academic transcripts for both registered and former students is three working days.

VERIFICATION TRANSCRIPT

The verification transcript certifies registration (fee payment), enrollment status, and degrees. For auto insurance “good student” discount, insurance forms should be presented at 1134 Murphy Hall. The verification fee is required for this service. Verification transcripts confirm student status only after registration fees have been paid for the term. Verification of student workload is based on actual enrolled units and does not consider wait-listed units or list courses for a term.

Verification of degree can be issued after students’ degrees have been posted to their student record approximately seven weeks after the term ends. Students who require verification before their degree is posted should contact their degree auditor in 1113 Murphy Hall.

The fee for a verification transcript is waived if requested for loan or student aid verifications (proof of request required). Most enrollment verifications for loans and creditors, however, are processed for the University by the National Student Clearinghouse. Approved by the U.S. Department of Education, the clearinghouse is a national organization that facilitates and expedites student enrollment verifications for creditors and other student service-related agencies. The clearinghouse abides by all provisions of the Family Educational Rights and Privacy Act (FERPA).

THIRD-PARTY VERIFICATIONS

UCLA has authorized National Student Clearinghouse to act as its agent for all third-party verifications of student enrollment and degrees. Degree verification for the most recent term is available approximately eight weeks after the term ends. The clearinghouse abides by all provisions of the Family Educational Rights and Privacy Act (FERPA). See http://www.studentclearinghouse.org.

ORDERING TRANSCRIPTS

Academic and verification transcripts can be ordered by sending a request to UCLA Registrar’s Office, Attn: [Academic or Verification] Transcripts, 1105 Murphy Hall, Box 951429, Los Angeles, CA 90095-1429.

Requests should include the student’s
1. Name under which they were registered at UCLA
2. Dates of attendance at UCLA
3. Date of birth
4. Social security number and/or student I.D.
5. Complete address and telephone number
6. Number of copies requested
7. Mailing instructions including all details and any special handling
8. Full signature

Transcript request forms containing this information are available in the Murphy Hall northwest lobby or at http://www.registrar.ucla.edu/forms/.

For UCLA Extension courses, order transcripts from UCLA Extension, P.O. Box 24901, Department K, Los Angeles, CA 90024-0910.

Requests are not processed if students have outstanding financial, academic, or administrative obligations (holds) to the University. Transcripts of work completed elsewhere must be requested directly from the campus or institution concerned.

More information on ordering transcripts is available by calling (310) 825-3801 or by contacting transcripts@registrar.ucla.edu.

FEES AND PAYMENT

Current students’ transcript fees are billed to their BAR account. Former students may be billed or may submit a check or money order payable to Regents-UC.

In some cases, special fees may apply. Forms that must be completed by the Registrar’s Office or that require official signatures are charged a special handling fee. Expedited service—processing within 24 hours—is available for an additional fee, or transcripts can be faxed with payment of an additional fee.

Transcripts that are faxed are generally not considered official, and confidentiality cannot be guaranteed.

Transcript requests are not processed for anyone with outstanding obligations to the University. For exact fees, see http://www.registrar.ucla.edu/fees/.

CERTIFICATE OF RESIDENT STUDY

International students who must leave the University and the country before completing a degree or certificate program may request a Certificate of Resident Study in addition to a formal transcript. The certificate cannot be awarded if the studies involved are covered by a diploma or other certificate. The chair of the major department recommends the award of the certificate through a petition to the College, school, or Graduate Division. To be eligible to receive the certificate, students must have completed a program of at least nine courses with a minimum GPA of 2.0 (2.5 for Graduate Division students) and have satisfactorily completed a research project over a period of nine months or more.

STUDENT RECORDS

The Registrar prepares, maintains, and permanently retains a record of each student’s academic work. Student files of pertinent documents are maintained up to five years following the last date of attendance.

Students may view their documents in Academic Record Services, 1134 Murphy Hall. Advance notice of two to three days is required for viewing. ☎ (310) 825-3801

UNIVERSITY RECORDS SYSTEM ACCESS

Through University Records System Access (URSA), UCLA students acquire academic, financial, and personal information from their University academic records. Students may access the system for up to 10 years after their graduation or last term of attendance. See http://www.ursa.ucla.edu.

CHANGE OF NAME OR ADDRESS

Students who wish to change their name on official University records should fill out a UCLA Correction or Change of Name form (available in the Murphy Hall northwest lobby) and submit it with documentation supporting the name change to Enrollment and Degree Services, 1113 Murphy Hall. All name changes are recorded on the transcript. If students change their address, they should update their address through URSA.

DEGREES

Students must satisfy (1) University requirements, (2) College or school requirements, and (3) department requirements as described in this catalog.

UNDERGRADUATE DEGREES

Undergraduate degree requirements are subject to the following degree policies.

STUDENT RESPONSIBILITY

It is the responsibility of students to keep informed of and to comply with the rules, regulations, and policies affecting their academic standing. Meeting academic deadlines, monitoring the Study List for accuracy, completing requisites, and fulfilling degree requirements are all part of their academic duties as students.

MINIMUM SCHOLARSHIP

The grades A through C and Passed denote satisfactory progress toward the bachelor’s degree. The grades C− through D− yield unit credit but may not satisfy certain scholarship requirements. Even when they do, they must be offset by grades of C+ or better in other courses. Students must earn at least a C (2.0) average in all courses taken at any University of California campus. Students who fail to maintain this level may be placed on academic probation or may become subject to dismissal. The College and each school may set additional scholarship requirements.
**Academic Probation**

Students are placed on probation if their overall or term grade-point average falls between 1.5 and 1.99. While they are on probation, they may not take any course on a Passed/Not Passed basis. Probation ends at the close of a regular term if students have attained a C (2.0) average for the term and a cumulative C average in all University work. Students who do not end probation within two terms are subject to dismissal.

**Academic Dismissal**

Students are subject to dismissal from the University under any of the following conditions:

1. If their grade-point average in any one term is less than 1.5 or
2. If they do not earn at least a C (2.0) average in any term when they are on probation or
3. If they do not end probation within two terms

If students are subject to dismissal, their transcripts carry that notation. They should make an appointment with their College or school counselor. Depending on the situation, they are given conditions for continuation or are dismissed from the University.

**PROGRESS TOWARD THE DEGREE**

UCLA is a full-time institution, and it is expected that students complete their undergraduate degree requirements promptly. Normal progress toward graduation in four years is defined as the completion of 45 units per year, or 15 units per term.

**MINIMUM PROGRESS AND EXPECTED CUMULATIVE PROGRESS**

Each school enforces minimum progress regulations. The College enforces expected cumulative progress regulations. Students may be subject to disqualification for failing to meet minimum progress and expected cumulative progress requirements. See the College and Schools section for specific minimum progress and expected cumulative progress and Study List regulations.

**PETITIONS**

A petition is a form submitted to explain an exception from any standard rule or regulation of the University. It is the only way to obtain formal approval from the department, the College or school, the Registrar, or office with authority over the particular request. Some petitions carry a fee.

Some of the uses of petitions are to change the College, school, or major; take more or fewer units than regulations permit; make changes to the Study List after URSA processing ends; or obtain credit by examination. In addition, students may petition for concurrent enrollment, double major, or waiver of scholarship requirements.

**TRANSFER CREDIT**

Every California community college has Transfer Course Agreements that specify which courses will receive transfer credit. These courses are displayed in ASSIST (http://www.assist.org), the statewide transfer information site. Students can get some knowledge of transfer credit from accredited institutions other than the University of California or California community college by comparing the descriptions of courses taken with those in the **UCLA General Catalog**.

Once students complete the courses, they must have the other institution send transcripts to Undergraduate Admissions and Relations with Schools (UARS), 1147 Murphy Hall, Box 951436, Los Angeles, CA 90095-1436. Transfer students should discuss transfer credit with their College or school counselor and/or departmental adviser.

**Community College**

The maximum number of community college units allowed toward the bachelor's degree is 105 quarter units (70 semester units). The UCLA UARS does not grant transfer credit for community college courses beyond 105 quarter units, but students may still receive subject credit for this coursework to satisfy lower division requirements. Consult the College or school counselors for possible further limitations. To convert semester units into quarter units, multiply the semester units by 1.5—for example, 12 semester units × 1.5 = 18 quarter units. To convert quarter units into semester units, multiply the quarter units by .666—for example, 12 quarter units × .666 = 7.99 or 8 semester units.

**Summer Sessions**

Summer Sessions grades at any UC campus are computed in the UCLA grade-point average.

**UCLA Extension**

Students who wish to receive degree credit for work taken through UCLA Extension should take courses that correspond in number to the undergraduate courses offered in regular session. The designation XL or XLC before the number of the Extension course signifies that the course is equivalent to the regular session course bearing the same number. Grades earned by undergraduate students in the College of Letters and Science, the School of Arts and Architecture, and the Henry Samueli School of Engineering and Applied Science in courses prefixed by XLC are computed in the UCLA grade-point average. No degree credit is given for courses numbered X300 through X499. Remember that concurrent enrollment in Extension and regular session is not permitted.

**DEGREE CHECKS**

Anytime prior to graduation students may request a review of degree progress. These official degree
checks detail requirements remaining to complete the bachelor's degree. The degree check process is different for the College and each school.

**College of Letters and Science**
The Degree Progress Report (DPR) serves as the degree check. The DPR is an assessment of all degree requirements and the courses taken to fulfill them. View and print DPRs through URSA or order one at a College counseling office (Academic Advancement Program, 1209 Campbell Hall; Honors Programs, A311 Murphy Hall; College Academic Counseling, A316 Murphy Hall).

Students should review questions about their DPR with departmental undergraduate advisers or College counselors, as appropriate.

**School of the Arts and Architecture**
Degree Progress Reports are available via URSA as well as on request from the Student Services Office, 2200 Broad Art Center. Students should consult an adviser in the Student Services Office when they have questions about degree requirements. Questions regarding major requirements should be referred to the departmental counselor.

**Henry Samueli School of Engineering and Applied Science**
Students starting their upper division major field coursework must submit a “satisfied” Academic Program Proposal to the Office of Academic and Student Affairs, 6426 Boelter Hall. All engineering students may pick up a Graduation Evaluation Report at 6426 Boelter Hall. The report outlines the courses completed for each required category of the student’s major. Students should obtain an official degree check at least one term prior to their graduation term. For details, see [http://www.seasoasa.ucla.edu/degree_check.html](http://www.seasoasa.ucla.edu/degree_check.html).

**School of Nursing**
Students may initiate a request for an updated degree check by contacting the student services coordinator in the Student Affairs Office, 2-200 Factor Building.

**School of Theater, Film, and Television**
Students entering as freshmen receive a written degree check on achieving junior standing. Students entering as juniors receive a degree check on entry. Students may initiate or request an updated degree check by making an appointment with their departmental counselor in the Student Services Office, 103 East Melnitz Building.

**GRADUATE DEGREES**
For graduate degree requirements and procedures, see [Program Requirements for UCLA Graduate Degrees and Standards and Procedures for Graduate Study at UCLA](http://www.gdnet.ucla.edu) at [http://www.gdnet.ucla.edu](http://www.gdnet.ucla.edu).

**GRADUATION**
The awarding of degrees is the culmination of several steps that begin when students identify the term they expect to complete degree requirements.

**UNDERGRADUATE STUDENTS**
Approximately eight out of every 10 UCLA freshmen eventually receive a baccalaureate degree, either from UCLA or from another campus or institution. One third of all UCLA baccalaureate recipients go on to graduate school.

**DECLARATION OF CANDIDACY**
To initiate the steps leading to the award of a bachelor’s degree, students must identify the term they expect to complete degree requirements through URSA by the time they complete 160 units (172 units for engineering students) to avoid a late candidacy fee. The identified term must fall within the academic year (four quarters) subsequent to the term in which students reach or expect to reach the 160- or 172-unit mark. Once they complete 160/172 or more units, a fee is assessed each time students change the degree expected term.

Current-term or past-term candidates over the unit limit must file a UCLA Declaration of Candidacy form at 1113 Murphy Hall. The form is available online at [http://www.registrar.ucla.edu/forms/](http://www.registrar.ucla.edu/forms/).

Friday of the second week is the last day to declare candidacy for the current term (with fee depending on units completed). Declaration of candidacy after the second week may result in a degree award date for the following term and additional penalty fees.

Verify the degree expected term through URSA. For questions about degree candidacy status, Letters and Science students may inquire at 1113 Murphy Hall. Arts and Architecture, Theater, Film, and Television, Engineering, and Nursing students should see their school office. A photo I.D. is required. Declaring candidacy is not a guarantee of graduation.

**IN ABSENTIA GRADUATION**
Students who intend to complete degree requirements while nonregistered (those who take a course through UCLA Extension or at another institution, remove an Incomplete grade, and so on) must file a request to graduate “in absentia” with their degree.
auditor in 1113 Murphy Hall by the second-week candidacy deadline. Students graduating in absentia are assessed the undergraduate in absentia degree service fee in addition to the declaration of candidacy fee if they were also not registered in the term immediately prior to their degree expected term.

**FINAL DEGREE AUDITS AND GRADUATION**

Degree auditors in the Registrar’s Office for Letters and Science students (2200 Broad Art Center for Arts and Architecture students, 6426 Boelter Hall for Engineering students, 2-200 Factor Building for Nursing students, and 103 East Melnitz Building for Theater, Film, and Television students) are responsible for verifying each candidate’s eligibility for a bachelor’s degree. Degree auditors have information pertaining to a student’s graduation only if that student declared candidacy and completed 160 quarter units (172 units for engineering students).

During their graduating term, students should inform a degree auditor of grade changes, petitions for substitutions or exemptions, transfer credits, or similar changes that may affect their degree. Degree auditors notify students whose graduation eligibility cannot be verified of any requirements still outstanding and other problems in completing the degree.

Student records are closed to revisions in enrollment, grading, and academic actions on award of a degree. Students are responsible for requesting review of their record prior to award of their degree.

A Summary of Shortages for the Bachelor’s Degree statement is mailed to each current-term candidate who does not satisfy degree requirements that term. Students who receive such notices should contact a degree auditor immediately. If students expect to satisfy degree requirements in a later term, they must change their degree expected term through URSA or at 1113 Murphy Hall. They may be assessed applicable fees.

Contact degree auditors only for questions about degree audits. Phone numbers are in the Registrar’s Services Guide in the Student Services section of the Schedule of Classes. For graduation ceremony procedures, contact the College or schools.

**DEGREE DATE**

Degrees are awarded at the end of Fall, Winter, and Spring Quarters and at the end of Summer Session C. School of Law and School of Medicine degrees are awarded at the end of Fall and Spring semesters. Consult the UCLA quarter, summer sessions, and semester calendars for the degree award date, which is the final day of the term. See http://www.registrar.ucla.edu/calendar/.

**COMMENCEMENT**

The College and each school conduct ceremonies for their graduates. Ceremonies feature addresses and recognize candidates who have achieved high academic distinction and honors. Names of students who request that no public information be released do not appear in commencement ceremony programs. Students may change their privacy status on URSA.

Check with the College or school for eligibility requirements, programs, and time schedules. Further information, including the schedule of ceremonies, maps and parking, and updates is at http://www.commencement.ucla.edu.

**DIPLOMAS**

Diplomas for both undergraduate and graduate students are available approximately three to four months after the degree award date. Information about obtaining the diploma in person (no fee) or by mail (with fee) is sent to students approximately seven weeks after the end of their final term. To expedite receipt of the diploma, students should return the diploma mailer form and remit the mailing fee. Obtain recorded diploma availability information at (310) 825-8883. The Registrar’s Office retains diplomas for five years from graduation date.

**Change of Name**

To be reflected on the diploma, name changes must be submitted to Enrollment and Degree Services, 1113 Murphy Hall, by the last day of the degree expected term. Students submitting name changes after that date must request a replacement diploma at 1113 Murphy Hall and pay an additional fee.

**Duplicate Diplomas**

If the original diploma is destroyed, a duplicate may be ordered by contacting the Registrar’s Office, Diploma Reorder, 1113 Murphy Hall. There is a fee for the replacement diploma, and it bears a reissue date and the signatures of the current officials of the state and University.

**GRADUATE STUDENTS**

Candidates for both master’s and doctoral degrees must be advanced to candidacy and complete all degree requirements, including the master’s thesis or comprehensive examination, or doctoral dissertation, before the degree is conferred (see the Schedule of Classes calendar for filing deadlines). For graduate degree requirements and procedures, see Program Requirements for UCLA Graduate Degrees and Standards and Procedures for Graduate Study at UCLA at http://www.gdnet.ucla.edu.
The UCLA campus has one College and 11 professional schools. Each has its own degree requirements and is headed by a dean who has final academic authority. UCLA students enroll in the University and in the College or one of the schools described in this section.

COLLEGE OF LETTERS AND SCIENCE

Patricia O’Brien, Executive Dean

UCLA
2300 Murphy Hall
Box 951430
Los Angeles, CA 90095-1430
(310) 825-1965 (College Academic Counseling)
http://www.college.ucla.edu

“The Idea of a Multiversity’ is a city of infinite variety. Some get lost in the city; some rise to the top within it; most fashion their lives within one of its subcultures. It offers . . . a vast range of choices, enough literally to stagger the mind. In this range of choices . . . (one) encounters the opportunities and the dilemma of freedom.”

Clark Kerr, The Uses of the University

With over 22,700 students and more than 900 faculty members, UCLA’s College of Letters and Science is the largest academic unit in the UC system. The four academic divisions of humanities, physical sciences, social sciences, and life sciences provide the framework for more than 130 majors leading to the Bachelor of Arts, Bachelor of Science, or Bachelor of Arts and Sciences (B.A.S.), as well as to master’s and doctoral degrees.

The undergraduate programs in the College stress a liberal arts education that brings together perspectives from many fields in a unified approach to learning. Students learn ways that issues are analyzed, questions are posed, and knowledge is organized. After sampling many general subjects, they concentrate on one field or subject and are required to pursue it rigorously and in depth, according to the standards of scholars in the field. When they reach the graduate level, they pose their own questions, analyze academic issues of their own making and, through their research, participate in the creation of knowledge.

For a complete list of College of Letters and Science degrees, see the table in the front of this catalog.

ORGANIZATION OF THE COLLEGE

The primary units of the College are the academic departments, which are grouped in four divisions: Humanities, Life Sciences, Physical Sciences, and Social Sciences. Each division is headed by a dean who reports directly to the executive dean. A fifth division, Undergraduate Education, provides academic programs, academic services, and scholarships for undergraduate students. It is headed by the dean and vice provost for undergraduate education. A sixth division, the UCLA International Institute, provides the education of global citizens through its degree programs, centers, and the people-to-people linkages it fosters among students, scholars, and citizens around the world. It is headed by the dean and vice provost of the institute.

HUMANITIES

The Humanities Division promotes, through scholarly inquiry and the transmission of ideas, sensitive, imaginative, and rigorous reflection on the human condition. Courses in literature help students understand the enduring power of texts both great and small—from cuneiform to manuscript to hypertext. Studies of nearly 100 foreign languages create a gateway to civilizations that span the globe and five millennia of human history. Philosophers provide training in the fundamental principles of logic and moral reasoning, and linguists—both theoretical and applied—illuminate the physiological, cognitive, and social aspects of human language. Musicologists and art historians explore with students the forms and media through which humans have sought to express themselves and to challenge and make sense of their worlds. Programs in the humanities teach students to interpret texts with an informed sensitivity, to evaluate ideas critically, to write clearly and effectively about them, and to be able to question and discuss them with their peers. See http://www.college.ucla.edu/humanities.html.

LIFE SCIENCES

Faculty members and students in the Life Sciences Division play an essential role in unlocking the basic mechanisms of life at the most fundamental level. The geography of Southern California is conducive to life sciences research, since the diverse region is a natural laboratory for environmental biologists, plant and animal ecologists, and evolutionary biologists. Scientists in microbiology and molecular, cell, and developmental biol-
ogy study embryo formation, cell signaling, and genetics. Neurochemists, neurophysiologists, psychologists, and behavior biologists study the underlying mechanisms of the neural basis of behavior. Physiological scientists examine the structure of muscle, hormonal control of behavior, and environmental conditions, such as weightlessness, that affect bone and muscle structure and function. Cognitive psychologists are concerned with the nature of knowledge—how people learn, remember, associate, and think, and how computers relate to human thought processes. See http://www.college.ucla.edu/lifesciences/.

**Physical Sciences**
Departments in the Physical Sciences Division present the results of human efforts to understand the natural sciences and their physical aspects, including the properties and characteristics of matter and energy; the science of numbers and order; the origin and structure of the universe, solar system, and Earth; and climatic change and its environmental impact. The bases for the physical sciences are the fundamental laws and proof of mathematics, chemistry, and physics. Studies in the physical sciences are experimental, theoretical, observational, and computational. Faculty members and students are interested in such topics as the nature and evolution of the galaxies; ozone depletion; nuclear winter; greenhouse effect; molecular recognition, interactions, design, synthesis, and structure; evolution of life and the continents; computational mathematics and symbolic logic; superconducting materials; plasma fusion, space plasmas; and high-energy accelerator physics. See http://www.physics.ucla.edu/about.asp.

**Social Sciences**
Majors in the Social Sciences Division help students make sense of the rapidly changing world around them by giving them the tools and sensibilities to appreciate the complex interplay of individuals, environment, culture, and economy that makes up their social world. They study human and animal evolution, as well as the transformation of human societies from small groups to states. They explore and debate the meaning of cultural, ethnic, and racial identities in historical and contemporary settings. Some majors challenge students to analyze the role of labor, markets, and exchange, as well as the dynamics of political choices, participation, and institutions. Communication, from interpersonal conversation to mass media, and its impact on personal and political behavior are studied in different fields, while the impact of place and the natural environment are examined through geography. Underlying all of these topics is a drive to capture the elusive nature of human behaviors and relationships through direct observation and the questioning of prevailing theories. In addition, students learn exciting and diverse methods of social and environmental analysis, such as archaeology, linguistics, statistics, game theory, remote sensing and imagery, textual analysis, ethnography, geographic information systems, fieldwork, and ecology. See http://www.sscnet.ucla.edu/college/.

**Undergraduate Education**
The Undergraduate Education Division provides academic programs, services, and scholarships through a number of units. See http://www.ugedu.ucla.edu.

**Academic Advancement Program.** The Academic Advancement Program (AAP) is a multiracial, multi-ethnic, and multicultural program that promotes academic excellence through academic counseling, mentoring, tutorials, and faculty workshops. See http://www.college.ucla.edu/up/aap/.

**Academics in the Commons.** The Academics in the Commons (AITC) program provides students, through workshops and tutorials, with an understanding of skills and techniques, an awareness of campus resources, and knowledge of self, so that personal and academic success at UCLA can be achieved. See http://www.college.ucla.edu/up/aitc/.

**Center for Community College Partnerships.** The Center for Community College Partnerships (CCCP) develops academic partnerships between California community colleges and the University to strengthen and diversify curriculum, create strong academic support programs, improve student competitiveness for UC admissions, and increase the diversity of the UCLA transfer admit pool. See http://www.college.ucla.edu/up/cccp/.

**Center for Community Learning.** The Center for Community Learning serves faculty members, undergraduate students, and community partners through academic courses and programs, including credit-bearing internships, service learning courses, community-based research, and service scholarships. It is home to the undergraduate minor in Civic Engagement. The center works closely with the Center for Community College Partnerships and the undergraduate curricular arm of the Chancellor's UCLA in LA Initiative. See http://www.college.ucla.edu/up/ccl/.

**College Academic Counseling.** College Academic Counseling (CAC) provides College undergraduate students with counseling on academic regulations and procedures, course selection, preparation for graduate and professional programs, selection of appropriate majors, and the options and alternatives available to enhance a UCLA education. See http://www.college.ucla.edu/up/counseling/.

**Honors Programs.** Honors Programs offer academic programs and services designed to promote an outstanding honors education, including Honors Collegium, Departmental Scholar Program, Individual Majors Program, Phi Beta Kappa, Honors Scholarships, and specialized counseling and sup-
port services for College honors students. See http://www.college.ucla.edu/up/honors/.

Office of Instructional Development. The Office of Instructional Development (OID) supports undergraduate education by enhancing teaching and learning opportunities. Through grants, programs, and services, OID promotes the effective use of current and emerging instructional methodologies and technologies. See http://www.oid.ucla.edu.

Orientation Program. Summer Orientation is the first introduction to UCLA for new students. During the three-day first-year student sessions and the one-day transfer student sessions, a unique set of comprehensive and engaging programs is offered to make student transitions to UCLA great ones. See http://www.orientation.ucla.edu.

Scholarship Resource Center. The Scholarship Resource Center (SRC) is designed to help students in the search for private scholarships, regardless of financial aid eligibility. See http://www.college.ucla.edu/up/src/.

Transfer Alliance Program. The Transfer Alliance Program (TAP) seeks to strengthen academic ties between UCLA and honors programs in over 40 community colleges to provide specialized transfer programs for participating students. See http://www.college.ucla.edu/up/tap/.

Undergraduate Education Initiatives. Undergraduate Education Initiatives are innovative programs designed for lower division students that feature best practices in undergraduate education and attract UCLA’s most distinguished faculty members from all campus areas. Programs include College General Education, Fiat Lux Freshman Seminars, Freshman Cluster Program, and Writing II Program. See http://www.ageducation.ucla.edu/uel/.

Undergraduate Evaluation and Research Office. The Undergraduate Evaluation and Research Office provides information and analysis to support planning, program and policy development, and other decision making about undergraduate education at UCLA. See http://www.college.ucla.edu/up/eval/.

Undergraduate Research Centers. Undergraduate Research Centers (URC)—one for students in the arts, humanities, and social sciences and one for students in science, engineering, and mathematics—exist as part of a continuing effort by the College to engage undergraduate students in research and creative activities at all levels. See http://www.college.ucla.edu/ugresearch/index.html.

UCLA INTERNATIONAL INSTITUTE

The UCLA International Institute comprises 15 multidisciplinary research centers and 10 interdepartmental programs that focus on major regions of the world and on global issues that cut across regional boundaries. The institute is committed to the education of global citizens through its research, teaching programs, and the knowledge and people-to-people linkages it fosters among students, scholars, and citizens around the globe. Major issues include security concerns that transcend traditional interstate conflict; new forms of governance and coordination, whether by governments, nongovernmental organizations, or markets; the causes and effects of globalization; transnational cultures and multiple identities (or resistance to these trends); and public health, the environment, and economic development.

The U.S. Department of Education has recognized the institute’s excellence in area studies by designating National Resource Centers in East Asia, Europe, Latin America, Near East, and Southeast Asia. The Asia Institute acts as a catalyst for interdisciplinary teaching and research among six specialized Asian studies centers. The Ronald W. Burkle Center for International Relations provides teaching, research, and policy advice on the most pressing issues affecting the U.S. and the world. All of the centers have formed extensive scholarly alliances with institutions of higher education around the world.

The interdepartmental undergraduate majors in East Asian Studies, European Studies, Latin American Studies, Middle Eastern and North African Studies, and Southeast Asian Studies and minors in African Studies, Latin American Studies, Middle Eastern and North African Studies, South Asian Studies, and Southeast Asian Studies offered through the International Institute provide students with in-depth learning in the languages, cultures, and histories of those regions. The Global Studies major and minor provide students with interdisciplinary and problem-oriented academic training in the core issues that affect the globalized world from several thematic pillars: culture and society, governance and conflict, and markets. The International Development Studies major gives undergraduate students the opportunity to study the developed world from economic, historical, political, and social perspectives. At the graduate level, the International Institute offers degrees in African Studies, East Asian Studies, Islamic Studies, and Latin American Studies, each with a focus on their respective regional and associated cultures, all from an interdisciplinary perspective. Each year more than 600 UCLA students travel abroad through the Education Abroad Program to more than 150 institutions in 35 countries.

The institute is also home to the Fulbright Program for Greater Los Angeles, which hosts international Fulbright scholars and introduces them to the community. The International Visitors Bureau serves as a
liaison between UCLA and international academic and professional leaders while hosting more than 800 visitors each year in programs that incorporate the intellectual, cultural, ethnic, and linguistic diversity of the campus and greater Los Angeles. The Center for World Languages provides research that enhances foreign language teaching, learning, and testing to meet student, academic, and professional needs and serves local, national, and international agencies in the design, implementation, and evaluation of programs dedicated to modern language education. See http://www.international.ucla.edu.

**Undergraduate Degree Requirements**

For a complete list of College of Letters and Science degrees, see the table in the front of this catalog.

Degree programs in the College offer students a variety of intellectual challenges by combining a wide distribution of courses and the opportunity to specialize in one particular field. To this end, students are required to select lower division courses that provide general foundations of human knowledge. In upper division courses, they concentrate on one major field of interest.

As described below, College students must meet three types of requirements for the Bachelor of Arts or Bachelor of Science degree:

1. University requirements
2. College requirements
3. Department requirements

**University Requirements**

The University of California has two requirements that undergraduate students must satisfy in order to graduate: (1) Entry-Level Writing or English as a Second Language and (2) American History and Institutions. Students who do not satisfy the Entry-Level Writing requirement prior to enrollment must pass an approved course or other program prescribed by their UC campus of residence. Only after satisfying the Entry-Level Writing requirement can they take for transfer credit an English composition course after enrolling at UCLA. See Degree Requirements in the Undergraduate Study section for details.

**College Requirements**

The College of Letters and Science has seven requirements that must be satisfied for the award of the degree: unit, scholarship, academic residence, writing, quantitative reasoning, foreign language, and general education.

**Unit Requirement**

Students must satisfactorily complete for credit a minimum of 180 units for the bachelor’s degree. At least 60 of the 180 units must be upper division courses numbered 100 through 199. A maximum of 216 units is permitted. Students with advanced placement or international baccalaureate (transfer) credit may exceed the unit maximum by the amount of that credit.

**Scholarship Requirement**

Students must earn at least a C (2.0) grade-point average in all courses undertaken at UCLA for receipt of the bachelor’s degree. They must also attain a 2.0 GPA in a major and satisfy both the course and scholarship requirements for that major, including preparation for the major.

**Academic Residence Requirement**

Thirty-five of the final 45 units completed for the bachelor’s degree must be earned in residence in the College. A minimum of 24 upper division units must be completed in the major while in residence in the College. The academic residence requirements apply to all students, both continuing and transfer.

**Writing Requirement**

Students must complete the University’s Entry-Level Writing or English as a Second Language (ESL) requirement prior to completing the College writing requirement.

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**College of Letters and Science Structure of a Degree**

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<td>2. American History and Institutions</td>
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<tr>
<td>Foundations of Arts and Humanities</td>
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<td>Foundations of Society and Culture</td>
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<th>Department Requirements</th>
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<tr>
<td>1. Preparation for the Major</td>
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Courses that do not satisfy the University, College, or department requirements are referred to as electives and are used to meet the minimum unit requirement for graduation.
New students admitted to the College are required to complete a two-term writing requirement—Writing I and Writing II. Continuing and returning students fulfill the requirements in effect prior to Fall Quarter 1999. Two courses in English composition are required for graduation. Both courses must be taken for a letter grade, and students must receive grades of C or better (C– grades are not acceptable).

**Writing I.** The Writing I requirement must be satisfied by completing English Composition 3 or 3H, or an equivalent course approved by the College Faculty Executive Committee, within the first three terms of enrollment.

The Writing I requirement may also be satisfied by scoring 4 or 5 on one of the College Board Advanced Placement Tests in English or a combination of a score of 720 or better on the SAT Reasoning Test Writing Section and superior performance on the English Composition 3 Proficiency Examination.

Students whose native language is not English may satisfy the Writing I requirement by completing English as a Second Language 36 with a grade of C or better (C– or a Passed grade is not acceptable). Admission into the course is determined by completion of English as a Second Language 35 with a passing grade or proficiency demonstrated on the English as a Second Language Placement Examination (ESLPE).

**Writing II.** The Writing II requirement is satisfied by selecting a course from a list of courses approved by the College Faculty Executive Committee. Writing II courses are listed in the Schedule of Classes at http://www.registrar.ucla.edu/soc/writing.htm and are available in College Academic Counseling. Most Writing II courses may also be applied toward general education (GE) requirements or toward some preparation for the major requirements. It is strongly recommended that the requirement be fulfilled within the first six terms of enrollment.

Transfer students with 90 or more units who have completed the Intersegmental General Education Transfer Curriculum will have satisfied the Writing I and Writing II requirements. No transfer student is admitted to the College without completing, with a grade of C or better (C– grade is not acceptable) a college-level writing course that the Office of Undergraduate Admissions and Relations with Schools accepts as equivalent to English Composition 3.

**Quantitative Reasoning Requirement**

In the College of Letters and Science, students must demonstrate basic skills in quantitative reasoning. All courses taken to satisfy the quantitative reasoning requirement must be completed with a grade of Passed or C or better. The quantitative reasoning requirement can be satisfied by achieving an SAT Reasoning Test Mathematics Section score of 600 or better, an SAT Subject Test in Mathematics score of 550 or better, or by completing one of the following courses: Biostatistics 100A, 100B, Mathematics 2 (or any higher numbered course except 38A, 38B, and 38C) Philosophy 31, Political Science 6, 6R, Program in Computing 10A, 10B, 10C, Statistics 10, 10H, 11, 12, 13, 14.

**Foreign Language Requirement**

The foreign language requirement can be satisfied by one of the following methods: (1) completing a college-level foreign language course equivalent to level three or above at UCLA or (2) scoring 3, 4, or 5 on the College Board Advanced Placement (AP) foreign language examination in French, German, or Spanish, or scoring 4 or 5 in Latin, thereby earning College credit or (3) presenting a UCLA foreign language departmental examination score indicating competency through level three. Consult the Schedule of Classes for times and places of the regularly scheduled examinations. Students who wish to demonstrate proficiency in a language that is taught in a UCLA department that has no scheduled examination should contact the appropriate department to arrange for one. Students wishing to take an examination in a language not taught at UCLA should contact a College counselor.

The following language courses may be used to fulfill the foreign language requirement:

- African Languages (Linguistics) 1A-1B-1C or 15 (Swahili); 7A-7B-7C or 17 (Zulu); 11A-11B-11C or 25 (Yoruba); 31A-31B-31C or 35 (Bambara); 41A-41B-41C or 45 (Hausa); 51A-51B-51C or 56 (Amharic); 61A-61B-61C (Wolof); 75 (Chichewa); 85 (Setswana)
- Afrikaans (Germanic Languages) 105A and 105B
- Ancient Near East (Near Eastern Languages) 120A-120B-120C (Ancient Egyptian); 140A-140B-140C (Sumerian)
- Arabic (Near Eastern Languages) 1A-1B-1C
- Armenian (Near Eastern Languages) 101A-101B-101C or 104A-104B-104C
- Berber (Near Eastern Languages) 101A-101B-101C
- Bulgarian (Slavic Languages) 101A-101B-101C
- Chinese (Asian Languages) 1, 2, and 3, or 1A, 2A, and 3A, or 8
- Czech (Slavic Languages) 101A-101B-101C
- Dutch (Germanic Languages) 103A-103B, and 103C, or 104A-104B
- French (French and Francophone Studies) 1, 2, and 3, or 8
- German (Germanic Languages) 1, 2, and 3, or 8
- Greek (Classics) 1, 2, and 3, or 16; 15 (Modern Greek)
- Hebrew (Near Eastern Languages) 1A-1B-1C
- Hungarian (Slavic Languages) 101A-101B-101C
- Italian 1A-1B-1C or 20A-20B-20C (Persian)
- Italian 1, 2, and 3, or 9
- Japanese (Asian Languages) 1, 2, and 3, or 8
- Korean (Asian Languages) 1, 2, and 3, or 1A, 2A, and 3A, or 10
- Latin (Classics) 1, 2, and 3, or 16 or 100
- Polish (Slavic Languages) 101A-101B-101C
- Portuguese (Spanish and Portuguese) 1, 2, and 3, or 102A-102B
- Quechua (Linguistics) 17 or 18A-18B-18C
- Romanian (Slavic Languages) 101A-101B-101C or 103
College of Letters and Science

GENERAL EDUCATION REQUIREMENTS

General education (GE) is more than a checklist of required courses. It is a program of study that (1) reveals to students the ways that research scholars in the arts, humanities, social sciences, and natural sciences create and evaluate new knowledge, (2) introduces students to the important ideas and themes of human cultures, (3) fosters appreciation for the many perspectives and the diverse voices that may be heard in a democratic society, and (4) develops the intellectual skills that give students the dexterity they need to function in a rapidly changing world.

This entails the ability to make critical and logical assessments of information, both traditional and digital; deliver reasoned and persuasive arguments; and identify, acquire, and use the knowledge necessary to solve problems.

In 2002, the College changed its general education curriculum. Depending on when students enter UCLA and whether they enter as freshmen or transfer students, the requirements vary. For transfer students, applicability of either plan depends on whether or not they have completed the Intersegmental General Education Transfer Curriculum (IGETC).

Foundations of Knowledge

Students follow a general education curriculum that is grouped into three foundational areas: Foundations of the Arts and Humanities, Foundations of Society and Culture, and Foundations of Scientific Inquiry.

Ten courses (48 units minimum) are required. GE-approved Writing II courses may fulfill an appropriate foundational area. One of the 10 courses must be either a GE-approved lower division seminar or a second GE-approved Writing II course in the appropriate foundational area. See the foundational area descriptions below for a breakdown of courses required.

Students who complete a GE Cluster series (1) fulfill the Writing II requirement, (2) complete a third of their general education requirements, (3) fulfill the GE seminar requirement, and (4) receive laboratory/demonstration credit where appropriate.

Courses listed in more than one category can fulfill GE requirements in only one of the cross-listed categories.

Foundations of the Arts and Humanities. Three 5-unit courses, one from each subgroup:

- Literary and Cultural Analysis
- Philosophical and Linguistic Analysis
- Visual and Performance Arts Analysis and Practice

The aim of courses in this area is to provide perspectives and intellectual skills necessary to comprehend and think critically about our situation in the world as human beings. In particular, the courses provide the basic means to appreciate and evaluate the ongoing efforts of humans to explain, translate, and transform their diverse experiences of the world through such media as language, literature, philosophical systems, images, sounds, and performances.

The courses introduce students to the historical development and fundamental intellectual and ethical issues associated with the arts and humanities and may also investigate the complex relations between artistic and humanistic expression and other facets of society and culture.

Foundations of Society and Culture. Three 5-unit courses, one from each subgroup and one from either subgroup:

- Historical Analysis
- Social Analysis
- Visual and Performance Arts Analysis and Practice
The aim of courses in this area is to introduce students to the ways in which humans organize, structure, rationalize, and govern their diverse societies and cultures over time. The courses focus on a particular historical question, societal problem, or topic of political and economic concern in an effort to demonstrate how issues are objectified for study, how data is collected and analyzed, and how new understandings of social phenomena are achieved and evaluated.

**Foundations of Scientific Inquiry.** Four courses, two from each subgroup. One 5-unit course from each subgroup must include either a laboratory or demonstration or carry Writing II credit. Each of the other two courses may be 4 units:

- **Life Sciences**
- **Physical Sciences**

The aim of courses in this area is to ensure that students gain a fundamental understanding of how scientists formulate and answer questions about the operation of both the physical and biological world. The courses also deal with some of the most important issues, developments, and methodologies in contemporary science, addressing such topics as the origin of the universe, environmental degradation, and the decoding of the human genome. Through lectures, laboratory experiences, writing, and intensive discussions, students consider the important roles played by the laws of physics and chemistry in society, biology, Earth and environmental sciences, and astrophysics and cosmology.

**Foundations Course Lists.** Creating and maintaining a general education curriculum is a dynamic process; consequently, courses are frequently added to the list. For the most current list of approved courses that satisfy the Foundations of Knowledge GE plan, consult an academic counselor or see http://www.registrar.ucla.edu/ge/GE-LSFr06-07.pdf.

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**Advanced Placement Test Credit**

Freshmen who entered Fall Quarter 2002 and transfer students who entered Fall Quarter 2004 may not use Advanced Placement (AP) credit to satisfy the College's 10-course foundational area general education requirement. See the AP Chart at http://www.admissions.ucla.edu/Prospect/APCreditLS.htm. Consult a departmental or College counselor for applicability of AP credit toward course equivalencies or satisfaction of Preparation for the Major requirements.

Students who entered as freshmen prior to Fall Quarter 2002 and transfer students who entered prior to Fall Quarter 2004 should consult a College counselor for application of AP credit.

**Reciprocity with Other UC Campuses**

Students who transfer to UCLA from other UC campuses and have met all GE requirements prior to enrolling at UCLA are not required to complete the College GE requirements. Written verification from the dean at the other UC campus is required. Consult a College counselor regarding eligibility for this option.

**Intersegmental General Education Transfer Curriculum**

Transfer students from California community colleges have the option to fulfill UCLA lower division GE requirements by completing the Intersegmental General Education Transfer Curriculum (IGETC) prior to transfer. The curriculum consists of a series of subject areas and types of courses that have been agreed on by the University of California and the California community colleges. Although GE or transfer core courses are degree requirements rather than admission requirements, students are advised to fulfill them prior to transfer. The IGETC significantly eases the transfer process, as all UCLA GE requirements are fulfilled when students complete the IGETC courses. Students who select the IGETC must complete it entirely before enrolling at UCLA.
Otherwise, they must fulfill the College GE requirements.

Students who are unable to complete one or two IGETC courses for good cause may petition the community college for partial completion of IGETC. If the petition is approved by the community college, the remaining courses must be completed with a minimum grade of C within one calendar year after admission to UCLA. Failure to complete IGETC coursework within the specified time period results in a permanent denial of IGETC certification, and students are required to complete the College GE requirements.

DEPARTMENT REQUIREMENTS

College departments generally set two types of requirements that must be satisfied for the award of the degree: (1) Preparation for the Major (lower division courses) and (2) the Major (upper division courses). Departments also set requirements for minors and specializations.

PREPARATION FOR THE MAJOR

Admission to a major often requires completion of a set of courses known as Preparation for the Major. Students in life sciences majors must complete a set of preparatory courses known as the Life Sciences Core Curriculum. Each department sets its own Preparation for the Major requirements; see the Curricula and Courses section of this catalog.

THE MAJOR

A major in the College consists of a group of coordinated upper division courses and is designated as departmental, interdepartmental, or individual. All courses applied toward the major and preparation for the major must be taken for a letter grade unless otherwise stipulated by the department. Students who have been away from the University for several terms should consult with their major department or curriculum adviser concerning the requirements under which they are to graduate.

Each department sets its own major requirements; see the Curricula and Courses section of this catalog.

Departmental Majors. A departmental major consists of a minimum of 36 upper division units and a maximum of 60 upper division units. The majors are established and supervised by campus departments.

Interdepartmental Majors. An interdepartmental major consists of a minimum of 48 upper division units and a maximum of 75 upper division units, of which no more than 32 units may be coursework in one department. The programs are administered by interdepartmental committees made up of faculty whose membership is determined by research interest, not by departmental affiliation. By cutting across the usual lines of departmental division, a subject area is studied from the perspectives of different disciplines and a greater degree of program flexibility is achieved.

Individual Majors. If students have some unusual but definite academic interest for which no suitable major is offered at the University and have completed at least three terms of work (45 units minimum) at the University with a grade-point average of 3.4 or better, they may petition for an individual major. The consent of the College Honors Programs and the assistance of a faculty adviser are required. Individual majors must be approved by the vice provost for Undergraduate Education.

The individual major must consist of at least 48 and no more than 60 upper division units, a majority of which must be in departments offering a major in the College. A senior thesis of at least 8 but no more than 12 units is required. For details about individual majors, contact the Honors Programs Office, A311 Murphy Hall. See http://www.college.ucla.edu/up/honors/individual.html. ☎ (310) 825-1553

Double Majors. Students in good academic standing may be permitted to have a double major consisting of departmental majors from two departments within the College. Both majors must be completed within the maximum limit of 216 units, and students must obtain the approval of both departments.

With few exceptions, double majors in the same department are unacceptable. No more than 20 upper division units may be common to both majors.

MINORS AND SPECIALIZATIONS

Students may choose to pursue a minor to complement their major program of study. Minors consist of no fewer than seven courses (28 units) and no more than nine courses (36 units) Some minors also have admission requirements.

Specializations, such as the Computing specialization, are sequences of supplemental courses that enhance work in a major.

For a list of minors and specializations, see the chart at the beginning of this catalog; descriptions are in the Curricula and Courses section.

POLICIES AND REGULATIONS

Degree requirements are subject to policies and regulations, including the following:

STUDENT RESPONSIBILITY

Students should take advantage of academic support resources, but they are ultimately responsible for keeping informed of and complying with the rules, regulations, and policies affecting their academic standing.
**STUDY LIST**

The Study List is a record of classes that a student is taking for a particular term. The allowable Study List load is up to 19 units. After the first term, students may petition to enroll in more than 19 units if they attained at least a B average the preceding term in a total program of at least 15 units. First-term transfer students from any other campus of the University may carry excess units on the same basis as students who have completed one or more terms at UCLA; however, they are not encouraged to do so.

**PROGRESS TOWARD THE DEGREE**

UCLA is a full-time institution, and it is expected that students complete their undergraduate degree requirements promptly. Normal progress toward graduation in four years is defined as the completion of 45 units per year, or 15 units per term.

The Degree Progress Report (DPR) is a record of degree requirements and the courses taken to fulfill them. Students are responsible for monitoring their progress toward the degree. They must read and understand the catalog, check the online catalog for updates, and consult regularly with the College and department counselors to confirm they are satisfying all program requirements. Department counselors advise students on progress and completion of the major requirements. College Academic Counseling staff members assist students with College requirements and degree planning and provide DPRs on request. Students can also view DPRs through URSA or MyUCLA.

**MINIMUM PROGRESS/EXPECTED CUMULATIVE PROGRESS**

During a regular term of enrollment, undergraduate students in the College are required to enroll in a minimum of 13 units. Students are also required to meet cumulative progress unit expectations as outlined in the Expected Cumulative Progress Chart at http://www.college.ucla.edu/up/counseling/regulations/exprog.htm.

**REDUCED FEE PROGRAMS**

While full-time study is expected and required of students, some students may qualify for part-time study due to compelling reasons of occupation, home and family responsibilities, or health. Under this policy, part-time status is defined as less than 10 units per term and is presumed to be of a permanent nature. On approval of part-time status, a reduction of the educational fee by one half and a reduction of the nonresident tuition fee by one half are approved.

To be eligible for part-time study, students must provide documentation of occupation, home and family responsibility, or health that prevents them from carrying a full-time study load, as well as documentation of a need for part-time study for a minimum of three consecutive terms. Once approved for part-time study, students must complete two courses of 10 units or less in each of the three consecutive terms. Only under documented extraordinary circumstances is a one-course Study List approved. Documentation must specify that a one-course Study List is warranted.

Students should obtain the petition, Undergraduate Request for Fee Reduction, from College Academic Counseling. The application for part-time study must be submitted with accompanying documentation by Friday of the second week of the term. Students approved for part-time study who become enrolled in or receive credit for 10 or more units during a term must pay the full fees for that term.

**DECLARING A MAJOR**

Students are expected to select a major by the beginning of their junior year. This may be a program of related upper division courses within a single department (departmental major) or a group of related courses involving a number of departments (interdepartmental major) or, under certain circumstances, a group of courses selected to meet a special need (individual major).

Most entering freshmen are unsure about specific academic goals and request to be admitted to the College as “undeclared.” These students then explore fields of study by taking introductory courses in the physical and life sciences, social sciences, and humanities in search of an area that most excites their interest.

All students with 90 or more units toward a degree are expected to declare a premajor or a major. When they are ready to do so, they obtain approval on a Petition for Declaration of Major from the department or interdepartmental degree committee that governs their intended major.

**CHANGING A MAJOR**

Students in good academic standing who wish to change their major may petition to do so provided they can complete the new major within the 216-unit limit. Petitions must be submitted to and approved by the department or committee in charge of the new major. Admission to certain majors may be closed or restricted; changes are normally not permitted if students are on probation or have begun their last term.

Students who fail to attain a grade-point average of 2.0 (C) in preparation for the major or major courses may be denied the privilege of entering or continuing in that major. Some departments may have higher grade-point requirements for their preparation and major courses; consult the appropriate department regarding minimum standards.

**REENTERING STUDENTS AND THEIR MAJORS**

Students returning to the University to resume their studies after an absence of several years may find their previous major area of study no longer avail-
able. They then must select a current major in which to complete their studies. Consult an academic counselor for assistance.

Credit Limitations

The following credit limitations apply to all undergraduate students enrolled in the College. In most cases units are not deducted until the final term before graduation. Students with questions should consult an academic counselor.

Transfer students with credit from other institutions (advanced standing credit) receive a Degree Progress Report (DPR) from Undergraduate Admissions and Relations with Schools indicating the transferable units from former institutions; however, the following credit limitations may reduce the total number of transferred units that apply toward the degree in the College. Consult a counselor in College Academic Counseling about these limitations.

Advanced Placement Tests. Advanced Placement (AP) Test credit may not be applied toward a degree unless students had less than 36 units of credit at the time of the examination(s). See the AP chart at http://www.admissions.ucla.edu/prospect/APCreditLS.htm for UCLA course equivalents and credit allowed for GE requirements.

College Level Examination Program. Credit earned through the College Level Examination Program (CLEP) and through the California State University English Equivalency Examination may not be applied toward the bachelor's degree.

Community College Unit Limit. After completing 105 quarter units toward the degree in all institutions attended, students are allowed no further unit credit for courses completed at a community college.

Credit by Examination. Within the College, eligibility for credit by examination is usually limited to students who have been approved as Departmental Scholars or who are admitted to a departmental honors program or UCLA Honors Programs. Students who have completed a minimum of 12 units at UCLA with a minimum 3.5 overall grade-point average may petition for credit by examination. The examination for that course must be taken successfully before they may petition for credit by examination in another course.

Students may receive credit by examination for only one course out of 10 courses completed. Credit by examination may not be used to gain credit for prior knowledge, audited courses, or courses taken elsewhere. Units for a course taken by examination are applied toward the 216-unit maximum allowable units for graduation. Petitions for credit by examination (with fee) are available only through an appointment with a counselor in the Honors Programs Office, A311 Murphy Hall.

Education Abroad Program. Students participating in the Education Abroad Program may receive a maximum of 48 units of credit toward the degree in addition to the 8 units maximum allowed for the Intensive Language Program.

Foreign Language. Credit is not allowed for completing a less advanced course in grammar and/or composition after students have completed a more advanced course. College credit for an international student's native language and literature is allowed for (1) courses taken in native colleges and universities or (2) upper division (advanced language courses only) and graduate courses taken at the University of California or another English-speaking institution of approved standing. No credit is allowed for lower division courses.

Performance Courses. No more than 12 units of music and/or dance performance courses (Ethnomusicology 91A through 91Z, 161A through 161Z, Music 60A through 65, C90A through 90S, 160A through 165, and World Arts and Cultures 5 through 16, 56 through 65, C109A, C113A, 114, C115, 116) may be applied toward the bachelor's degree whether taken at UCLA or another institution.

Physical Education. No more than 4 units in physical education activities courses may be applied toward the bachelor's degree.

Physics Courses. Any two or more courses from Physics 1A, 1AH, 6A, and 10 are limited to a total of 6 units of credit.

ROTC Courses. For students contracted in the Aerospace Studies Department, 36 units of aerospace studies credit may be applied toward the requirements for the bachelor's degree; for students contracted in the Military Science Department, 26 units of military science credit may be applied; for students contracted in the Naval Science Department, 26 units of naval science credit may be applied.

Statistics Courses. Credit is allowed for only one of the following introductory statistics courses: Economics 41, Statistics 10, 10H, 11, 12, 13, 14 (or former Anthropology M80, Geography M40, Sociology M18, or Statistics 10A), or any equivalent course taken at UCLA or another institution.

Upper Division Tutorials. No more than 8 units of credit may be taken per term in upper division tutorials numbered 195 through 199. The total number of units allowed in such courses for a letter grade is 32; see specific restrictions under each departmental listing.

300- and 400-Level Courses. No more than 8 units in the 300 and 400 series of courses may be applied toward the bachelor's degree. Credit is not granted for X300 and X400 courses taken in UCLA Extension.
HONORS
College undergraduate students who achieve scholastic distinction may qualify for the following honors and programs:

COLLEGE HONORS
The highest academic recognition the College confers on its undergraduate students is College Honors, which is awarded to graduating seniors who successfully complete the College Honors program and who have an overall University of California grade-point average of 3.5 or better. The program provides exceptional undergraduate students an opportunity to pursue individual excellence.

For details on the College Honors program and entry requirements, see http://www.college.ucla.edu/up/honors/.

DEAN’S HONORS
The Dean’s Honors list recognizes high scholastic achievement in any one term. The following criteria are used to note Dean’s Honors on the student records: (1) a 3.75 GPA in any one term with at least 12 graded units and no grade of NP or I or (2) a 3.66 GPA and at least 56 grade points during the term, with no grade of NP or I. Dean’s Honors are automatically recorded on the transcript.

DEPARTMENTAL HONORS
Individual departments and programs in the College offer departmental honors programs. Admission and curricular requirements vary according to the department or program. See the Curricula and Courses section of this catalog for details, and consult the departmental adviser about procedures and arrangements. Students who successfully complete the requirements graduate with departmental honors or highest honors.

LATIN HONORS
Students who have achieved scholastic distinction may be awarded the bachelor’s degree with Latin honors. To be eligible, students must have completed 90 or more units for a letter grade at the University of California and must have attained an overall grade-point average at graduation that places them in the top five percent of College graduates (GPA of 3.870 or better) for summa cum laude, the next five percent (GPA of 3.780 or better) for magna cum laude, and the next 10 percent (GPA of 3.636 or better) for cum laude. Coursework taken on the Education Abroad Program is applied toward Latin honors at graduation. The minimum GPAs required are subject to change on an annual basis. Required GPAs in effect in the graduating year (fall, winter, spring, summer) determine student eligibility. Students should consult their Degree Progress Reports or the Schedule of Classes for the most current calculations of Latin honors.

DEPARTMENTAL SCHOLAR PROGRAM
Departments may nominate exceptionally promising undergraduate students (juniors and seniors) as UCLA Departmental Scholars to pursue bachelor’s and master’s degrees simultaneously. Qualifications include completion of 24 courses (96 quarter units) at UCLA or the equivalent at a similar institution, the requirements in preparation for the major, and eligibility to participate in the College Honors program. Students must also have at least one term of coursework remaining at UCLA. To obtain both the bachelor’s and master’s degrees, students must be provisionally admitted to the Graduate Division, fulfill requirements for each program, and maintain a minimum B average. No course may be used to fulfill requirements for both degrees. Interested students should consult their department well in advance of application dates for graduate admission. For further information, contact the Honors Programs Office in A311 Murphy Hall or see http://www.college.ucla.edu/up/honors/deptschl.html.

GRADUATE STUDY
The College of Letters and Science provides graduate students virtually unlimited opportunities for academic pursuit, faculty-sponsored research, and fieldwork relative to specific programs and career goals.

With Graduate Division approval and subject to University minimum requirements, each department sets its own standards for admission and other requirements for the award of the master’s and doctoral degrees. For complete degree requirements, see Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

For information on the proficiency in English requirements for international graduate students, see Graduate Admission in the Graduate Study section of this catalog.

DAVID GEFFEN SCHOOL OF MEDICINE
Gerald S. Levey, Dean and Vice Chancellor

UCLA
12-105 Center for the Health Sciences
Box 957035
Los Angeles, CA 90095-7035
(310) 825-6081
e-mail: somadmiss@mednet.ucla.edu
http://dgsom.healthsciences.ucla.edu

At the David Geffen School of Medicine at UCLA, faculty members and students play a dynamic role on campus and in Los Angeles communities. Not only are they in the clinics, wards, and operating rooms of the UCLA Medical Center and Los Angeles County Harbor-UCLA Medical Center, they are
also at work in the facilities of the Molecular Biology Institute, the Department of Physiology, the Health Sciences Computer Center, the Semel Institute for Neuroscience and Human Behavior, and in dozens of other clinical and scientific units. They are in community clinics, health fairs, and schools, and assist at disaster sites in the international community.

Students at the UCLA Medical Center are exposed to the best of many worlds—strong research-oriented basic and clinical science departments, a hospital consistently ranked among the nation’s elite, superb affiliated clinical facilities that provide the full spectrum of teaching settings and patient populations, and a biomedical library that is considered one of the world’s best.

Geffen School of Medicine departments are each staffed by a distinguished faculty of respected researchers and practitioners. They have some of the most technologically advanced equipment and facilities, including two of the nation’s 56 hospital-based biomedical cyclotrons producing short-lived radioisotopes for biological research and diagnostic nuclear medicine procedures.

DEGREES AND PROGRAMS

The Geffen School of Medicine offers an M.D. degree program, allied health programs in affiliation with other hospitals and universities, postgraduate medical training programs, and the following master’s and doctoral degrees offered through the Graduate Division:

- Biological Chemistry (M.S., Ph.D.)
- Biomathematics (M.S., Ph.D.)
- Biomedical Physics (M.S., Ph.D.)
- Clinical Research (M.S.)
- Human Genetics (M.S., Ph.D.)
- Microbiology, Immunology, and Molecular Genetics (M.S., Ph.D.)
- Molecular and Medical Pharmacology (M.S., Ph.D.)
- Molecular, Cellular, and Integrative Physiology (Ph.D.)
- Neurobiology (M.S., C.Phil., Ph.D.)
- Neuroscience (Ph.D.)
- Pathology—Cellular and Molecular Pathology (M.S., Ph.D.)
- Psychiatry and Biobehavioral Sciences Clinical Psychology Internship (Certificate)

M.D. DEGREE PROGRAM

The Doctor of Medicine (M.D.) degree program develops a comprehensive scientific and humanistic approach to patient care that includes basic sciences, preventive medicine, diagnosis, and therapeutics. Clinical skills are taught in the context of anatomical, molecular, pathophysiological, and psychosocial factors in health, disease, and treatment.

The curriculum is presented in an integrated, organ system-based program, with problem-based learning and laboratories to maximize the educational experience. Because medical school is but one phase in a physician’s education, the curriculum prepares students for a future in which scientific knowledge, social values, and human needs are ever changing. Formats for instruction include lectures, tutorials, seminars, laboratories, demonstrations, and visits to physicians’ offices; students are involved in patient care from their first week through graduation.

The M.D. program is a four-year medical curriculum that prepares students broadly for careers in research, practice, and teaching in the medical field of their choice. The curriculum emphasizes issues of growing importance such as primary care, research opportunities for careers in academic medicine, human genetics and the evolving world of gene therapy, psychosocial issues of health and disease, preventive medicine, medical ethics, and clinical reasoning.

For details on the M.D. curriculum or to apply to the program, see http://dgsom.healthsciences.ucla.edu or contact the Geffen School of Medicine Admissions Office, 12-105 CHS, UCLA, Box 957035, Los Angeles, CA 90095-7035. See http://career.ucla.edu/GraduateSchool&PreProfessionalServices/Medicine.asp for details on the four-year premedical studies program.

SPECIAL PROGRAMS

Special programs address the needs and issues of specific communities and populations.

UCR/UCLA Thomas Haider Biomedical Sciences Program

The UCR/UCLA Thomas Haider Biomedical Sciences Program is a cooperative venture involving UC Riverside, the Geffen School of Medicine, and selected Riverside community sites. The program mission is to prepare graduates for distinguished medical careers in service to the people of California, with emphasis on the needs of the underserved, inland, and rural populations. See http://www.biomed.ucr.edu.

Drew/UCLA Medical Education Program

The Drew/UCLA Medical Education Program is designed to attract students who are interested in addressing the concerns of underserved populations. Students in the program spend their first two years at the UCLA campus and complete their last two years of clinical work in specially designated training centers in medically underserved communities and at UCLA and affiliated hospitals. See http://www.cdrewu.edu.
ARTICULATED AND CONCURRENT DEGREE PROGRAMS

The Geffen School of Medicine and the Graduate Division offer an articulated degree program that allows students to earn both the M.D. and Ph.D. in about seven years, depending on the course of study and research. The Ph.D. may be awarded in one of several medical sciences fields. Call the Medical Scientist Training Program for details or see http://www.medsch.ucla.edu/mstp/. (310) 794-1817

Concurrent programs with the John E. Anderson Graduate School of Management and the School of Public Health allow UCLA medical students to earn both the M.D. and M.B.A. or the M.D. and M.P.H. degrees over five years by following a designated course of study and some shared coursework. Separate application must be made to the Anderson School or School of Public Health during the third year of medical school. (310) 825-6282

POSTGRADUATE MEDICAL TRAINING

Postgraduate medical training programs, including residencies, are offered through all the clinical departments at UCLA and the affiliated training hospitals such as Harbor-UCLA, Cedars-Sinai, and Greater Los Angeles VA System. Programs at the affiliated institutions broaden the scope of the teaching programs by providing extensive clinical facilities, special population settings, and diverse practice modes. Information about these programs is available from the individual clinical departments of the Geffen School of Medicine or the affiliated hospitals.

SEMEI INSTITUTE FOR NEUROSCIENCE AND HUMAN BEHAVIOR

The Semel Institute is one of the world’s leading interdisciplinary research and education institutes devoted to the understanding of complex human behavior. Ten research centers, ranging from genetics to human culture, together with research initiatives distributed widely across the academic departments of the Geffen School of Medicine and the College of Letters and Science provide a comprehensive and outstanding research and training environment for the study of neuroscience and behavior.

The research portfolio of the 400 faculty members, graduate students, and fellows who work in the institute spans behavioral genetics, developmental neurobiology, cognitive neuroscience, neuropharmacology, brain imaging, clinical research, health policy, and sociocultural studies of human behavior and its disorders. For further information, see http://www.npi.ucla.edu.
vides an innovative educational program for students 4 to 12 years old.

DEGREES

The school offers the following degrees, in addition to an undergraduate Education Studies minor:

- Education (M.A., M.Ed., Ed.D., Ph.D.)
- Educational Administration (Joint Ed.D. with UC Irvine)
- Information Studies (Ph.D.)
- Library and Information Science (M.L.I.S., accredited by American Library Association)
- Moving Image Archive Studies (M.A.)
- Special Education (Joint Ph.D. with California State University, Los Angeles)

Credential Programs

The school offers three credential programs that are accredited by the California Commission on Teacher Credentialing:

- Administrative Services Credential
- Preliminary Administrative Services Credential
- Teacher Credential

Articulated Degree Programs

The school offers two articulated degree programs:

- Education M.Ed./Latin American Studies M.A.
- Library and Information Science M.L.I.S./Latin American Studies M.A.

Concurrent Degree Programs

The school offers three concurrent degree programs:

- Education M.Ed., M.A., Ed.D., or Ph.D./Law J.D.
- Library and Information Science M.L.I.S./History M.A.
- Library and Information Science M.L.I.S./Management M.B.A.

ADMISSION

Admission criteria established by the UCLA Graduate Division require a bachelor's degree from a regionally accredited institution comparable in standards and content to a bachelor's degree from the University of California. A scholastic average of B (3.0 on a 4.0 scale) or better—or its equivalent if the letter grade system is not used—is required for the last 60 semester units or last 90 quarter units of undergraduate study and in any postbaccalaureate study. Further requirements for international students are explained in the Graduate Study section. See http://www.gdnet.ucla.edu/gasaa/admissions/admisinfo.html.

Departments in the school set additional admission requirements. See http://www.gseis.ucla.edu/oss/.

DEGREE REQUIREMENTS

Specific degree requirements vary according to the department and program. Refer to Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

RESEARCH CENTERS

The centers outlined below provide GSE&IS with valuable resources that support school programs and research. See http://www.gseis.ucla.edu/research/.

CALIFORNIA CENTER FOR THE BOOK

The California Center for the Book is a reading promotion agency that celebrates California's rich literary heritage and promotes reading, libraries, literacy, and authorship. To advance its mission, the center develops and supports local and statewide programs and initiatives related to books and reading for the citizens of California, develops and maintains book- and literacy-related resources, and encourages and supports the study of print and electronic culture. The center is supported by the U.S. Institute of Museum and Library Services under the provisions of the Library Services and Technology Act, administered in California by the State Librarian. See http://www.calbook.org.

CENTER FOR IMPROVING CHILD CARE QUALITY

The Center for Improving Child Care Quality (CICCQ) conducts high-quality, policy-relevant research, with focus on improving the early care and education environments of young children. Utilizing expertise in the areas of child development, professional development, child care quality, attachment, and observational and survey research methodology, CICCQ conducts basic applied research and policy-driven research at the local, state, and national levels. CICCQ takes a collaborative approach to the local evaluation process, building relationships with community partners to inform research, practice, and professional development. The center has assisted numerous community-based agencies in evaluating the effectiveness of their programs to improve the quality of early care and education programs. CICCQ also works with local government and policy groups, including the Los Angeles County First 5 Commission, Los Angeles County Office of Child Care, and Los Angeles Universal Preschool.

CENTER FOR INFORMATION AS EVIDENCE

The Center for Information as Evidence (CIE) serves as an interdisciplinary forum to address the ways in which information objects and systems are created, used, and preserved as legal, administrative, scientific, social, cultural, and historical evidence. CIE focuses around three interacting themes:
accountability, artifacts, and advocacy. See http://www.gseis.ucla.edu/~cie/.

**CENTER FOR INTERNATIONAL AND DEVELOPMENT EDUCATION**

The Center for International and Development Education (CIDE) is a research and action center whose mission is to enhance educational capacity, facilitate human and economic development, and promote cross-cultural exchanges related to international and development education. This is accomplished through a series of publications, research programs, practical initiatives, and networks with existing development and academic institutions. Research and training are conducted in such areas as teacher development and higher education transformation. CIDE acts as a hub for researchers, graduate students, and organizations to network with and learn about critical issues in international and development education from a wide range of fields and disciplines. See http://www.gseis.ucla.edu/~cide/.

**CENTER FOR RESEARCH AND INNOVATION IN ELEMENTARY EDUCATION**

The Center for Research and Innovation in Elementary Education (CONNECT) provides a unique setting where nationally recognized scholars work together with teachers and administrators to improve education for the nation’s children. Recognizing the dramatic changes in the demographics of the American classroom and the challenges they present to public schools, the center combines the resources of UCLA and its laboratory elementary school to foster collaboration between researchers and practitioners who search for solutions to the problems facing schools as well as strategies for capitalizing on diversity. See http://www.connect.gseis.ucla.edu.

**CENTER FOR STUDY OF EVALUATION/ NATIONAL CENTER FOR RESEARCH ON EVALUATION, STANDARDS, AND STUDENT TESTING**

For over 40 years, the Center for Study of Evaluation (CSE) and, more recently, the National Center for Research on Evaluation, Standards, and Student Testing (CRESST) have contributed to the development of scientifically based evaluation and testing techniques, vigorously encouraged the development, validation, and use of sound data for improved accountability and decision making, and aggressively explored technological applications to improve assessment and evaluation practice. Today CSE/CRESST research and development serve government, military, and pre-K through college-level education and training. CSE/CRESST models-based accountability research and development are being scaled to help learners of almost every age. See http://www.cse.ucla.edu.

**CENTER FOR STUDY OF URBAN LITERACIES**

The Center for Study of Urban Literacies supports problem-oriented research that seeks to improve the educational experiences of urban children and communities. Specifically, the center houses three distinct but related research strands: (1) the study of language, culture, and human development, (2) the social and cognitive consequences of educational policies and practices, and (3) the study of new and empowering pedagogies. In addition, the center offers to K-12 students programs that are based on the center’s research, such as UCLinks (Las Redes) after-school club. See http://centerk.gseis.ucla.edu.

**CENTER X**

Center X provides a unique setting where researchers and practitioners collaborate to design and conduct programs that prepare and support K-12 education professionals in urban schools. Center X carries out its work through the preservice Teacher Education Program, Principal Leadership Institute, School-University Partnerships, California Subject Matter Projects, and research and publications. Center X work is guided by a series of conceptual principles that prepare and support teachers, principals, and other school leaders to have the commitment, capacity, and resilience to promote social justice, caring, and instructional equity in underperforming urban schools. See http://centerx.gseis.ucla.edu.

**CIVIL RIGHTS PROJECT/EL PROYECTO DE DERECHOS CIVILES**

The Civil Rights Project/El Proyecto de Derechos Civiles is a research center dedicated to creating a new generation of research on civil rights and racial and ethnic equity. It was founded in 1996 and moved from Harvard University to UCLA in 2007. It is dedicated to bridging the gap between research, law, and policy and to very serious communication across disciplines and between the University and community leaders, educators, and policymakers. The project is nonpartisan and involves collaboration with researchers across the nation. It works both on leading-edge current issues and on long-term issues of the racial and ethnic transformation of the U.S. Its work is consistently multiracial in nature. At UCLA it is intensifying its interests in issues of immigration and language rights and developing a special focus on California and the greater Los Angeles area.

**HIGHER EDUCATION RESEARCH INSTITUTE**

The Higher Education Research Institute (HERI) serves as an interdisciplinary center for research, evaluation, information, policy studies, and research training in postsecondary education. HERI’s research program covers a variety of topics, including the outcomes of postsecondary education, leadership development, institutional transformation, faculty performance, federal and state policy, and
educational equity. Visiting scholars, faculty members, and graduate students have made use of HERI facilities and research resources since its affiliation with UCLA in 1973. The institute’s holdings include more than 100 datasets that are regularly maintained for analysis of postsecondary education. See http://www.gseis.ucla.edu/~heri/heri.html.

**Institute for Democracy, Education, and Access**

The Institute for Democracy, Education, and Access (IDEA) is a network of UCLA scholars and students, professionals in schools and public agencies, advocates, community activists, and urban youth. IDEA’s mission is to make high-quality public schooling and successful college participation routine occurrences in low-income neighborhoods of color. Research and advocacy are the tools IDEA uses to empower individuals, build relationships, and create knowledge for civic participation and social change. See http://www.idea.gseis.ucla.edu.

**Institute for Study of Educational Entrepreneurship**

Through the Institute for Study of Educational Entrepreneurship (ISEE), scholars and practitioners collaborate to investigate and analyze the current and potential impact of educational entrepreneurship, for profit, nonprofit, and intraorganizational, as a driving force for promoting educational reform and equitable access in the public school sector. See http://www.isee.gseis.ucla.edu.

**Paulo Freire Institute**

The Paulo Freire Institute/UCLA (PFI) seeks to gather scholars and critics of Freire’s pedagogy in permanent dialog to foster the advancement of new pedagogical theories and concrete interventions in the real world. The objective of PFI is to bring together research, teaching, and technology while concentrating on four major areas: teacher education, a comparative perspective on Latin American education, the politics of education (research on gender, race, class, and the state), and Paulo Freire’s political philosophy and critical pedagogy. See http://www.paulofreireinstitute.org.

**School Management Program**

The School Management Program (SMP) is a nonprofit school reform initiative committed to the sustainable transformation of schools into learner-centered organizations where all students can achieve at high levels. Teams work with school communities to improve student achievement by fostering well-managed schools where professional development enhances teacher effectiveness, builds community, and results in personal transformation. The SMP model of school improvement planning provides sound tools/processes that support the continuous improvement of both the individual and the organization. See http://www.smp.gseis.ucla.edu.

**Sudikoff Family Institute for Education and New Media**

The Sudikoff Family Institute for Education and New Media is dedicated to providing support for the advancement of education and learning-related issues. Established as a communications channel between the scholarship of GSE&IS and policymakers, educators, and the general public, the institute utilizes the popular media as a catalyst toward creating a public forum for the most significant issues related to education and information studies. See http://www.gseis.ucla.edu/~sudikoff/.

**UC All-Campus Consortium on Research for Diversity**

The UC All-Campus Consortium on Research for Diversity (UC ACCORD) is an interdisciplinary, multicampus research center devoted to a more equitable distribution of educational resources and opportunities in California’s diverse public schools and universities. This distinctive UC voice serves as an information and research clearinghouse and catalyst for promoting the delivery of high-quality, equitable schooling to all students. UC ACCORD harnesses the research expertise of the University of California to identify strategies that will increase college preparation, access, and retention. Policymakers, researchers, teachers, outreach staff, and students all benefit from this source of reliable information for equitable education policy and practice. See http://www.ucaccord.gseis.ucla.edu.

**Henry Samueli School of Engineering and Applied Science**

Vijay K. Dhir, Dean

UCLA
6426 Boelter Hall
Box 951601
Los Angeles, CA 90095-1601
(310) 825-2826
http://www.engineer.ucla.edu

As UCLA Engineering has grown into one of the top engineering programs in the country, the school has changed in many ways, but has not wavered from its early vision of developing an engineering program with imagination and integrity. Founded in 1945, the UCLA Henry Samueli School of Engineering and Applied Science is committed to creating a better future for Los Angeles and the world—to make discoveries that truly mean a better tomorrow.
The school supports dynamic programs in traditional and new areas of study and research, including bioengineering, wireless networked systems, bio-nano-info technology, wireless communications and computing, signal processing, sensor technologies, nanotechnology and nanomanufacturing, automated flight, alternative energy systems, smart structures and materials, and protection of the environment. Partnerships across traditional academic boundaries reflect the school’s commitment to a wide range of interdisciplinary activities.

Students receive their professional education through classroom lectures, participation in real-world applications, and hands-on experience. The undergraduate degree curriculum provides exposure to the humanities, social sciences, and fine arts and recognizes the responsibility of engineers to create, protect, and manage technology with regard for ethics and human values. Students who are committed to a high standard of achievement are invited to contribute to the future of excellence in engineering at UCLA.

DEPARTMENTS AND PROGRAMS

The Henry Samueli School of Engineering and Applied Science has seven departments and one interdepartmental program offering study in aerospace engineering, bioengineering, biomedical engineering, chemical engineering, civil engineering, computer science and engineering, electrical engineering, manufacturing engineering, materials engineering, and mechanical engineering—all of which are accredited by the Accreditation Board for Engineering and Technology (ABET) the nationally recognized accrediting body for engineering programs. The computer science and computer science and engineering programs are accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012. (410) 347-7700

For specific programs, see the department information in the Curricula and Courses section or refer to the school Announcements available from the Office of Academic and Student Affairs, 6426 Boelter Hall.

DEGREES

The school offers the following degrees:

Aerospace Engineering (B.S., M.S., Ph.D.)
Bioengineering (B.S.)
Biomedical Engineering (M.S., Ph.D.)
Chemical Engineering (B.S., M.S., Ph.D.)
Civil Engineering (B.S., M.S., Ph.D.)
Computer Science (B.S., M.S., Ph.D.)
Computer Science and Engineering (B.S.)
Electrical Engineering (B.S., M.S., Ph.D.)
Engineering (M.Eng., online M.S., Engr.)
Engineering and Applied Science (Graduate Certificate of Specialization)
Manufacturing Engineering (M.S.)
Materials Engineering (B.S.)
Materials Science and Engineering (M.S., Ph.D.)
Mechanical Engineering (B.S., M.S., Ph.D.)

Concurrent Degree Program

The school offers one concurrent degree program:
Computer Science M.S./Management M.B.A.

UNDERGRADUATE ADMISSION

Applicants for admission to the school must satisfy the University admission requirements as outlined in the Undergraduate Study section. Students must select a major within the school when applying for admission. In the selection process many elements are considered, including grades, test scores, and academic preparation.

Applicants are accepted at either the freshman or junior level.

ADMISSION AS A FRESHMAN

Freshman applicants must satisfy the examination requirement described in the Undergraduate Study section and should take required tests by the December test date, since scores are part of the review process. Instruct the testing agencies to send results directly to UCLA Undergraduate Admissions and Relations with Schools.

Effective for students entering the University of California as freshman applicants in Fall Quarter 2006: each applicant must submit scores from an approved core test of mathematics, language arts, and writing. This requirement may be satisfied by taking either (1) the ACT Assessment plus ACT Writing Test or (2) the SAT Reasoning Test. In addition, all applicants must complete two SAT Subject Tests in two different subject areas selected from history/social science, mathematics (Mathematics Level 2 only), laboratory science, and a language other than English.

Applicants to the school are strongly encouraged to take the following SAT Subject Tests: Mathematics Level 2 and a laboratory science test (Biology E/M, Chemistry, or Physics) that is closely related to the intended major.

Applicants seeking admission to the school in freshman standing must also satisfy the following University admission requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States History</td>
<td>1 year</td>
</tr>
<tr>
<td>(one year of U.S. history or one-half year of civics or American government)</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>4 years</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4 years</td>
</tr>
<tr>
<td>Physics</td>
<td>1 year</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1 year</td>
</tr>
<tr>
<td>Foreign language</td>
<td>2 years</td>
</tr>
<tr>
<td>Other college preparatory requirements</td>
<td>2 years</td>
</tr>
</tbody>
</table>
Credit for Advanced Placement Tests. Students may fulfill part of the school requirements with credit allowed at the time of admission for College Board Advanced Placement (AP) Tests with scores of 3, 4, or 5. Students with AP Test credit may exceed the 213-unit maximum by the amount of this credit. AP Test credit for freshmen entering in Fall Quarter 2007 fulfills HSSEAS requirements as indicated on the school AP chart at http://www.admissions.ucla.edu/Prospect/APCreditEN.htm.

Students who have completed 36 quarter units after high school graduation at the time of the examination receive no AP Test credit.

ADMISSION AS A JUNIOR

Students who begin their college work at a California community college are expected to remain at the community college to complete the lower division requirements in chemistry, computer programming, English composition, mathematics, physics, and the recommended engineering courses before transferring to UCLA. Transfer students who have completed the recommended lower division program in engineering at California community colleges normally complete the remaining requirements for one of the B.S. degrees in six terms (two academic years) of full-time study. Students who select certain majors, such as Computer Science and Engineering or Chemical Engineering, may be required to complete additional lower division courses for the major sequence.

Lower Division Requirements

Applicants to the school in junior standing should have completed 90 quarter units (60 semester units) in good standing, including the following lower division minimum subject requirements:

1. Chemistry courses equivalent to UCLA's Chemistry and Biochemistry 20A, 20B, 20L (only Chemistry and Biochemistry 20A is required for the Computer Science and Computer Science and Engineering degrees and the electrical engineering and computer engineering options of the Electrical Engineering degree; the Chemical Engineering curriculum also requires Chemistry and Biochemistry 30A, 30AL, 30B, 30BL, which do not need to be taken prior to admission to UCLA)
3. Physics courses equivalent to UCLA's Physics 1A, 1B, 1C, 4AL, 4BL, depending on curriculum selected
4. Engineering courses equivalent to UCLA's Civil and Environmental Engineering 15 or Computer Science 31 or Mechanical and Aerospace Engineering 20
5. Additional life sciences (4 units), English composition (5 units) and humanities/social sciences courses (total of 16 quarter units minimum)

Equivalent to HSSEAS general education (GE) courses

Transfer students must also complete a course equivalent to UCLA's English Composition 3 and a second more advanced course in English composition.

All lower division requirements should be completed by the end of the spring term prior to anticipated enrollment at UCLA.

Transfer Credit

Students transferring to the school from institutions that offer instruction in engineering subjects in the first two years, particularly California community colleges, are given credit for certain engineering core requirements.

A course in digital computer programming, using a higher-level language such as Fortran, Java, C, or C++, satisfies the computer programming requirement. Applicants to majors in Computer Science, Computer Science and Engineering, and Electrical Engineering should take C++.

Many sophomore courses in circuit analysis, strength of materials, and properties of materials may satisfy Electrical Engineering 100, Civil and Environmental Engineering 108, and Materials Science and Engineering 104 requirements respectively. Check with the Office of Academic and Student Affairs.

### Henry Samueli School of Engineering and Applied Science

**Structure of a Degree**

**University Requirements**

1. Entry-Level Writing or English as a Second Language
2. American History and Institutions

**School Requirements**

1. Unit
2. Scholarship
3. Academic Residence
4. Technical Breadth
5. General Education
   - Writing I and II Requirement
   - Ethics Requirement
   - Foundations of Arts and Humanities
   - Foundations of Society and Culture
   - Foundations of Scientific Inquiry

**Department Requirements**

1. Preparation for the Major
2. The Major

Courses that do not satisfy the University, school, or department requirements are referred to as electives and are used to meet the minimum unit requirement for graduation.
UNDERGRADUATE DEGREE REQUIREMENTS

Henry Samueli School of Engineering and Applied Science students must meet three types of requirements for the Bachelor of Science degree:

1. University requirements
2. School requirements
3. Department requirements

UNIVERSITY REQUIREMENTS

The University of California has two requirements that undergraduate students must satisfy in order to graduate: (1) Entry-Level Writing or English as a Second Language and (2) American History and Institutions. See Degree Requirements in the Undergraduate Study section for details.

SCHOOL REQUIREMENTS

The Henry Samueli School of Engineering and Applied Science has five requirements that must be satisfied for the award of the degree: unit, scholarship, academic residence, technical breadth, and general education.

UNIT REQUIREMENT

The minimum units allowed for HSSEAS students is between 185 and 192, depending on the program. The maximum allowed is 213 units.

After 213 quarter units, enrollment may not normally be continued in the school without special permission from the associate dean. This regulation does not apply to Departmental Scholars.

SCHOLARSHIP REQUIREMENT

Students must earn at least a C (2.0) grade-point average in all courses taken at any UC campus. In addition, at least a 2.0 grade-point average must be achieved in total upper division required courses and total upper division engineering courses. See a counselor in 6426 Boelter Hall for details.

ACADEMIC RESIDENCE REQUIREMENT

Of the last 48 units completed for the B.S. degree, 36 must be earned in residence in HSSEAS on this campus. No more than 16 of the 36 units may be completed in Summer Sessions at UCLA.

TECHNICAL BREADTH REQUIREMENT

The technical breadth requirement consists of a set of three courses providing sufficient breadth distinct from each student’s core program. A list of HSSEAS Faculty Executive Committee-approved technical breadth requirement courses is available in the Office of Academic and Student Affairs, and deviations from that list are subject to approval by the associate dean for Academic and Student Affairs.

None of the technical breadth requirement courses selected by students can be used to satisfy other major course requirements.

GENERAL EDUCATION REQUIREMENTS

General education (GE) is more than a checklist of required courses. It is a program of study that (1) reveals to students the ways that research scholars in the arts, humanities, social sciences, and natural sciences create and evaluate new knowledge, (2) introduces students to the important ideas and themes of human cultures, (3) fosters appreciation for the many perspectives and the diverse voices that may be heard in a democratic society, and (4) develops the intellectual skills that give students the dexterity they need to function in a rapidly changing world.

This entails the ability to make critical and logical assessments of information, both traditional and digital; deliver reasoned and persuasive arguments; and identify, acquire, and use the knowledge necessary to solve problems.

Students may take one HSSEAS GE course per term on a Passed/Not Passed basis if they are in good academic standing and are enrolled in at least three and one-half courses (14 units) for the term. For details on P/NP grading, see Grading in the Academic Policies section or consult the Office of Academic and Student Affairs.

Requirements for Students Who Entered Fall Quarter 2005 and Thereafter

WRITING REQUIREMENT

Students must complete the University’s Entry-Level Writing or English as a Second Language (ESL) requirement prior to completing the school writing requirement.

Students admitted to the school are required to complete a two-term writing requirement—Writing I and Writing II. Two courses in English composition are required for graduation. Both courses must be taken for a letter grade, and students must receive grades of C or better (C– grades are not acceptable)

Writing I. The Writing I requirement must be satisfied by completing English Composition 3 or 3H with a grade of C or better (C– or a Passed grade is not acceptable) by the end of the second year of enrollment.

The Writing I requirement may also be satisfied by scoring 4 or 5 on one of the College Board Advanced Placement Tests in English or a combination of a score of 720 or better on the SAT Reasoning Test Writing Section and superior performance on the English Composition 3 Proficiency Examination.
### Henry Samueli School of Engineering and Applied Science

#### General Education Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Course</th>
<th>Minimum Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing I</strong></td>
<td>English Composition 3 or 3H</td>
<td>1 Course</td>
</tr>
<tr>
<td><strong>Ethics</strong></td>
<td>Engineering 183 or 185</td>
<td>1 Course</td>
</tr>
<tr>
<td><strong>Foundations of the Arts and Humanities</strong></td>
<td></td>
<td>2 Courses</td>
</tr>
<tr>
<td><strong>Foundations of Society and Culture</strong></td>
<td></td>
<td>2 Courses</td>
</tr>
<tr>
<td><strong>Foundations of Scientific Inquiry</strong></td>
<td></td>
<td>1 Course</td>
</tr>
<tr>
<td><strong>Total GE</strong></td>
<td></td>
<td>7 Courses/33 Units Minimum</td>
</tr>
</tbody>
</table>

- One of the five foundations courses must be a GE-approved Writing II (W) course.

Five courses (24 units minimum) are required. One of the five courses must be a GE-approved Writing II (W) course.

Courses listed in more than one category can fulfill GE requirements in only one of the cross-listed categories.

#### Foundations of the Arts and Humanities. Two 5-unit courses selected from two different subgroups:
- Literary and Cultural Analysis
- Philosophical and Linguistic Analysis
- Visual and Performance Arts Analysis and Practice

The aim of courses in this area is to introduce students to the historical development and fundamental intellectual and ethical issues associated with the arts and humanities and may also investigate the complex relations between artistic and humanistic expression and other facets of society and culture.

#### Foundations of Society and Culture. Two 5-unit courses, one from each subgroup:
- Historical Analysis
- Social Analysis

The aim of courses in this area is to introduce students to the ways in which humans organize, structure, rationalize, and govern their diverse societies and cultures over time. The courses focus on a particular historical question, societal problem, or topic of political and economic concern in an effort to demonstrate how issues are objectified for study, how data is collected and analyzed, and how new understandings of social phenomena are achieved and evaluated.

#### Foundations of Scientific Inquiry. One course (4 units minimum) from the Life Sciences subgroup supplemented by the following choices: Biomedical Engineering CM145/Chemical Engineering CM145, Chemistry and Biochemistry 153A, or Civil and Environmental Engineering M166/Environmental Health Sciences M166:

- Life Sciences

This requirement is automatically satisfied for Bioengineering majors, Chemical Engineering majors, and the biomedical option of the Electrical Engineering major. The requirement may be satisfied for Civil Engineering majors if students select an approved major field elective that is also a course approved under Foundations of Scientific Inquiry.

The aim of courses in this area is to introduce students to the ways in which scientists formulate and answer questions about the
operation of both the physical and biological world. The courses also deal with some of the most important issues, developments, and methodologies in contemporary science, addressing such topics as the origin of the universe, environmental degradation, and the decoding of the human genome. Through lectures, laboratory experiences, writing, and intensive discussions, students consider the important roles played by the laws of physics and chemistry in society, biology, Earth and environmental sciences, and astrophysics and cosmology.

**Foundations Course Lists.** Creating and maintaining a general education curriculum is a dynamic process; consequently, courses are frequently added to the list. For the most current list of approved courses that satisfy the Foundations of Knowledge GE plan, consult an academic counselor or see http://www.registrar.ucla.edu/ge/GE-ENGRNew06-07.pdf.

**Requirements for Students Who Entered Prior to Fall Quarter 2005**
For the approved list of courses, see http://www.seasoasa.ucla.edu/ge.html.

**DEPARTMENT REQUIREMENTS**

Henry Samueli School of Engineering and Applied Science departments generally set two types of requirements that must be satisfied for the award of the degree: (1) Preparation for the Major (lower division courses) and (2) the Major (upper division courses). Preparation for the Major courses should be completed before beginning upper division work.

**PREPARATION FOR THE MAJOR**

A major requires completion of a set of courses known as Preparation for the Major. Each department sets its own Preparation for the Major requirements; see the Curricula and Courses section of this catalog.

**THE MAJOR**

Students must complete their major with a scholarship average of at least a 2.0 (C) in all courses in order to remain in the major. All courses in the major department must be taken for a letter grade. See the Curricula and Courses section of this catalog for details on each major.

**POLICIES AND REGULATIONS**

Degree requirements are subject to policies and regulations, including the following:

**STUDENT RESPONSIBILITY**

Students should take advantage of academic support resources, but they are ultimately responsible for keeping informed of and complying with the rules, regulations, and policies affecting their academic standing.

**STUDY LIST**

The Study List is a record of classes that a student is taking for a particular term. It is the student’s responsibility to present a Study List that reflects satisfactory progress toward the degree. Study Lists or programs of study that do not comply with the standards set by the faculty may result in enforced withdrawal from the University or other academic action. Study Lists require approval of the dean of the school or a designated representative.

Undergraduate students in the school are expected to enroll in at least 12 units each term. Students enrolling in less than 12 units must obtain approval by petition to the dean prior to enrollment in courses. The normal program is 16 units per term. Students may not enroll in more than 21 units per term unless an Excess Unit Petition is approved in advance by the dean.

**MINIMUM PROGRESS**

Full-time HSSEAS undergraduate students must complete a minimum of 36 units in three consecutive terms in which they are registered.

**CREDIT LIMITATIONS**

The following credit limitations apply to all undergraduate students enrolled in the school:

**Advanced Placement Tests.** Some portions of Advanced Placement (AP) Test credit are evaluated by corresponding UCLA course number. If students take the equivalent UCLA course, a deduction of UCLA unit credit is made prior to graduation. See the HSSEAS AP chart at http://www.admissions.ucla.edu/Prospect/APCreditEN.htm.

**College Level Examination Program.** Credit earned through the College Level Examination Program (CLEP) may not be applied toward the bachelor’s degree.

**Community College Unit Limit.** After students have completed 105 quarter units (regardless of where the units are completed), they do not receive unit credit or subject credit for courses completed at a community college.

**Foreign Language.** No credit is granted toward the bachelor’s degree for college foreign language courses equivalent to quarter levels one and two if the equivalent of level two of the same language was completed with satisfactory grades in high school.

**DOUBLE MAJORS**

Students in good academic standing may be permitted to have a double major consisting of a major within HSSEAS and a major outside the school (e.g., Electrical Engineering and Economics). Students are not permitted to have a double major within the school (e.g., Chemical Engineering and Civil Engineering). Contact the Office of Academic and Student Affairs for details.
COUNSELING SERVICES

New undergraduate students must have their course of study approved by an academic counselor. After the first term, curricular and career advising is accomplished on a formal basis. Students are assigned a faculty adviser in their particular specialization in their sophomore year or earlier.

In addition, undergraduate students are assigned, by major, to an academic counselor in the Office of Academic and Student Affairs who provides them with advice regarding general requirements for the degrees and University and school regulations and procedures. It is the students’ responsibility to periodically meet with their academic counselor in the Office of Academic and Student Affairs, as well as with their faculty adviser, to discuss curriculum requirements, programs of study, and any other academic matters of concern.

Students normally follow the curriculum in effect when they enter the school. California community college transfers may also select the curriculum in the catalog in effect at the time they began their community college work in an engineering program, providing attendance has been continuous since that time.

Undergraduate students following a catalog year prior to 2006-07 may use the computerized HSSEAS Academic Program Planner (APP), an interactive system that lets students know if their programs meet the requirements for graduation. Students beginning upper division coursework in the major are required to submit an Academic Program Proposal to the Office of Academic and Student Affairs for approval by the associate dean. Students following the 2006-07 catalog year and thereafter should see an academic counselor in 6426 Boelter Hall.

Academic counselors in the Office of Academic and Student Affairs assist students with University procedures and answer questions related to general requirements.

HONORS

HSSEAS undergraduate students who achieve scholastic distinction may qualify for the following honors and programs:

DEAN’S HONORS LIST

Students following the engineering curricula are eligible to be named to the Dean’s Honors List each term. Minimum requirements are a course load of at least 15 units (12 units of letter grade) with a grade-point average equal to or greater than 3.7. Students are not eligible for the Dean’s Honors List if they receive an Incomplete (I) or Not Passed (NP) grade or repeat a course. Only courses applicable to an undergraduate degree are considered toward eligibility for Dean’s Honors.

LATIN HONORS

Students who have achieved scholastic distinction may be awarded the bachelor’s degree with honors. To be eligible, students must have completed 90 or more units for a letter grade at the University of California and must have attained a cumulative grade-point average at graduation which places them in the top five percent of the school (GPA of 3.892 or better) for summa cum laude, next five percent (GPA of 3.742 or better) for magna cum laude, and the next 10 percent (GPA of 3.615 or better) for cum laude. The minimum GPAs required are subject to change on an annual basis. Required GPAs in effect in the graduating year determine student eligibility.

Based on grades achieved in upper division courses, engineering students must have a 3.892 grade-point average for summa cum laude, a 3.742 for magna cum laude, and a 3.615 for cum laude. For all designations of honors, students must have a minimum 3.25 GPA in their major field courses. To be eligible for an award, students should have completed at least 80 upper division units at the University of California.

TAU BETA PI

The UCLA chapter of Tau Beta Pi, the national engineering honor society, encourages high scholarship, provides volunteer tutors, and offers many services and programs to foster a spirit of liberal culture in engineering colleges.

DEPARTMENTAL SCHOLAR PROGRAM

Exceptionally promising juniors or seniors may be nominated as Departmental Scholars to pursue bachelor’s and master’s degree programs simultaneously. Minimum qualifications include the completion of 24 courses (96 quarter units) at UCLA, or the equivalent at a similar institution, the current minimum grade-point average required for honors at graduation, and the requirements in preparation for the major. To obtain both the bachelor’s and master’s degrees, Departmental Scholars fulfill the requirements for each program. Students may not use any one course to fulfill requirements for both degrees.

For details, consult the Office of Academic and Student Affairs in 6426 Boelter Hall well in advance of application dates for admission to graduate standing.

SPECIAL PROGRAMS

EXTRACURRICULAR ACTIVITIES

Students are encouraged to participate in UCLA extracurricular activities, especially those relevant to engineering, such as the student engineering society (the Engineering Society, University of California), student publications, and programs of the technical and professional engineering societies in the Los Angeles area.
The student body takes an active part in shaping policies of the school through elected student representatives on the school’s Faculty Executive Committee.

WOMEN IN ENGINEERING
Among HSSEAS students, women make up approximately 19 percent of the undergraduate and 20 percent of the graduate enrollment. Today’s opportunities for women in engineering are excellent, as both employers and educators try to change the image of engineering as a “males only” field. Women engineers are in great demand in all fields of engineering.

The Society of Women Engineers (SWE), recognizing that women in engineering are still a minority, has established a UCLA student chapter which sponsors field trips and engineering-related speakers (often professional women) to introduce the various options available to women engineers. The UCLA chapter of SWE, in conjunction with other Los Angeles schools, also publishes an annual résumé book to aid women students in finding jobs and presents a career day for women high school students. See http://www.seas.ucla.edu/swe/.

CONTINUING EDUCATION
Continuing education in engineering is developed and administered by the UCLA Extension (UNEX) Department of Engineering, Information Systems, and Technical Management in close cooperation with HSSEAS. The department offers evening classes, short courses, certificate programs, special events, and education and training at the workplace. The office (540 UNEX, 10995 Le Conte Avenue) is open Monday through Friday. Call (310) 825-4100 for information systems programs, (310) 825-3344 for short course programs, (310) 206-1548 for engineering or technical management classes, and (310) 825-3858 for technical management programs. See http://www.uclaextension.edu.

GRADUATE ADMISSION
In addition to meeting the requirements of the Graduate Division, applicants to the HSSEAS graduate programs are required to take the General Test of the Graduate Record Examination (GRE). Specific information about the GRE may be obtained from the department of interest.

Students entering the Engineer/Ph.D. program normally are expected to have completed the requirements for the master’s degree with at least a 3.25 grade-point average and to have demonstrated creative ability. Normally the M.S. degree is required for admission to the Ph.D. program. Exceptional students, however, can be admitted to the Ph.D. program without having an M.S. degree.

For information on the proficiency in English requirements for international graduate students, see Graduate Admission in the Graduate Study section of this catalog.

To submit a graduate application, see http://www.seasoasa.ucla.edu/adm_grad.html. From there connect to the site of the preferred department or program and go to the online graduate application.

GRADUATE DEGREE REQUIREMENTS
Graduate degree information is updated annually in Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

MASTER OF SCIENCE DEGREES
No lower division courses may be applied toward graduate degrees. In addition, the various departments generally do not allow, for graduate degree credit, courses required of their undergraduate students. Consult the departmental graduate affairs office for more information.

Individual departments within the school may impose certain restrictions on the applicability of other undergraduate courses toward graduate degrees. Consult with the graduate adviser on departmental requirements and restrictions.

Major Fields or Subdisciplines
The M.S. program focuses on one major field. The major fields and subdisciplines offered at the M.S. level in most cases parallel those listed below for the Ph.D. program. There are some differences (for example, manufacturing engineering in the Department of Mechanical and Aerospace Engineering is offered only at the M.S. level). Contact the department concerned regarding possible differences between the M.S. and Ph.D. fields and subdisciplines. Students are free to propose to the school any other field of study, with the support of their adviser.

Course Requirements
A total of nine courses is required for the M.S. degrees, including a minimum of five graduate courses. (Some fields require more than five; obtain specific information from the department of interest.) A majority of the total formal course requirement and of the graduate course requirement must consist of courses in HSSEAS. In the thesis plan, seven of the nine courses must be formal courses, including at least four from the 200 series. The remaining two courses may be 598 courses involving work on the thesis. In the comprehensive examination plan, at least five of the nine courses must be in the 200 series; the remaining four courses may be either 200-series graduate or upper division undergraduate courses. No 500-series courses may be applied toward the comprehensive examination plan requirements.
An online degree requirement is 15 (at least nine graduate) courses. The minimum research effort involved in a Ph.D. dissertation.

Comprehensive Examination Plan
The comprehensive examination, which is offered every term, is required in written form only. The comprehensive examining committee may conduct an oral query after review of the written examination. In case of failure, students may be reexamined once with the consent of their departmental graduate adviser.

Concurrent Degree Program
A concurrent degree program between HSSEAS and the John E. Anderson Graduate School of Management allows students to earn two master's degrees simultaneously: the M.B.A. and the M.S. in Computer Science. Contact the Office of Academic and Student Affairs for details.

Master of Science in Engineering Online Degree
The primary purpose of the new Master of Science in Engineering online degree program is to enable employed engineers and computer scientists to augment their technical education beyond the baccalaureate level and to enhance their value to the technical organizations in which they are employed. For further information, see http://www.engineer.ucla.edu.

Master of Engineering Degree
The Master of Engineering (M.Engr.) degree is granted to graduates of the Engineering Executive Program, a two-year work-study program consisting of graduate-level professional courses in the management of technological enterprises. For details, write to the HSSEAS Office of Academic and Student Affairs, 6426 Boelter Hall, UCLA, Box 951601, Los Angeles, CA 90095-1601. (310) 825-2514

Engineer Degree
HSSEAS offers an Engineer (Engr.) degree at a level equivalent to completion of preliminaries in the Ph.D. program. The Engineer degree represents considerable advanced training and competence in the engineering field but does not require the research effort involved in a Ph.D. dissertation.

Requirements for the Engineer degree are identical to those of the Ph.D. degree up to and including the oral preliminary examination, except that the Engineer degree is based on coursework. The minimum requirement is 15 (at least nine graduate) courses beyond the bachelor's degree, with at least six courses in the major field (minimum of four graduate courses) and at least three in each minor field (minimum of two graduate courses each).

Ph.D. Degrees
The Ph.D. programs prepare students for advanced study and research in the major areas of engineering and computer science. All candidates must fulfill the minimum requirements of the Graduate Division. Major and minor fields may have additional course and examination requirements. For further information, contact the individual departments.

Fields of Study
Established fields of study for the Ph.D. are listed below. With the support of an adviser, students may propose any other field of study to their department. Instructions on the definition of acceptable ad hoc fields and procedures for their approval are available in each department office.

Biomedical Engineering Interdepartmental Program. Bioacoustics, speech, and hearing; biocybernetics; biomechanics, biomaterials, and tissue engineering; biomedical instrumentation; biomedical signal and image processing and bioinformatics; medical imaging informatics; molecular and cellular bioengineering; neuroengineering

Chemical and Biomolecular Engineering Department. Chemical engineering

Civil and Environmental Engineering Department. Environmental engineering, geotechnical engineering, hydrology and water resources engineering, structures (structural mechanics and earthquake engineering)

Computer Science Department. Artificial intelligence, computational systems biology, computer networks, computer science theory, computer system architecture and computer-aided design (CAD) graphics and vision, information and data management, software systems

Electrical Engineering Department. Circuits and embedded systems, physical and wave electronics, signals and systems

Materials Science and Engineering Department. Ceramics and ceramic processing, electronic materials, structural materials
Mechanical and Aerospace Engineering Department. Applied mathematics (established minor field only), applied plasma physics (minor field only), dynamics, fluid mechanics, heat and mass transfer, manufacturing and design, nanoelectromechanical/microelectromechanical systems (NEMS/MEMS), structural and solid mechanics, systems and control.

Graduate Certificate of Specialization
A Certificate of Specialization is available in all areas, except computer science, offered by HSSEAS. Requirements for admission are the same as for the M.S. degree.

Each graduate certificate program consists of five 100- or 200-series courses, at least two of which must be at the graduate level. No work completed for any previously awarded degree or credential may be applied toward the certificate. Successful completion of a certificate program requires an overall minimum B average in all courses applicable to the certificate. In addition, graduate certificate candidates are required to maintain a minimum B average in 200-series courses used in the certificate program. A minimum of three terms of academic residence is required. The time limitation for completing the requirements of a certificate program is two calendar years. Details regarding the certificate programs may be obtained from each department office.

Courses completed in HSSEAS for a Certificate of Specialization may subsequently be applied toward master’s and/or doctoral degrees.

John E. Anderson Graduate School of Management

Judy D. Olian, Dean
UCLA
F407 Mullin Management Commons
Box 951481
Los Angeles, CA 90095-1481
(310) 825-6121
fax: (310) 206-2002
http://www.anderson.ucla.edu

In today’s rapidly changing global marketplace, it is essential that professional managers be conversant with the latest concepts and principles of management. At the UCLA John E. Anderson Graduate School of Management, which is consistently ranked among the best such schools in the nation, students prepare to become first-rate managers with both specialized skills and a broad understanding of the general economic, business, and managerial environment. This background enables them to become effective and efficient directors of organizations and people whether they are in the private, public, or not-for-profit sector.

Specifically, the Anderson School offers the business community a wide range of higher education programs that provide state-of-the-art information in a variety of fields. Through its faculty, the school advances the art and science of management by engaging in fundamental and cutting-edge research in all fields of management and by educating scholars who can continue to create new knowledge.

John E. Anderson Graduate School of Management students come from diverse professional and educational backgrounds and seek equally diverse personal and professional goals. Whether they pursue the professional M.B.A., the academic M.S., or a Ph.D. in Management, they graduate with a broad understanding of people and organizations and with a sound technical background in the economic and mathematical concepts of management planning and decision making.

The school offers a variety of programs leading to graduate degrees at the master’s and doctoral levels. These include both an academic (M.S.) and professional (M.B.A.) master’s, as well as a 21-month Executive M.B.A. Program designed for working managers who are moving from specialized areas into general management and a three-year Fully Employed M.B.A. Program for emerging managers. A Ph.D. in Management is also offered, as are a certificate Executive Program and research conferences and seminars for experienced managers.

The school also offers an undergraduate minor in Accounting and several undergraduate courses in management. Enrollment in these courses, although open to all University students who have completed the requisites, is limited. The school limits the number of courses taken by undergraduate students to 11.

Degrees
The school offers the following degrees, in addition to an undergraduate Accounting minor:

- Master of Business Administration (M.B.A.)
- Master of Financial Engineering (M.F.E.)
- Master of Science (M.S.)
- Doctor of Philosophy (Ph.D.)

Concurrent Degree Programs
The school offers 10 concurrent degree programs:

Management M.B.A./Computer Science M.S.
Management M.B.A./Dentistry D.D.S.
Management M.B.A./Latin American Studies M.A.
Management M.B.A./Law J.D.
Management M.B.A./Library and Information Science M.L.I.S.
Management M.B.A./Medicine M.D.
Management M.B.A./Nursing M.S.N.
Management M.B.A./Public Health M.P.H.
Management M.B.A./Public Policy M.P.P.
Management M.B.A./Urban Planning M.A.
Interdisciplinary research centers provide valuable resources that support school programs. See http://www.anderson.ucla.edu/x40.xml.

**Center for Finance and Investments**
The Center for Finance and Investments (CFI) sponsors research, teaching, and the application of financial knowledge in the global corporate and investment communities. CFI takes a leadership role in recruiting and retaining outstanding faculty members and scholars. The center also supports promising students in their efforts to gain a deeper understanding of the issues and challenges in the field of finance. See http://www.anderson.ucla.edu/x13957.xml.

**Center for Health Services Management**
The Center for Health Services Management is operated jointly by the Anderson School and the School of Public Health. Organized as a partnership with the health services management community, the center’s activities are designed to be supportive of management practitioners in the healthcare community. The center offers management education programs uniquely suited to managers and executives from healthcare organizations. In addition, it conducts research carefully identified to further the practice of management of health service organizations. Programs have included a top management course for Cedars-Sinai Medical Center and a management development program for diagnostic radiologists.

**Center for International Business Education and Research**
The Center for International Business Education and Research (CIBER) is dedicated to enhancing the teaching and understanding of issues related to the global marketplace. The center actively increases international business research across the campus through the direct funding of faculty research travel, graduate student research assistantships, and academic conferences. See http://www.anderson.ucla.edu/x327.xml.

**Center for Management in Information Economy**
The Center for Management in Information Economy (CMIE) focuses on current management processes and practices being used in businesses and organizations involved in the creation, management, and delivery of digital information as a key component of their products and services. The center acts as a forum and catalyst to relate the capabilities of the academic community to the needs of the business community. See http://www.anderson.ucla.edu/x54.xml.

**Entertainment and Media Management Institute**
The Entertainment and Media Management Institute (EMMI) sponsors research, industry events, and courses to bring together industry representatives, students, and researchers to develop new ways for entertainment and media companies to manage and thrive in the face of transforming entertainment and media business models. See http://www.anderson.ucla.edu/x1030.xml.

**Harold and Pauline Price Center for Entrepreneurial Studies**
The Harold and Pauline Price Center for Entrepreneurial Studies provides academic and extracurricular activities that prepare M.B.A. candidates for the challenge of business management in entrepreneurial environments. These efforts include teaching and curriculum development, student activities, and scholarly research. The interdisciplinary curriculum draws on faculty expertise in many areas. See http://www.anderson.ucla.edu/x554.xml.

**Human Resources Round Table**
The Human Resources Round Table (HARRT) is affiliated with the Anderson School and the UCLA Institute of Industrial Relations. The program’s mission is to enhance the profession of human resource management by linking the academic and practitioner human resource management communities. See http://www.harrt.ucla.edu.

**Information Systems Research Program**
The Information Systems Research Program (ISRP) was established to recognize the importance of maintaining close ties between the activities of practicing professionals and the activities of academics in the information systems area, while at the same time raising money to support education and research activities in the information systems area. The senior managers and technical professionals who belong to the Information Systems Associates participate in a number of activities to facilitate professional interchange and networking, such as the Information Systems Executive Leadership annual award dinner and the annual Information Systems Associates Symposium. See http://www.anderson.ucla.edu/x691.xml.

**Leadership, Education, and Development Program**
The Leadership, Education, and Development (LEAD) program sponsors four-week residential summer institutes at outstanding business schools, including the Anderson School, and recruits quali-
ified African American, Hispanic, and Native American students between their junior and senior years of high school. LEAD introduces participants to the world of business, economics, finance, and management through a carefully tailored curriculum involving University faculty, guest lecturers from industry, and corporate field trips.

OFFICE OF EXECUTIVE EDUCATION PROGRAMS
Lifelong learning plays a critical role in the success of today’s business leaders. The Anderson School’s Office of Executive Education Programs offers more than 40 innovative open enrollment and customized programs that address complex and rapidly changing business issues. The Executive Program covers such diverse areas as strategic planning, organizational design, and competitive positioning. See http://www.uclaexeced.com.

RICHARD S. ZIMAN CENTER FOR REAL ESTATE
The Richard S. Ziman Center for Real Estate is a joint center of the Anderson School and the UCLA School of Law. It is charged with creating and administering UCLA’s activities surrounding real estate research, education, and professional development. The objectives are to (1) advance the quality of real estate research to a level comparable with financial economics, (2) train highly skilled professionals who use advanced scientific tools for designing new products, managing risk, and raising returns to real estate investments, and (3) undertake activities that bridge the gap between real estate research and practice. See http://www.anderson.ucla.edu/x323.xml.

RIORDAN PROGRAMS
The Riordan Programs were established by the Riordan Foundation to address the demand for trained managers who can provide vision and leadership in culturally diverse communities. The programs’ success results from the collaborative efforts of Anderson School faculty, students, and alumni, and corporate leaders throughout the community. Together these individuals encourage underrepresented students to pursue higher education in management and to become future leaders in business and society. See http://www.anderson.ucla.edu/riordan.xml.

UCLA ANDERSON FORECAST
Using large-scale econometric models, the UCLA Anderson Forecast makes quarterly and long-term forecasts of the national and California economies, with focus on unemployment and employment by three-digit SIC code. Results of the forecasts are announced at conferences attended by members of the media and leaders in business and government. See http://uclaforecast.com.

SCHOOL OF THE ARTS AND ARCHITECTURE
Christopher Waterman, Dean
UCLA
8260 Broad Art Center
Box 951427
Los Angeles, CA 90095-1427
(310) 206-6465
fax: (310) 206-8504
http://www.arts.ucla.edu

The School of the Arts and Architecture at UCLA plays a vital role in the cultural and artistic life of the campus and community. Courses and degree programs in six departments provide students with unparalleled opportunities to learn from and interact with faculty members who rank among the most innovative artists, designers, musicians, choreographers, architects, and arts scholars of our time. A balance of practice and theory, built on the academic foundation of the liberal arts, assures the understanding and appreciation of both the interdependence and integration of creativity, performance, and research. In educating the whole person, the school strives to empower and inspire the next generation of citizens to serve as cultural leaders of the twenty-first century.

Also under the School of the Arts and Architecture umbrella is an impressive array of public arts units, including UCLA Live, one of the largest arts presenters in the nation, the UCLA Hammer Museum which houses the Grunwald Center for the Graphic Arts, the Fowler Museum at UCLA, and the renowned Murphy Sculpture Garden. These institutions offer extraordinary access to leading anthropological, historical, and contemporary visual arts exhibitions and collections, and presentations by the world’s most outstanding performing artists.

In addition to providing a rich and diverse environment on campus, the school offers students the opportunity to participate in community outreach programs designed around concerts, exhibitions, symposia, and dance productions presented in cooperation with groups throughout the greater Los Angeles area.
Departments and Programs

The six departments of the school are integral to the rich and varied cultural life of the campus. The Department of Architecture and Urban Design provides students with a unique opportunity to study buildings, cities, and their interdependence in one of the most structurally and ethnically diverse cities in the world. Students in the Department of Art learn to understand the broad panorama of the visual arts emphasizing experimentation. The Department of Design | Media Arts focuses on electronic and digital imagery in visual communication design. Students in the Department of Ethnomusicology study the performance and context of music-making from a global perspective, including a concentration in jazz studies, and the Department of Music offers concentrations in composition, music education, and performance. The Department of World Arts and Cultures offers an innovative curriculum focused on the interdisciplinary and intercultural investigation of performance, the arts, and dance, and on establishing connections between cultural theory and artistic practice.

Information regarding academic programs is available from the Office of Enrollment Management and Outreach, 8260 Broad Art Center, UCLA, Box 951427, Los Angeles, CA 90095-1427, http://www.arts.ucla.edu. ☏ (310) 825-8981

Degrees

The school offers the following degrees:

Architectural Studies (B.A.)
Architecture (M.Arch. I, M.Arch. II, M.A., Ph.D.)
Art (B.A., M.A., M.F.A.)
Culture and Performance (M.A., Ph.D.)
Dance (M.F.A.)
Design | Media Arts (B.A., M.A., M.F.A.)
Ethnomusicology (B.A., M.A., C.Phil., Ph.D.)
World Arts and Cultures (B.A.)

New students are not being admitted to the M.A. in Art (critical and curatorial studies specialization) at this time.

Undergraduate Admission

In addition to the University of California undergraduate application, departments in the School of the Arts and Architecture require auditions, portfolios, or evidence of creativity. Information regarding departmental requirements is available on each department website; see http://www.arts.ucla.edu (click on Departments). The annual deadline date for applications is November 30 for admission in the following Fall Quarter. After the UC application has been filed, applicants must submit supplemental application material and should consult the individual department website for details.

Undergraduate Degree Requirements

School of the Arts and Architecture students must meet three types of requirements for the Bachelor of Arts degree:

1. University requirements
2. School requirements
3. Department requirements

University Requirements

The University of California has two requirements that undergraduates must satisfy in order to graduate: (1) Entry-Level Writing or English as a Second Language and (2) American History and Institutions. See Degree Requirements in the Undergraduate Study section for details.

School of the Arts and Architecture students enrolled in English as a Second Language 33A, 33B, 33C, 35 must take the courses for a letter grade.
SCHOOL REQUIREMENTS

The School of the Arts and Architecture has nine requirements that must be satisfied for the award of the degree: unit, scholarship, academic residence, writing, quantitative reasoning, foreign language, upper division nonmajor courses, diversity, and general education.

UNIT REQUIREMENT

Students must complete for credit, with a passing grade, no less than 180 units and no more than 216 units, of which at least 64 units must be upper division courses (numbered 100 through 199). Credit for upper division tutorials numbered 195 through 199 is limited to a maximum of 8 units in a single term and a maximum of 32 units total for a letter grade. Each major may have limitations on the number of upper division tutorials and/or units that may be applied toward degree requirements.

SCHOLARSHIP REQUIREMENT

A 2.0 (C) average is required in all work attempted at the University of California, exclusive of courses in UCLA Extension and those graded Passed/Not Passed. A 2.0 (C) average is also required in all upper division courses in the major taken at the University, as well as in all courses applied toward the general education and University requirements.

ACADEMIC RESIDENCE REQUIREMENT

Students are in residence while enrolled and attending classes at UCLA as a major in the School of the Arts and Architecture. Of the last 45 units completed for the bachelor’s degree, 35 must be earned in residence in the School of the Arts and Architecture. No more than 18 of the 35 units may be completed in UCLA Summer Sessions.

Courses in UCLA Extension (either class or correspondence) may not be applied toward any part of the residence requirements.

WRITING REQUIREMENT

Students must complete the University’s Entry-Level Writing or English as a Second Language (ESL) requirement prior to completing the school writing requirement.

Students admitted to the school are required to complete a two-term writing requirement—Writing I and Writing II. Two courses in English composition are required for graduation. Both courses must be taken for a letter grade, and students must receive grades of C or better (C– or a Passed grade is not acceptable)

Writing I. The Writing I requirement must be satisfied by completing English Composition 3 or 3H with a grade of C or better (C– or a Passed grade is not acceptable) within the first three terms of enrollment.

The Writing I requirement may also be satisfied by scoring 4 or 5 on one of the College Board Advanced Placement Tests in English or a combination of a score of 720 or better on the SAT Reasoning Test Writing Section and superior performance on the English Composition 3 Proficiency Examination.

Students whose native language is not English may satisfy the Writing I requirement by completing English as a Second Language 36 with a grade of C or better (C– or a Passed grade is not acceptable). Admission into the course is determined by completion of English as a Second Language 35 with a passing grade or proficiency demonstrated on the English as a Second Language Placement Examination (ESLPE)

Writing II. The Writing II requirement is satisfied by selecting a course from a faculty-approved list of Writing II courses published in the Schedule of Classes at http://www.registrar.ucla.edu/soc/writing.htm and available in the Student Services Office. The course must be completed with a grade of C or better (C– or a Passed grade is not acceptable) within the first six terms of enrollment.

A Writing II course also approved for general education may be applied toward the relevant general education foundational area.

QUANTITATIVE REASONING REQUIREMENT

In the School of the Arts and Architecture, students must demonstrate basic skills in quantitative reasoning. All courses taken to satisfy the quantitative reasoning requirement must be completed with a grade of Passed or C or better. The quantitative reasoning requirement can be satisfied by achieving an SAT Reasoning Test Mathematics Section score of 600 or better, an SAT Subject Test in Mathematics score of 550 or better, or by completing one of the following courses: Biostatistics 100A, 100B, Mathematics 2 (or any higher numbered course except 38A, 38B, and 38C) Philosophy 31, Political Science 6, 6R, Program in Computing 10A, 10B, 10C, Statistics 10, 10H, 11, 12, 13, 14.

FOREIGN LANGUAGE REQUIREMENT

Students may meet the foreign language requirement by (1) scoring 3, 4, or 5 on the College Board Advanced Placement (AP) foreign language examination in French, German, or Spanish, or scoring 4 or 5 on the AP foreign language examination in Latin, (2) presenting a UCLA foreign language proficiency examination score indicating competency through level three, or (3) completing one college-level foreign language course equivalent to level three or above at UCLA with a grade of Passed or C or better. The foreign language requirement must be completed within the first six terms of enrollment.

International students may petition to use an advanced course in their native language for this
requirement. Students whose entire secondary education has been completed in a language other than English may petition to be exempt from the foreign language requirement.

**UPPER DIVISION NONMAJOR REQUIREMENT**

Students are required to complete a minimum of 12 units of upper division nonmajor courses.

**DIVERSITY REQUIREMENT**

The diversity requirement is predicated on the notion that students in the arts must be trained to understand the local, national, and global realities in which they make, understand, and interpret art. Those realities include the multicultural, transnational, and global nature of contemporary society. The requirement may be satisfied by taking courses in any of three parts of the students’ overall program: (1) general education courses, (2) courses in the major, or (3) upper division elective courses. As such, students are not required to complete an additional course to satisfy the diversity requirement. Courses satisfying this requirement consider intergroup dynamics along with such social dimensions as race, ethnicity, gender, socioeconomic background, religion, sexual orientation, age, and disability and are relevant to the understanding of these dynamics in contemporary society and culture in the U.S. and around the world.

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**School of the Arts and Architecture**

**General Education Requirements**

<table>
<thead>
<tr>
<th>Foundational Area</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foundations of the Arts and Humanities</strong></td>
<td>8 Courses/38 Units Minimum</td>
</tr>
<tr>
<td>Literary and Cultural Analysis</td>
<td>1 Course</td>
</tr>
<tr>
<td>Philosophical and Linguistic Analysis</td>
<td>1 Course</td>
</tr>
<tr>
<td>Visual and Performance Arts Analysis</td>
<td>1 Course</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15 units minimum</strong></td>
</tr>
<tr>
<td><strong>Foundations of Society and Culture</strong></td>
<td></td>
</tr>
<tr>
<td>Historical Analysis</td>
<td>1 Course</td>
</tr>
<tr>
<td>Social Analysis</td>
<td>1 Course</td>
</tr>
<tr>
<td>Third course from either subgroup</td>
<td>1 Course</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15 units minimum</strong></td>
</tr>
<tr>
<td><strong>Foundations of Scientific Inquiry</strong></td>
<td></td>
</tr>
<tr>
<td>Life Sciences/Physical Sciences</td>
<td>2 Courses</td>
</tr>
<tr>
<td>Two courses from either subgroup</td>
<td>Both courses are selected from the same subgroup, they must be from different departments.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8 units minimum</strong></td>
</tr>
</tbody>
</table>

**GENERAL EDUCATION REQUIREMENTS**

General education (GE) is more than a checklist of required courses. It is a program of study that (1) reveals to students the ways that research scholars in the arts, humanities, social sciences, and natural sciences create and evaluate new knowledge, (2) introduces students to the important ideas and themes of human cultures, (3) fosters appreciation for the many perspectives and the diverse voices that may be heard in a democratic society, and (4) develops the intellectual skills that give students the dexterity they need to function in a rapidly changing world. This entails the ability to make critical and logical assessments of information, both traditional and digital; deliver reasoned and persuasive arguments; and identify, acquire, and use the knowledge necessary to solve problems.

**Requirements for Students Who Entered Fall Quarter 2004 and Thereafter**

**FOUNDATIONS OF KNOWLEDGE**

General education courses are grouped into three foundational areas: Foundations of the Arts and Humanities, Foundations of Society and Culture, and Foundations of Scientific Inquiry.

Eight courses (38 units minimum) are required. A Writing II course also approved for general education may be applied toward the relevant general education foundational area.

Students who complete a yearlong GE Cluster series fulfill the Writing II requirement and complete nearly a third of their general education requirements. Students who do not complete the yearlong GE Cluster series must meet with a counselor in the Student Services Office to determine applicable GE credit.

Courses listed in more than one category can fulfill GE requirements in only one of the cross-listed categories.

**FOUNDATIONS OF THE ARTS AND HUMANITIES** Three 5-unit courses, one from each subgroup. Courses required to satisfy the major or other courses taken in the major department may not be used to satisfy this GE requirement:

- Literary and Cultural Analysis
- Philosophical and Linguistic Analysis
- Visual and Performance Arts Analysis

The aim of courses in this area is to provide perspectives and intellectual skills necessary to comprehend and think critically about our situation in the world as human beings. In particular, the courses provide the basic means to appreciate and evaluate the ongoing efforts of humans to explain, translate, and transform their diverse experiences of the world through such media as language, literature, philosophical systems, images, sounds, and performances. The courses introduce students to the historical development and fundamental intellectual and ethical issues associated with the arts and humanities and may also investigate the complex relations between artistic and humanistic expression and other facets of society and culture.
Foundations of Society and Culture. Three 5-unit courses, one from each subgroup and one from either subgroup:

Historical Analysis
Social Analysis

The aim of courses in this area is to introduce students to the ways in which humans organize, structure, rationalize, and govern their diverse societies and cultures over time. The courses focus on a particular historical question, societal problem, or topic of political and economic concern in an effort to demonstrate how issues are objectified for study, how data is collected and analyzed, and how new understandings of social phenomena are achieved and evaluated.

Foundations of Scientific Inquiry. Two courses from either subgroup. If both courses are selected from the same subgroup, they must be from different departments:

Life Sciences
Physical Sciences

The aim of courses in this area is to ensure that students gain a fundamental understanding of how scientists formulate and answer questions about the operation of both the physical and biological world. The courses also deal with some of the most important issues, developments, and methodologies in contemporary science, addressing such topics as the origin of the universe, environmental degradation, and the decoding of the human genome. Through lectures, laboratory experiences, writing, and intensive discussions, students consider the important roles played by the laws of physics and chemistry in society, biology, Earth and environmental sciences, and astrophysics and cosmology.

Foundations Course Lists. Creating and maintaining a general education curriculum is a dynamic process; consequently, courses are frequently added to the list. For the most current list of approved courses that satisfy the Foundations of Knowledge GE plan, consult an academic counselor or see http://www.registrar.ucla.edu/ge/GE-ArtsNew06-07.pdf.

Requirements for Students Who Entered Prior to Fall Quarter 2004

For the approved list of courses, see http://www.registrar.ucla.edu/ge/GE-ArtsCon06-07.pdf.

Reciprocity with Other UC Campuses

Students who transfer to UCLA from other UC campuses and have met all GE requirements prior to enrolling at UCLA are not required to complete the School of the Arts and Architecture GE requirements. Written verification from the dean at the other UC campus is required. Verification letters should be sent to the Student Services Office, School of the Arts and Architecture, 2200 Broad Art Center, UCLA, Box 951620, Los Angeles, CA 90095-1620.

Intersegmental General Education Transfer Curriculum

Transfer students from California community colleges have the option to fulfill UCLA lower division GE requirements by completing the Intersegmental General Education Transfer Curriculum (IGETC) prior to transfer. The curriculum consists of a series of subject areas and types of courses which have been agreed on by the University of California and the California community colleges. Although GE or transfer core courses are degree requirements rather than admission requirements, students are advised to fulfill them prior to transfer. The IGETC significantly eases the transfer process, as all UCLA GE requirements are fulfilled when students complete the IGETC courses. Students who select the IGETC must complete it entirely before enrolling at UCLA. Otherwise, they must fulfill the School of Arts and Architecture GE requirements.

Department Requirements

School of the Arts and Architecture departments generally set two types of requirements that must be satisfied for the award of the degree: (1) Preparation for the Major (lower division courses) and (2) the Major (upper division courses). Preparation for the Major courses should be completed before beginning upper division work.

Preparation for the Major

A major requires completion of a set of courses known as Preparation for the Major. Each department sets its own Preparation for the Major requirements; see the Curricula and Courses section of this catalog.

The Major

A major is composed of no less than 14 courses (56 units), including at least nine upper division courses (36 units).

Students must complete their major with a scholarship average of at least a 2.0 (C) in all courses in order to remain in the major. All courses in the major department must be taken for a letter grade. As changes in major requirements occur, students are expected to satisfy the new requirements insofar as possible. Hardship cases should be discussed with the department adviser, and petitions for adjustment should be submitted to the dean of the school when necessary.

Any department offering a major in the School of the Arts and Architecture may require a general final examination.

Individual Majors. Highly motivated students who believe that no single major accommodates their spe-
Specific interests and goals may propose designing their own major. Proposals are prepared with faculty guidance and sponsorship and must explain the intent concerning the anticipated program of study and reasons why the academic goals cannot be achieved within an existing major. Proposals must be submitted no later than the end of the sophomore year. Transfer students must complete at least one term of residency at UCLA before proposing an individual major. Students interested in designing an individual major should consult the Director of Student Services, School of the Arts and Architecture, 2200 Broad Art Center. **(310) 206-3564**

**Double Majors.** Students may petition to be reviewed for a double major on an individual basis. It is strongly recommended that students pursuing a double major enroll in 15 to 20 units per term. Contact the Student Services Office for an outline of criteria required.

**POLICIES AND REGULATIONS**

Degree requirements are subject to policies and regulations, including the following:

**STUDENT RESPONSIBILITY**

Students should take advantage of academic support resources, but they are ultimately responsible for keeping informed of and complying with the rules, regulations, and policies affecting their academic standing.

**STUDY LIST**

Each term the student Study List must include from 12 to 20 units. The school has no provision for part-time enrollment. After the first term, students may petition to carry more than 20 units if they have an overall grade-point average of 3.0 (B) or better and have attained at least a B average in the preceding term with all courses passed. Consult the Student Services Office no later than the end of the third week of instruction.

**MINIMUM PROGRESS**

Students are expected to complete satisfactorily at least 36 units during any three consecutive terms in residence; they are placed on probation if they fail to pass these units. They are subject to dismissal if they fail to pass at least 32 units in three consecutive regular terms in residence.

**CHANGING A MAJOR**

Students in good academic standing who wish to change their major may petition to do so provided they can complete the new major within the 216-unit limit. Petitions must be submitted to and approved by the department or committee in charge of the new major. Admission to certain majors may be closed or restricted; changes are normally not permitted if students are on probation or have begun their last term.

**CONCURRENT ENROLLMENT**

Enrollment at a non-UC institution or at UCLA Extension while enrolled at UCLA is not permitted.

**CREDIT LIMITATIONS**

The following credit limitations apply to all undergraduate students enrolled in the school:

**Advanced Placement Tests.** Credit earned through the College Board Advanced Placement (AP) Tests may be applied toward the general education requirements. Portions of AP Test credit may be evaluated by corresponding UCLA course numbers (e.g., History 1C). If students take the equivalent UCLA course, unit credit for such duplication is deducted before graduation.

**Graduate Courses.** Undergraduate students who wish to take courses numbered in the 200 series for credit toward the degree must petition for advance approval of the department chair and the dean of the school and must meet the specific qualifications. Courses numbered in the 400 and 500 series may not be applied toward the degree.

**COUNSELING SERVICES**

The School of the Arts and Architecture offers advising, program planning in the major and general education requirements, and individual meetings with school and departmental counselors. For counseling information, contact the Student Services Office, School of the Arts and Architecture, 2200 Broad Art Center. **(310) 206-3564**

**HONORS**

School of the Arts and Architecture undergraduate students who achieve scholastic distinction may qualify for the following honors and programs:

**DEAN’S HONORS**

To receive Dean’s Honors in the School of the Arts and Architecture, students must have at least 12 graded units per term with a grade-point average of 3.8 for less than 16 units of work (3.7 GPA for 16 or more units). The honor is posted on the transcript for the appropriate term. Students are not eligible for Dean’s Honors in any given term if they receive an Incomplete or a Not Passed (NP) grade, change a grade, or repeat a course.

**LATIN HONORS**

Latin Honors are awarded at graduation to students with superior grade-point averages. To be eligible, students must have completed 90 or more units for a letter grade at the University of California. The levels of honors are *summa cum laude*, *magna cum laude*, and *cum laude*. The minimum GPAs required
DEPARTMENTAL SCHOLAR PROGRAM

Exceptionally promising juniors or seniors may be nominated as Departmental Scholars to pursue bachelor's and master's degree programs simultaneously. Qualifications include completion of 24 courses (96 quarter units) at UCLA or the equivalent at a similar institution and the requirements in preparation for the major. Students must also have at least one term of coursework remaining at UCLA. To obtain both the bachelor's and master's degrees students must be provisionally admitted to the Graduate Division, fulfill requirements for each program, and maintain a minimum B average. No course may be used to fulfill requirements for both degrees. Interested students should consult their department well in advance of application dates for graduate admission. Contact the Student Services Office in 2200 Broad Art Center for details.

GRADUATE STUDY

The advanced degree programs offered in the School of the Arts and Architecture provide graduate students with unique research opportunities when combined with special resources, such as the Young Research Library, the special collections of the Arts and Music Libraries, and the University's exhibition and performance halls.

Fellowships, grants, and assistantships are available through the departments and the dean of the Graduate Division.

ADMISSION

In addition to requiring that applicants hold a bachelor's degree from an accredited U.S. institution or an equivalent degree of professional title from an international institution, each department in the school has limitations and additional requirements. In general, samples of creative work (auditions, portfolios, computer programs, etc.) are required.

Detailed information is available on individual department websites and in Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

For information on the proficiency in English requirements for international graduate students, see Graduate Admission in the Graduate Study section of this catalog.

DEGREE REQUIREMENTS

Requirements to fulfill each degree objective vary according to the degree and the department. For complete degree requirements, see Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

SCHOOL OF DENTISTRY

No-Hee Park, Dean

UCLA
53-038 Dentistry
Box 951762
Los Angeles, CA 90095-1762
(310) 206-6063
fax: (310) 794-7734
http://uclasod.dent.ucla.edu/index.asp

The UCLA School of Dentistry has a national and international reputation for its teaching, research activities, and public service, which prepare dental students for professional careers dedicated to patient treatment, leadership, and service. The curriculum prepares students for changes in treatment modalities and healthcare delivery systems. From the moment training begins, students actively participate in preventive and clinical dental care and soon make valuable contributions to the clinical health team. Clinical instruction emphasizes the comprehensive care of patients. Students interact with their colleagues, faculty members, and dental auxiliary personnel in much the same way as they later will interact in a private or group practice.

School of Dentistry students may undertake programs designed to meet their special needs; mandatory selectives encourage advanced training in an area of particular interest and service learning. In addition to basic and applied research programs within the school, students participate in community service programs such as the Wilson-Jennings-Bloomfield UCLA Venice Dental Center and the Mobile Dental Clinic, the latter in conjunction with the University of Southern California. The graduate programs and resident specialty programs foster new lines of research which lead to better treatment options. An active continuing education program directed by UCLA faculty members provides a variety of hands-on courses for members of the dental profession and their auxiliaries.

DEGREES AND PROGRAMS

The school offers the following degrees:
Dental Surgery (D.D.S.)
Oral Biology (M.S., Ph.D.)

In addition, the school has a Professional Program for International Dentists (PPID) and a number of
dental specialty residency programs. Articulated D.D.S., M.S., Ph.D., and specialty programs are also available. One concurrent degree program (Dentistry D.D.S./Management M.B.A.) is also offered. For information on the M.S. and Ph.D. programs in Oral Biology, for which admission to the School of Dentistry is not required, see Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

**Predental Curriculum**

For details on the three-year predental curriculum, see http://career.ucla.edu/GraduateSchool&ProfessionalServices/Dentistry.asp.

**D.D.S. Degree**

The UCLA dental curriculum leading to the degree of Doctor of Dental Surgery (D.D.S.) is based on the quarter system. The course of study usually takes four academic years of approximately nine months each, with three required Summer Quarters between the first/second, second/third, and third/fourth years. The curriculum is designed to provide students with clinical competence and broad experience in all phases of clinical dentistry within the four years.

The dental curriculum consists of three principal areas: basic health sciences courses, didactic dental courses, and clinical experience. The first two years of the curriculum are chiefly devoted to didactic, laboratory, and general clinical coursework. The final two years emphasize training and instruction in the clinical fields, including endodontics, fixed prosthodontics, operative dentistry, oral diagnosis and treatment planning, oral radiology, oral and maxillofacial surgery, anesthesiology, orthodontics, pediatric dentistry, periodontics, and removable prosthodontics.

For details on the D.D.S. program and a listing of the courses offered, see http://uclasad.dent.ucla.edu/index.asp or write to the Office of Student Affairs, School of Dentistry, A0-111 Dentistry, UCLA, Box 951762, Los Angeles, CA 90095-1762.

**Resident Programs**

School of Dentistry opportunities for resident study include a one-year general practice residency program; a one-year advanced education in general dentistry program; a one-year residency in maxillofacial prosthodontics; a six-year oral and maxillofacial surgery residency training program; a three-year prosthodontics, periodontics, and orthodontics program; two-year programs in the specialties of endodontics and orofacial pain and dysfunction; and a 27-month program in pediatric dentistry.

Information on the resident programs can be obtained by writing directly to Resident Programs, School of Dentistry, A0-111 Dentistry, UCLA, Box 951762, Los Angeles, CA 90095-1762.

**By any standard, the UCLA School of Law is recognized as one of the nation’s great law schools. Each year a lively, talented, and diverse law student population assembles in a rigorous, innovative, and supportive environment. Members of the faculty frequently receive awards for teaching excellence and are highly regarded Universitywide and nationally. They also are recognized worldwide for their contributions to scholarship and law reform in a broad spectrum of fascinating fields that dramatically affect our world—constitutional law, environmental law and policy, criminal law, corporate law, employment law, international law, and intellectual property, to name a few. The structure of our democracy, the underpinnings and regulation of business, families, communities, and individual liberties, the powerless and homeless, the many permutations of a race-conscious society—all are subjects of investigation and study. Faculty members are committed to being intellectually and professionally demanding of students and humane at the same time, encouraging and fostering a genuine spirit of collaboration and community.

Law students select courses from an intellectually rich curriculum in private or public law and theory. Courses are taught in both traditional and clinical settings, with some offered as part of coordinated concurrent degree programs or specializations in Business Law and Policy, Critical Race Studies, Entertainment and Media Law and Policy, and Public Interest Law and Policy. Situated at a major gateway to the Pacific Rim, UCLA is a center of international programs; international and comparative law has become a dynamic, integral part of the law school curriculum, with courses addressing the European Union, modern Japan and China, Islam, international trade and business transactions, and a host of other related courses. Part of an outstanding research university, possessed of rich cultural resources, and located in a beautiful garden setting allowing year-round outdoor study and reflection, UCLA’s extensive educational programs afford law students myriad interdisciplinary opportunities both in the classroom and through independent research. The technologically advanced, spacious, and comfortable Hugh and Hazel Darling Law Library—replete with natural lighting and views—houses an extensive collection of legal materials. The school’s nationally recognized clinical program offers sophisticated courses that help students develop applied
lawyering skills, focus on solving client problems, and see in their education at UCLA more of what ultimately will face them as lawyers and policymakers. An entire wing of the Law Building is designed especially for clinical teaching and student practice and facilitates work and study in the ever-expanding clinical curriculum, which includes courses in interviewing, counseling, negotiation, business transactions, criminal and civil trial advocacy, community-based lawyering, environmental law, and poverty law practice. The first-year lawyering skills course, taught by experienced lawyers who are full-time faculty members, is truly outstanding and features interviewing and counseling of clients and drafting of legal memoranda, contracts, and “advice letters,” thereby developing legal research capabilities and writing prowess.

Successful placement of UCLA law graduates reflects the school’s excellent national ranking. Over 400 law firm and agency interviewers from across the nation come to UCLA annually to hire our students. UCLA graduates (more than 12,900) work in coveted positions locally and around the world, not only serving in a wide variety of public and private law practices, but as judges, business executives, writers, journalists, law professors, and academic administrators.

**DEGREES**

The school offers the following degrees:
- Juris Doctor (J.D.)
- Master of Laws (LL.M.)
- Doctor of Juridical Science (S.J.D.)

**Concurrent Degree Programs**

The school offers eight concurrent degree programs:
- Law J.D./Afro-American Studies M.A.
- Law J.D./American Indian Studies M.A.
- Law J.D./Education M.Ed., M.A., Ed.D., or Ph.D.
- Law J.D./Management M.B.A.
- Law J.D./Public Policy M.P.P.
- Law J.D./Public Health M.P.H.
- Law J.D./Social Welfare M.S.W.
- Law J.D./Urban Planning M.A.

In addition to the concurrent programs above, students may design a tailored program from other disciplines in the UCLA curriculum or from another high-quality institution; this must be arranged in consultation with the School of Law and the other selected program.

**JURIS DOCTOR DEGREE**

**Admission**

Students beginning their professional work are admitted only for Fall Semester. They must have received a bachelor’s degree from a university or college of approved standing before beginning work in the school and are required to take the Law School Admission Test (LSAT).

The school seeks to admit students of outstanding intellectual ability who bring a wide range of backgrounds, experiences, and perspectives to the classroom and the legal profession. Through long experience the faculty has concluded that the quality of the education of each student is affected in significant ways by the presence of vital diverse viewpoints. Students of all backgrounds choose to come to UCLA in significant part because of the school’s outstanding achievements in creating a highly diverse educational environment.

In evaluating each applicant the school places substantial weight on traditional measures of academic ability, namely grades and LSAT scores. It also recognizes in its evaluation that other factors and attributes contribute greatly to a person’s ability to succeed as a law student and lawyer. When assessing academic promise and achievement, the applicant’s entire file is considered, including letters of recommendation, whether economic, physical, or other challenges have been overcome, scholarly achievements such as graduate study, awards, or publications, and the rigor of the undergraduate educational program.

In addition, the school considers attributes that may contribute to assembling a diverse class. Special emphasis is placed on socioeconomic disadvantage in the evaluation. Also considered are work experience and career achievement, community or public service, career goals (with particular attention to the likelihood of applicants representing underrepresented communities), significant hardships overcome, evidence of and potential for leadership, language ability, unusual life experiences, and any other factors (except those deemed inadmissible by The Regents or by other applicable law) that indicate the applicant may significantly diversify the student body or make a distinctive contribution to the school or the legal profession.

The UCLA School of Law has as one of its central purposes the training of attorneys who attain high levels of professional excellence and integrity and who exercise civic responsibility in myriad ways over long careers.

Detailed information about the academic programs offered by the School of Law, course titles and descriptions, fees, and the semester-system calendar by which it operates are available at [http://www.law.ucla.edu](http://www.law.ucla.edu).
Residence and Unit Requirements

Candidates for the degree of Juris Doctor must pursue resident law school study for six semesters and successfully complete 87 units. The residence requirements may be satisfied as follows: (1) six semesters in regular session in this school or (2) two semesters in regular session (or equivalent) in a school which is accredited by the American Bar Association, coupled with four semesters in regular session (or equivalent) in this school.

Every first-year student is required to take the full schedule of required courses; second- and third-year students are required to take a minimum of 12 hours and may not take more than 16 hours each semester. The second- and third-year curriculum is elective, except for a required course in professional responsibility and a substantial analytical writing requirement. In addition to the courses in the regular law school curriculum, students may take two courses for credit in other disciplines within the University. Graduate students may enroll in upper division law courses on a limited basis. Law courses are not open to non-UCLA students. Auditing of courses is not permitted.

Attendance and Grades. The right to take examinations and the privilege of continuing as a student in the school are conditioned on regular classroom attendance. Information on the grading system, which is based on a letter-grade scale of A+ to F, may be obtained from the Office of the Assistant Dean for Students. Standards for satisfactory performance and for graduation are prescribed by the faculty and are published separately. They may also be obtained from the above office.

Curriculum

The school offers courses of instruction within the school and supervised educational experiences outside it in an effort to enable its students to think intelligently and to prepare them for careers of practice and public service. To this end the school employs several instructional techniques in a variety of subject areas.

In the first year of their legal education students are exposed to an intensive study of legal reasoning in a series of fields which have historically dominated legal thought. Additionally, the first-year required course in lawyering skills provides students the opportunity to explore the relationship between legal analysis and lawyering tasks such as legal writing, oral advocacy, research, and client interviewing and counseling.

In the second and third years students have an opportunity to engage in a number of different fields of law and law-related study. All of the courses in the second- and third-year curriculum are elective, with the exception of the legal profession and substantial analytical writing requirements which are requisites for graduation.

Master of Laws Degree

The School of Law offers a Master of Laws (LL.M.) degree program for international and domestic law school graduates who wish to pursue a year of graduate legal education. The program allows students to specialize their studies in fields such as entertainment law, international and comparative law, and four separate business law subjects, or to design their own specialization in a field of their choice. For further information, see http://www.law.ucla.edu/llm/.

Doctor of Juridical Science Degree

The Doctor of Juridical Science (S.J.D.) degree program is designed for those seeking to pursue careers as teachers and scholars of law. The highly selective program is open only to applicants who possess a distinguished prior academic record in law, show promise of outstanding scholarship, and demonstrate a high potential for completing a scholarly dissertation of required quality. Applicants must hold a J.D. degree or foreign equivalent and an LL.M. degree (or be enrolled in a program leading to an LL.M. degree). For further information, see http://www.law.ucla.edu/sjd/.

Academic Specializations

Business Law and Policy Specialization

More than 60 courses and seminars are offered in the Business Law and Policy specialization. For students who want to be prepared for transactional practice to the highest level, the specialization offers an unparalleled opportunity by producing lawyers who can combine legal analysis with a thorough understanding of the business client's goals and obstacles. In an effort to help students further hone their area of study, the specialization offers four tracks that highlight the program's core strengths: business law, bankruptcy, tax law, and securities regulation.

Critical Race Studies Specialization

The UCLA School of Law is the first American law school to offer an advanced curriculum that fosters students' systematic and rigorous study in the area of critical race studies. With many faculty members who have been instrumental in pioneering and advancing critical race theory, the Critical Race Studies specialization is essential to promoting insightful, intelligent public conversation about race relations. It is appropriate for law students who seek advanced study and/or practice in race and the law, critical race theory, civil rights, public policy, and other legal practice areas that are likely to involve working with racial minority clients and communities or working to combat racial inequality. The course of study emphasizes mastery of five areas: (1) history (centered on the Constitution but focused as well on a variety of other legal documents and experiences), (2) theory (critical race theory, jurispru-
dence, and theoretical advances outside the legal academy); (3) comparative subordination (understanding of the multiracial nature of American race relations, as well as how racial inequality is affected by discrimination based on gender, sexual orientation, and disability); (4) doctrine (case and statutory law and its interpretation), and (5) practice (including legal practice, community service, and lawyers’ use of social science inquiries and methods).

**ENTERTAINMENT AND MEDIA LAW AND POLICY SPECIALIZATION**

Los Angeles is the center of the entertainment industry, and recognizing the unique ability to offer a specific program in that arena, the school launched the Entertainment and Media Law and Policy specialization in 2005. The specialization is the most comprehensive, advanced, and innovative approach to the study of entertainment and media law in the country. Students who fulfill the requirements have a solid grounding in the law, custom, theory, and policy in the motion picture, television, music, and other industries involved in creative and artistic matters. The program also prepares students who choose to work in nonprofit institutions, government, or academia in the area of entertainment and media law and policy.

**PUBLIC INTEREST LAW AND POLICY SPECIALIZATION**

Recognizing the considerable debate about the proper role of the law in creating and sustaining a just society and defining public interest broadly to include all interests underrepresented by the private market, the Public Interest Law and Policy specialization strives to provide its students with an innovative and intellectually ambitious curriculum that prepares them to engage in sophisticated representation of traditionally underserved clients and interests. The specialization, one of the nation’s top such programs, has a competitive admissions process. Students represent a broad range of political and ideological perspectives and often pursue additional specializations and joint degrees. Graduates have received prestigious public interest law fellowships, and they work in a variety of settings, with focus on an array of social justice issues ranging from immigration, labor and international human rights to healthcare, welfare and poverty, and civil rights. Faculty members are leaders in their respective fields and have distinguished themselves by the quality of their scholarship and teaching. They represent a broad cross-section of interests on social justice issues and bring to the classroom a depth of knowledge from a wide range of experiences and research perspectives.

**PROGRAMS AND CENTERS**

**BUSINESS LAW AND POLICY PROGRAM**

The Business Law and Policy Program is comprised of some of the most prominent scholars in areas such as corporate governance, tax law, and bankruptcy. The innovative research of the faculty members influences the national legal and policy debate over critical issues affecting the regulation and governance of business.Built on the incredible work and scholarship of the faculty, the program offers students a unique blend of policy-based and practice-oriented courses designed to prepare them to be leaders in the new economy. Each year the program hosts timely conferences and scholarly events on matters that facilitate and advance the public discussion.

**CENTER FOR THE STUDY OF MERGERS AND ACQUISITIONS**

The Center for the Study of Mergers and Acquisitions was established at UCLA in 2003 to examine corporate, securities, tax, antitrust, and other legal and economic issues that arise in mergers and acquisitions. An important part of the mission is to sponsor continuing legal education programs addressing these issues. Several times each year, the center holds institutes on a variety of topics, such as tax aspects of mergers and acquisitions; corporate, securities, and related aspects of mergers and acquisitions; and U.S. and European Union antitrust aspects of mergers and acquisitions. The center also hosts a Monday Forum, bringing influential scholars and jurists to campus to discuss major cases and court decisions pertaining to mergers and acquisitions.

**CLINICAL PROGRAM**

With 26 diverse clinical offerings, the Clinical Program is widely regarded as one of the strongest in the nation. Housed in a special clinical wing, it provides extensive and rigorous practical training for student-lawyers interested in litigation, transactional, and public interest work. The program is built on two principles: that most legal skills are transferable across practice areas and that such skills are best learned through repetition in increasingly more complex settings. The goal is to provide students with conceptual frameworks that allow them to make reasoned strategic judgments across all substantive areas of law. Students can choose among a wide variety of live-client clinics (in which they represent actual clients) and sophisticated simulation-based courses. In the more than 20 clinical settings, students learn how to interview and counsel clients, draft legal documents, conduct depositions, examine and cross-examine witnesses, resolve disputes, and argue before a judge or jury. Students interested in transactional practice can learn how to finance a start-up company, sell a private company, advise a community-based organization engaged in economic development projects, or manage myriad environmental issues that arise when selling a business.

**CRITICAL RACE STUDIES PROGRAM**

Throughout American history, race has profoundly affected the lives of individuals, growth of social
institutions, substance of culture, and workings of our political economy. Not surprisingly, this impact has been substantially mediated through the law and legal institutions. To understand the deep interconnections between race and law and, particularly the ways in which race and law are mutually constitutive, is an extraordinary intellectual challenge with substantial practical implications. In a nation that is becoming more racially diverse and finds global issues at the forefront of political debate, these issues promise to remain central to the work of law practitioners and the research of legal scholars. The only one of its kind in the U.S., the program is proud that some of the original architects of critical race theory are faculty members. It is the premier institutional setting for the study of the intersection between race and the law. Only five years old, the program has quickly emerged as a training ground for a new generation of practitioners, scholars, and advocates committed to racial justice theory and practice and is a multifaceted program that augments a rigorous course of study with research colloquia, symposia, interdisciplinary collaborations, and community partnerships in order to integrate theory and practice.

**Empirical Research Group**

The UCLA School of Law is one of the only law schools in the country to provide its faculty members with the support of trained statisticians to further empirical research. The Empirical Research Group (ERG) is a methodology-oriented research center that specializes in the design and execution of quantitative research in law and public policy, and enables faculty members to include robust empirical analysis in their legal scholarship. Articles and reports published by faculty members working with ERG have covered topics as diverse as bankruptcy, legal aid, pollution prevention, tax policy, gay rights, the living wage, and campaign finance disclosure. Articles, reports, working papers, and supporting data are posted on the ERG website. In addition to faculty scholarship, ERG trains law students as research assistants in empirical methods such as sampling, data collection, and statistics, and works closely with law students who conduct their own empirical research. ERG has received or facilitated more than $2.5 million in foundation support for specific projects, including a grant from the Pew Charitable Trusts to study state campaign finance disclosure.

**Entertainment and Media Law and Policy Program**

The Entertainment and Media Law and Policy Program supports and expands the curricular offerings of the Entertainment and Media Law and Policy specialization. For students interested in learning more about entertainment law, the program helps them earn externships with entertainment-related businesses, brings influential speakers to campus, and sponsors the industry’s top legal conference on entertainment issues, the annual UCLA Entertainment Symposium. Students run an entertainment-related journal, the Entertainment Law Review, as well as the student organization, the Entertainment Law Association.

**Environmental Law Center**

The Environmental Law Center houses the school’s varied and interdisciplinary work related to environmental law and policy. It includes the Frank G. Wells Environmental Law Clinic, which offers excellent opportunities for students to obtain hands-on experience in environmental law, and the Evan Frankel Environmental Law and Policy Program, as well as the work of UCLA’s world-class environmental law faculty. The center provides opportunities for members of the UCLA community to have a voice in solving the important environmental issues of the twenty-first century and to educate the public about these issues.

**Evan Frankel Environmental Law and Policy Program**

The Evan Frankel Environmental Law and Policy Program fosters informed analysis of timely and important issues involving governance and regulation in environmental policy. It supports ongoing work on public policy issues related to environmental governance and regulation through research publications, the timely placement of op-eds in influential mainstream publications, and by bringing together stakeholders and policymakers to work toward solutions to critical environmental problems. The program has recently worked on issues including catastrophe prevention and response, enforcing the California Endangered Species Act, pollution prevention mandates, addressing environmental impacts related to liquefied natural gas, and studying air pollution in microenvironments. Through its interdepartmental work with the UCLA Institute of the Environment, the program also participates in publishing the annual Environmental Report Card.

**Extern Program**

The school has one of the most extensive, best established, and most diversified student extern programs in the nation. Under supervision of experienced public interest and governmental lawyers and federal judges, students perform legal work in government offices, public interest law firms, nonprofit agencies, and the chambers of federal judges.

In the semester-long program, students develop legal skills in supervised settings and acquire perspectives about the lawyering process or the judicial decision-making process. They also participate in a faculty-led, law school-based seminar in which they reflect systematically in a classroom setting on their experiences in the placement. Students regularly report that the program is an excellent educational experience.
GLOBALIZATION AND LABOR STANDARDS PROGRAM

For students interested in labor and employment issues, UCLA has a Globalization and Labor Standards (GALS) Program that maintains a web-based library of law review articles on all issues of international labor rights and global labor standards. GALS also publishes a monthly newsletter, organizes conferences, and hosts regular speaker programs. Student contributors are involved in every stage of the project.

INTERNATIONAL AND COMPARATIVE LAW PROGRAM

The International and Comparative Law Program is one of the best in the nation. Six permanent faculty members who have built their reputations in the field offer numerous international and comparative law courses, such as international business transactions, national security law, human rights, international environmental law, international criminal law, European Union law, and Islamic law. The study of international and comparative law at UCLA is further strengthened by the opportunity to take courses in other UCLA departments. Some of the country’s best work in international economics, politics, and business occurs at UCLA, and many law students find it valuable to complement their law school work with coursework in other departments with the approval of the law school administration.

NATIVE NATIONS LAW AND POLICY CENTER

The Native Nations Law and Policy Center supports Native Nations to enhance their governmental institutions and laws, strengthen their cultural resource protections, and address critical public policy issues by bringing together the University’s academic resources and the knowledge and experience of tribal leaders and knowledge-holders.

OFFICE OF PUBLIC INTEREST PROGRAMS

The UCLA School of Law has a long-standing commitment to public service and is committed to cultivating an environment that encourages all of its students and alumni to better serve society in myriad ways. Students gain significant exposure and experience in public service through clinical courses, a pro bono program, an externship program, extensive public interest advising and informational programming, and numerous student organizations. The Office of Public Interest Programs, the hub of the school’s public interest efforts, hosts a variety of career-oriented programs and relevant public interest forums and events in which students, faculty, alumni, and the broader community participate. The office also hosts the annual Southern California Public Interest Career Day, which attracts more than 110 public service employers and some 1,000 students from around the region. Additionally, the office provides support for the student-run Public Interest Law Fund (PILF) and its annual auction, which raises monies to help fund summer public service internships.

RICHARD S. ZIMAN CENTER FOR REAL ESTATE

Reflecting a growing interdisciplinary focus at UCLA, the School of Law formed a partnership in 2005 with the John E. Anderson Graduate School of Management to create the Richard S. Ziman Center for Real Estate. The center is firmly grounded in the scholarship and teaching missions of both schools and offers practical application principles that help real estate industry professionals, public officials, and business people alike make critical policy and business decisions. The center truly bridges the divide between research and practice and offers students a full range of coursework that provides a holistic view of real estate issues.

WILLIAMS INSTITUTE ON SEXUAL ORIENTATION LAW AND PUBLIC POLICY

The Charles R. Williams Institute on Sexual Orientation Law and Public Policy is the only think tank of its kind dedicated to the field of sexual orientation law and public policy. The institute supports legal scholarship, legal research, policy analysis, and education regarding sexual orientation discrimination and other legal issues that affect lesbian and gay people. The institute began with the recognition that issues central to sexual orientation law have profound implications for the development of the law and public policy in general. Drawing on the intellectual and material resources of UCLA, the institute provides a national center for the interdisciplinary exploration of these issues by scholars, judges, practitioners, advocates, and students.

SCHOOL OF NURSING

Marie J. Cowan, Dean

UCLA
2-200 Factor Building
Box 951702
Los Angeles, CA 90095-1702
(310) 825-7181
fax: (310) 267-0330
http://www.nursing.ucla.edu

The School of Nursing enjoys a national and international reputation for excellence in teaching, research, and clinical practice. A strong scientific basis underlies the teaching of nursing practice, leadership, and research. Related clinical experiences are arranged within the UCLA Medical Center, its affiliates, or in selected community sites.
At the generic bachelor's level, nurses are prepared as generalists with special skills in primary, secondary, and tertiary prevention and care within a population-based context, leadership, and evidence-based practice. A program designed for associate degree or diploma nurses provides an opportunity to learn about community-based nursing care while providing a foundation for entering the advanced practice nurse master's degree program. At the master's level, nurses are prepared as generalists in hospital-based care or for advanced nursing practice as nurse practitioners, clinical specialists, or administrators in a variety of settings and specialized areas of healthcare. The Ph.D. program prepares scholars who do original research, generate new theories, and build the scientific basis for professional nursing practice. Research is both basic and applied.

The school has an exceptionally qualified faculty; many members have national and international reputations for excellence. The school is consistently ranked high for its teaching and research programs. The innovative curriculum is responsive to national needs in healthcare and the diversity of the patient population. Graduates of the program are sought by healthcare institutions and educational programs, and many alumni have become leaders in the field. Education in this research University with its full range of academic disciplines provides a rich environment for preparation in the health sciences.

HISTORY AND ACCREDITATION

In 1949 The Regents of the University of California authorized the School of Nursing as one of the professional schools of the UCLA Center for the Health Sciences. This action paved the way in 1950 for the opening of an undergraduate generic program in nursing leading to the Bachelor of Science (B.S.) degree and made possible the establishment of a graduate program leading to the Master of Science (M.S.) degree in Nursing in 1951. In 1966 the Master of Nursing (M.N.) degree was established as an alternate option to the M.S. degree. The M.S. degree program was discontinued in 1969. The Regents approved the Doctor of Nursing Science (D.N.Sc.) degree program in 1986, and in 1987 the first doctoral students were admitted. In 1996 the Office of the President and The Regents approved the change in the master's degree designation from M.N. to Master of Science in Nursing (M.S.N.); the change in doctoral degree designation from D.N.Sc. to Ph.D. in Nursing was approved in 1995.

The original generic B.S. program curriculum was revised in 1997 to meet the educational needs of students who are registered nurses with Associate Degrees or diplomas in nursing.

In 2006 the school reinstated a generic/prelicensure B.S. program with admission at the freshman level and launched the Master's Entry Clinical Nurse (MECN) specialty in the M.S.N. degree program, which is designed for prelicensure students with a bachelor's degree in another discipline.

All School of Nursing bachelor's and master's programs have Board of Registered Nursing approval. In 2001 the Commission on Collegiate Nursing Education accredited the existing bachelor's and master's degree programs for a term of 10 years.

DEGREES

The school offers the following degrees:
- Bachelor of Science (B.S.)
- Master of Science in Nursing (M.S.N.)
- Doctor of Philosophy (Ph.D.)

Concurrent Degree Program

The school offers one concurrent degree program:
- Nursing M.S.N./Management M.B.A.

PHILOSOPHY OF THE SCHOOL

The UCLA School of Nursing is guided by a philosophy that embodies the mission and goals of the University of California. The philosophy addresses nursing, the clients of nursing, and nursing students. The school is committed to an interdisciplinary learning environment.

Nursing encompasses clinical practice, education, research, consultation, leadership, management, and service to the profession and the local and global community. It involves individuals, families, groups, organizations, and communities as clients. The profession must consider the human and physical environments that interact with these clients who may have health conditions that range from wellness to illness. Nursing activities must therefore include health promotion and maintenance, intervention and treatment, rehabilitation and restoration, and palliation. At an advanced practice level, nursing involves comprehensive healthcare that encompasses the responsibility and accountability for continuity of care across the health/illness spectrum.

Nursing research is both applied and basic and has as its core actual or potential human responses to illness and as its goal the development of nursing science. Guided by ethical standards that consider the perspectives of the client, the healthcare provider, and the larger society, nursing has a social mission that encompasses the right and responsibility to pro-
vide leadership in health policy and healthcare to all its clients regardless of disease status, gender, race, or culture.

People who receive client-centered nursing care are complex individuals who exist in relationship to others in their family and community. This complexity of person involves biological, behavioral, emotional, sociocultural, and spiritual dimensions. Each individual reflects a unique combination of these dimensions that interact dynamically with the environment. The clients of nursing are autonomous decision makers who have certain values and knowledge about themselves that not only are relevant but essential to successful healthcare outcomes. As a result, persons have a right and a responsibility to participate collaboratively with the nurse and other health professionals in their care.

Successful nursing students are active learners who bring unique gender, cultural, and ethnic life experiences to the professional practice of nursing. Students at all levels learn relevant theory, acquire practice skills, and are socialized into the profession of nursing. Increasing levels of complexity and sophistication of learning and socialization are expected of students in the different programs. Whether at the beginning practice, advanced practice, or scholar level, nursing students learn to apply knowledge, skills, and professional attitudes in their practice that may include educative, administrative, and research arenas. While students have the right and responsibility to participate in their own learning, faculty members have the right and responsibility to structure the teaching/learning environment to facilitate learning. Individual academic counseling and a variety of one-on-one, small-group, and interactive learning formats assist students to meet program and individual learning goals.

**UNDERGRADUATE ADMISSION**

The School of Nursing admits new undergraduate students in Fall Quarter only. B.S. (Generic/Prelicensure) students are admitted at the freshman level, while B.S. (R.N. to B.S./Postlicensure) students are admitted with upper division standing and start their program courses in the summer prior to Fall Quarter entry. See Nursing in the Curricula and Courses section for additional admission requirements.

**UNDERGRADUATE DEGREE REQUIREMENTS**

School of Nursing students must meet three types of requirements for the Bachelor of Science degree:

1. University requirements
2. School requirements
3. Major requirements

**UNIVERSITY REQUIREMENTS**

The University of California has two requirements that undergraduate students must satisfy in order to graduate: (1) Entry-Level Writing or English as a Second Language and (2) American History and Institutions. See Degree Requirements in the Undergraduate Study section for details.

School of Nursing students enrolled in English as a Second Language 33A, 33B, 33C, 33 must take the courses for a letter grade.

**SCHOOL REQUIREMENTS**

The School of Nursing has six requirements that must be satisfied for the award of the degree: unit, scholarship, academic residency, writing, quantitative reasoning, and general education.

**UNIT REQUIREMENT**

Students in the Nursing B.S. (Generic/Prelicensure) program must complete with a passing grade a minimum of 180 units. At least 83 of the 180 units must be upper division courses numbered 100 through 199. A maximum of 216 units is permitted. Students with advanced placement or international baccalaureate credit may exceed the unit maximum by the amount of that credit.

Students in the Nursing B.S. (R.N. to B.S./Postlicensure) program must complete with a passing grade a minimum of 180 units. At least 63 of the 180 units must be upper division courses numbered 100 through 199.

**School of Nursing**

**Structure of a Degree**

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<th>University Requirements</th>
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<th>Major Requirements</th>
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<tr>
<td>1. Preparation for the Major</td>
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<td>2. The Major</td>
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Courses that do not satisfy the University, school, or department requirements are referred to as electives and are used to meet the minimum unit requirement for graduation.
**SCHOLARSHIP REQUIREMENT**

A 2.0 (C) average is required in all work attempted at the University of California, exclusive of courses in UCLA Extension and those graded Passed/Not Passed. A 2.0 (C) average is also required in all upper division courses in the major taken at the University, as well as in all courses applied toward the general education and University requirements. All required nursing courses in the school must be completed with a grade of C or better in each course (C– grades are not acceptable). Elective courses may be taken on a Passed/Not Passed basis with prior approval, according to the policy listed in the Academic Policies section of this catalog.

**ACADEMIC RESIDENCE REQUIREMENT**

Students are in residence while enrolled and attending classes at UCLA as a major in the School of Nursing.

Students in the Nursing B.S. (Generic/Prelicensure) program must complete 77 of the last 97 nursing course units in residence.

Students in the Nursing B.S. (R.N. to B.S./Postlicensure) program must complete 76 of the last 85 units in residence.

**WRITING REQUIREMENT**

Students must complete the University’s Entry-Level Writing or English as a Second Language (ESL) requirement prior to completing the school writing requirement.

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### School of Nursing General Education Requirements

**Foundations of the Arts and Humanities**

- Literary and Cultural Analysis ........... 1 Course
- Philosophical and Linguistic Analysis .... 1 Course
- Visual and Performance Arts Analysis and Practice ......................... 1 Course

Total = 15 units minimum

**Foundations of Society and Culture**

- Historical Analysis ......................... 1 Course
- Social Analysis .............................. 1 Course
- Third course from either subgroup .......... 1 Course

Total = 15 units minimum

**Foundations of Scientific Inquiry**

- Life Sciences .............................. 2 Courses
- Physical Sciences .......................... 2 Courses

Total = 18 units minimum

**Total GE. ............ 10 Courses/48 Units Minimum**

One of the 10 courses may be a GE-approved Writing II course in an appropriate foundational area selected from a list published in the *Schedule of Classes* and available in the Student Affairs Office. Preparation for the major courses may overlap with GE foundation courses.

Students admitted to the school are required to complete a two-term writing requirement—Writing I and Writing II. Two courses in English composition are required for graduation. Both courses must be taken for a letter grade, and students must receive grades of C or better (C– grades are not acceptable).

**Writing I.** The Writing I requirement must be satisfied by completing English Composition 3 or 3H with a grade of C or better (C– or a Passed grade is not acceptable) within the first three terms of enrollment.

The Writing I requirement may also be satisfied by scoring 4 or 5 on one of the College Board Advanced Placement Tests in English or a combination of a score of 720 or better on the SAT Reasoning Test Writing Section and superior performance on the English Composition 3 Proficiency Examination.

Students whose native language is not English may satisfy the Writing I requirement by completing English as a Second Language 36 with a grade of C or better (C– or a Passed grade is not acceptable). Admission into the course is determined by completion of English as a Second Language 35 with a passing grade or proficiency demonstrated on the English as a Second Language Placement Examination (ESLPE).

**Writing II.** The Writing II requirement is satisfied by selecting a course from a faculty-approved list of courses published in the *Schedule of Classes* at http://www.registrar.ucla.edu/soc/writing.htm and available in the Student Affairs Office. The course must be completed with a grade of C or better (C– or a Passed grade is not acceptable) within the first six terms of enrollment. Most Writing II courses may also be applied toward general education (GE) requirements.

Beginning Fall Quarter 2008 Nursing B.S. (Generic/Prelicensure) transfer students with 90 or more units who have completed the Interssegmental General Education Transfer Curriculum will have satisfied the Writing I and Writing II requirements.

Nursing B.S. (R.N. to B.S./Postlicensure) transfer students must complete a second English composition course with a grade of C or better (C– grade is not acceptable) to fulfill the Writing II requirement.

**QUANTITATIVE REASONING REQUIREMENT**

Nursing B.S. (Generic/Prelicensure) students must demonstrate basic skills in quantitative reasoning. The requirement can be satisfied by achieving an SAT Reasoning Test Mathematics Section score of 600 or better, an SAT Subject Test in Mathematics score of 550 or better, or by completing a college-level mathematics course with a grade of C or better (C– grade is not acceptable).

Nursing B.S. (R.N. to B.S./Postlicensure) students must take calculus to fulfill the quantitative reason-
ing requirement if the required chemistry courses are completed at UCLA.

**GENERAL EDUCATION REQUIREMENTS**

General education (GE) is more than a checklist of required courses. It is a program of study that (1) reveals to students the ways that research scholars in the arts, humanities, social sciences, and natural sciences create and evaluate new knowledge, (2) introduces students to the important ideas and themes of human cultures, (3) fosters appreciation for the many perspectives and the diverse voices that may be heard in a democratic society, and (4) develops the intellectual skills that give students the dexterity they need to function in a rapidly changing world.

This entails the ability to make critical and logical assessments of information, both traditional and digital; deliver reasoned and persuasive arguments; and identify, acquire, and use the knowledge necessary to solve problems.

**Requirements for Generic/Prelicensure Students**

**FOUNDATIONS OF KNOWLEDGE**

General education courses are grouped into three foundational areas: Foundations of the Arts and Humanities, Foundations of Society and Culture, and Foundations of Scientific Inquiry.

Ten courses (48 units minimum) are required. A course taken to meet the Writing II requirement may also be applied toward a GE requirement. Preparation for the major courses may overlap with the foundation courses.

Students must meet with a counselor in the Student Affairs Office to determine the applicability of GE Cluster courses toward Writing II or GE requirements.

Courses listed in more than one category can fulfill GE requirements in only one of the cross-listed categories.

**Foundations of the Arts and Humanities.** Three 5-unit courses, one from each subgroup:

- Literary and Cultural Analysis
- Philosophical and Linguistic Analysis
- Visual and Performance Arts Analysis and Practice

The aim of courses in this area is to provide perspectives and intellectual skills necessary to comprehend and think critically about our situation in the world as human beings. In particular, the courses provide the basic means to appreciate and evaluate the ongoing efforts of humans to explain, translate, and transform their diverse experiences of the world through such media as language, literature, philosophical systems, images, sounds, and performances. The courses introduce students to the historical development and fundamental intellectual and ethical issues associated with the arts and humanities and may also investigate the complex relations between artistic and humanistic expression and other facets of society and culture.

**Foundations of Society and Culture.** Three 5-unit courses, one from each subgroup and one from either subgroup:

- Historical Analysis
- Social Analysis

The aim of courses in this area is to introduce students to the ways in which humans organize, structure, rationalize, and govern their diverse societies and cultures over time. The courses focus on a particular historical question, societal problem, or topic of political and economic concern in an effort to demonstrate how issues are objectified for study, how data is collected and analyzed, and how new understandings of social phenomena are achieved and evaluated. Because communication skills are essential in the nursing profession, Communication Studies 10 is recommended for this foundational area.

**Foundations of Scientific Inquiry.** Four courses, two from each subgroup:

- Life Sciences
- Physical Sciences

The aim of courses in this area is to ensure that students gain a fundamental understanding of how scientists formulate and answer questions about the operation of both the physical and biological world. The courses also deal with some of the most important issues, developments, and methodologies in contemporary science.

**Foundations Course Lists.** Creating and maintaining a general education curriculum is a dynamic process; consequently, courses are frequently added to the list. For the most current list of approved courses that satisfy the Foundations of Knowledge GE plan, consult an academic counselor or see http://www.registrar.ucla.edu/ge/GE-NursPrelic06-07.pdf.

**Intersegmental General Education Transfer Curriculum**

Beginning Fall Quarter 2008 Nursing B.S. (Generic/Prelicensure) transfer students from California community colleges must fulfill UCLA lower division GE requirements by completing the Intersegmental General Education Transfer Curriculum (IGETC) prior to transfer. The curriculum consists of a series of subject areas and types of courses that have been agreed on by the University of California and the California community colleges. Because of course sequencing and the rigor of the program, students must fulfill the general education requirements prior to transfer.

Additional requirements are listed under generic/prelicensure admission and preparation for the major in the Curricula and Courses section.
Requirements for R.N. to B.S./Postlicensure Students

Completion of the following prenursing/general education courses with grades of C or better (C–grades are not acceptable) prior to entering UCLA: human anatomy (one course), sociocultural anthropology (one course), humanities (one or more courses), introductory or general microbiology with laboratory (one course), introductory physics (one course or one year of high school physics with laboratory with a grade of B or better), human physiology (one course), introductory psychology (one course), introductory sociology (one course)

In addition, students are required to complete a block of 30 units of credit by examination administered by the Excelsior College Examination Service in Adult Nursing, Fundamentals of Nursing, Maternal and Child Nursing-AD, and Psychiatric/Mental health Nursing (this lower division credit applies to the Nursing major only).

MAJOR REQUIREMENTS

The School of Nursing sets two types of requirements that must be satisfied for the award of the degree: (1) Preparation for the Major and (2) the Major. See the Curricula and Courses section of this catalog for details.

POLICIES AND REGULATIONS

Degree requirements are subject to policies and regulations, including the following:

STUDENT RESPONSIBILITY

Students should take advantage of academic support resources, but they are ultimately responsible for keeping informed of and complying with the rules, regulations, and policies affecting their academic standing.

STUDY LIST

The presentation of Study Lists by the students and their acceptance by the school evidences an obligation on the part of the students to faithfully perform the designated work to the best of their ability. Withdrawal from, or neglect of, any course entered on the Study List, or a change in program without the formal permission of the assistant dean of the school renders students liable to enforced withdrawal from the University or other appropriate disciplinary action.

Students are expected to follow the course sequence specified for their program. After the first term, they may petition to carry a program of study exceeding 20 units provided they have an overall grade-point average of 3.0 (B or better) and have attained at least a B average in the preceding term with all courses passed.

MINIMUM PROGRESS

Students are expected to complete satisfactorily at least 36 units during any three consecutive terms in residence; they are placed on probation if they fail to pass these units. They are subject to dismissal if they fail to pass at least 32 units in three consecutive regular terms in residence.

CHANGING A MAJOR

Students in good academic standing who wish to change their major may petition to do so provided they can complete the new major within the 216-unit limit. Petitions must be submitted to and approved by the school or College department or committee in charge of the new major. Admission to the Nursing major may be closed or restricted; changes are normally not permitted if students are on probation or have begun their last term.

CONCURRENT ENROLLMENT

Enrollment at a non-UC institution or UCLA Extension while enrolled at UCLA is not permitted except in extraordinary circumstances. No credit is given for courses taken concurrently elsewhere without the approval of the school.

CREDIT LIMITATIONS

The following credit limitations apply to all undergraduate students enrolled in the school:

Advanced Placement Tests. Credit earned through the College Board Advanced Placement (AP) Tests may be applied toward the general education requirements. Portions of AP Test credit may be evaluated by corresponding UCLA course numbers (e.g., History 1C). If students take the equivalent UCLA course, unit credit for such duplication is deducted before graduation.

COUNSELING SERVICES

The School of Nursing gives direction and provides information to interested potential applicants to the B.S. programs through admissions information sessions. The schedule for these sessions, program information, and applications are available at http://www.nursing.ucla.edu. Applicants may write to the UCLA School of Nursing, Student Affairs Office, 2-200 Factor Building, Box 951702, Los Angeles, CA 90095-1702, call (310) 825-7181 Tuesday through Thursday, or contact the Student Affairs Office via e-mail at sonsaff@sonnet.ucla.edu.

On entry to the junior year, students are assigned a faculty adviser to aid in planning their total program. Advisers continue meeting with students each
term to evaluate progress, to identify academic and personal needs and match them with available school and University resources, to confirm University and course requirements, and to maximize the students’ abilities to reach educational and professional goals. Due to the heavy course load that the school’s programs require, students are advised against working full time.

**HONORS**

School of Nursing undergraduate students who achieve scholastic distinction may qualify for the following honors:

**DEAN’S HONORS**

To receive Dean’s Honors in the School of Nursing, undergraduate students must have at least 12 graded units per term with a grade-point average of 3.75. The honor is posted on the transcript for the appropriate term. Students are not eligible for Dean’s Honors in any given term if they receive an Incomplete or a Not Passed (NP) grade, change a grade, or repeat a course.

**LATIN HONORS**

Latin Honors are awarded at graduation to undergraduate students with superior grade-point averages. The levels of honors and the requirements for each level are: summa cum laude, an overall average of 3.870; magna cum laude, 3.780; cum laude, 3.636. To be eligible students must have completed at least 98 University of California units for a letter grade. The minimum GPAs required are subject to change on an annual basis. Required GPAs in effect in the graduating year determine student eligibility. See the Schedule of Classes for the most current calculations of Latin honors.

**GRADUATE STUDY**

The Master of Science in Nursing (M.S.N.) degree program offers prelicense and postlicensure options. The master’s entry clinical nurse (MECN)/prelicense program, new for Fall Quarter 2006, is designed for students with a bachelor’s degree in another discipline who wish to become registered nurses. The advanced practice nurse (APN)/postlicensure program is for registered nurses with a bachelor’s degree in nursing who wish to prepare for an advanced practice role, such as nurse practitioner, clinical nurse specialist, or nurse administrator. Advanced practice specialties include acute care, family, gerontology, nursing administration, occupational and environmental health, oncology, and pediatrics.

The Ph.D. program prepares scholars who do original research, generate new theories, and build the scientific basis for professional nursing practice. Research is both basic and applied.

**ADMISSION**

Detailed information about the graduate academic programs offered by the School of Nursing is included in the UCLA School of Nursing Announcement, available from the Student Affairs Office, 2-200 Factor Building.

For information on the proficiency in English requirements for international graduate students, see Graduate Admission in the Graduate Study section of this catalog.

**DEGREE REQUIREMENTS**

For complete degree requirements, see Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

**SCHOOL OF PUBLIC AFFAIRS**

Barbara J. Nelson, Dean

UCLA
3250 School of Public Affairs Building
Box 951656
Los Angeles, CA 90095-1656

(310) 206-7568
fax: (310) 206-5773
http://www.spa.ucla.edu

The School of Public Affairs educates at the highest level of excellence the next generation of practitioners and academic researchers in the problem-solving professions—public policy, social welfare, and urban planning. The school provides relevant lifelong education in the form of executive education, career training, technical assistance, and public pedagogy. The school also produces outstanding basic and applied policy and practice research and provides balanced and timely policy advice to policymakers in the public, private, and nonprofit sectors.

**DEPARTMENTS**

The school combines three academic departments—Public Policy, Social Welfare, and Urban Planning—and faculty members from such diverse disciplines as economics, geography, history, law, management, and political science. The school trains policy professionals, planners, and social workers for public, private, and nongovernment service, conducts research on significant regional, national, and inter-
national issues with a strong interdisciplinary and cross-cultural focus, and acts as a convener and catalyst for public dialogue, engaging people locally, nationally, and internationally.

DEGREES AND PROGRAMS

The school offers the following degrees, in addition to undergraduate minors in Public Affairs and in Urban and Regional Studies:

Public Policy (M.P.P.)
Social Welfare (M.S.W., Ph.D.)
Urban Planning (M.A., Ph.D.)

Concurrent Degree Programs

The school offers nine concurrent degree programs:

Public Policy M.P.P./Law J.D.
Public Policy M.P.P./Management M.B.A.
Public Policy M.P.P./Social Welfare M.S.W.
Social Welfare M.S.W./Asian American Studies M.A.
Social Welfare M.S.W./Law J.D.
Urban Planning M.A./Architecture M.Arch. I.
Urban Planning M.A./Latin American Studies M.A.
Urban Planning M.A./Law J.D.
Urban Planning M.A./Management M.B.A.

Obtain brochures about the school's programs from the department offices, 3357 Public Affairs Building.

The school also offers a wide array of undergraduate courses in public policy, social welfare, and urban planning. Enrollment in these courses is open to all undergraduate students.

ADMISSION

In addition to requiring that applicants hold a bachelor's degree from an accredited U.S. institution or an equivalent degree or professional title from an international institution, each department in the school has limitations and additional requirements. Individuals interested in concurrent degrees must be admitted to both programs. Detailed information can be found in Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

For information on the proficiency in English requirements for international graduate students, see Graduate Admission in the Graduate Study section of this catalog.

DEGREE REQUIREMENTS

Requirements to fulfill each degree objective vary according to the degree and the department. For complete degree requirements, see Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

RESEARCH CENTERS

The school houses a number of research centers where faculty members from across the campus pursue issues of mutual interest. In addition to their focus on practical policy problems, the research centers also provide opportunities for student financial aid in the form of research assistant positions, grants, and fellowships.

CENTER FOR CIVIL SOCIETY

The Center for Civil Society (CCS) is the focal point for the school's programs and activities in nonprofit leadership and management, community organizations and advocacy, international nongovernmental organizations, and philanthropy. The center coordinates teaching of nonprofit and civil society aspects, conducts research, convenes meetings and seminars, offers executive education, and contributes to a policy dialogue about the current and future role of nonprofit organizations, philanthropy, and civil society. See http://www.spa.ucla.edu/ccs/.

CENTER FOR GLOBALIZATION AND POLICY RESEARCH

The Center for Globalization and Policy Research acts as a focal point in the School of Public Affairs and in the UCLA community at large for critical investigations of global policy issues. The center serves as a clearinghouse for both individual and joint research projects and hosts public lectures and occasional conferences on globalization and its effects. The center's work focuses on five main areas of social inquiry and policy-making, including the organization and structure of economic systems; processes of migration and social mobility; systems of cultural expression and conflict; the natural and built environments; and structures of governance. See http://www.spa.ucla.edu/egpt/.

CENTER FOR HEALTH POLICY RESEARCH

Jointly sponsored by the School of Public Affairs and the School of Public Health, the Center for Health Policy Research conducts research on the national, state, and local levels, provides testimony, and conducts seminars and forums for government leaders and policymakers both public and private. Research activities emphasize a community- and population-based perspective to improve health outcomes. Current research areas and programs touch on such issues as access to health services, managed care, healthcare reform, women's health, disease prevention policy, cost issues, and the health policy-making process itself. See http://www.healthpolicy.ucla.edu.
The Center for International Science, Technology, and Cultural Policy facilitates interdisciplinary research on the influences of government policy on the development of the arts and sciences and their commercial and noncommercial expressions, including technology, the media, fashion/design, and other uses of the nation’s knowledge capital. The center’s mission is to improve the basis for policy decisions by conducting and supporting solid empirical research designed to examine alternative policy models, including the comparison of systems across countries as well as across substantive areas within the same country. Rigorous policy research on these topics requires discipline-based, but also interdisciplinary, research teams that are informed by social science theory. The center promotes dissemination of policy research to governments seeking to make more empirically informed policy decisions. See http://www.spa.ucla.edu/cistcp/.

The Center for Policy Research on Aging (CPRA) was formed to address the significant issues of an aging society through policy analysis, dissemination of information, and technical assistance to the public and private sectors. The demographic challenges of a nation growing older and living longer force us to confront the roles of government and the private sector in serving the increasing number of elderly and their families. The center’s mission is to conduct research, inform policymakers, link communities to local, state, and federal governments, and foster collaboration among UCLA faculty members. See http://www.spa.ucla.edu/cpra/.

The UCLA Institute of Transportation Studies (ITS), one of the leading transportation policy research centers in the U.S., was created in 1993 to conduct research and provide professional education on the social, economic, environmental, and cultural aspects of transportation policy. Each year ITS faculty members, students, and research staff collaborate on a wide array of transportation policy and planning studies, ranging from an analysis of the travel trends and transportation needs of immigrants and low-income workers to the testing and evaluation of innovative fare programs to increase public transit use. See http://www.its.ucla.edu.

The Lewis Center for Regional Policy Studies was established in 1990 with a $5-million endowment from Ralph and Goldy Lewis to promote the multidisciplinary study, understanding, and solution of regional policy issues, with special reference to Southern California. Research projects include topics such as welfare reform, immigration, the environment, health insurance, labor and employment, and transportation. See http://lewis.spa.ucla.edu/index5.cfm.

The UCLA Policy Forum bridges the academic mission of the school with the worlds of government, nonprofits, and business—in the Los Angeles region, nationally, and internationally. It serves as the school’s principal outreach program by sponsoring speakers, events, and visiting fellows. Guest speakers have included former U.S. Vice President Al Gore, U.S. Senator Barbara Boxer, Nobel laureate Joseph Stiglitz, and Jack Kemp, former U.S. Congressman and former U.S. Secretary of Housing and Urban Development. The forum also provides planning and analytical services customized to meet the needs of public agencies, nonprofit organizations, and private firms. Services include data analysis and presentation, mapping analysis, website development, information system design, training, and conferences. The team brings to its projects an understanding of the underlying policy and planning issues that affect Los Angeles and Southern California with long-standing commitment to the topics of economic development, housing, homelessness, the environment, and community development. Key projects include Neighborhood Knowledge Los Angeles Telecommunications Information Infrastructure Assistance Program (NKLA), Living Independently in Los Angeles Partnership Project with the Westside Center for Independent Living (LILA) Neighborhood Knowledge California (NKCA), and Healthy City (HCHC). See http://www.spa.ucla.edu/policyforum/.

Linda Rosenstock, Dean

UCLA
16-035 Center for the Health Sciences
Box 951772
Los Angeles, CA 90095-1772
(310) 825-5524
e-mail: info@ph.ucla.edu
http://www.ph.ucla.edu

It is a great time to study public health. Federal investment in public health has increased, and a strong global economy has brought additional resources and attention to the field. Furthermore, public and media interest in public health topics have created many opportunities for the field and UCLA graduates.

Public health strives to create healthier communities. Where medicine treats the individual, public health looks to the larger community. Those working in public health focus on efforts to assess the
The UCLA School of Public Health is among the top public health schools in the country, offering superior public health training and real-world experience. Under the same roof as the world-renowned UCLA hospital and its medical, dental, and nursing schools. In addition, the proximity of the University's science facilities and schools of engineering, law, management, and public affairs facilitate transdisciplinary collaboration.

School of Public Health students can look forward to working with acclaimed public health experts and innovators. Of the school's 200 faculty members, six are members of the prestigious Institute of Medicine, three are past presidents of the American Public Health Association, and two are former presidents of the International Epidemiological Association.

The school's 700 students are not only among the most talented and promising in the nation, but the most diverse of all schools of public health in the country. UCLA School of Public Health graduates can be found at the forefront of all major public health efforts.

The school is enriched by its Los Angeles locale, where diverse cultures, industries, environmental situations, and urban issues provide unparalleled opportunities for research, teaching, and service. Its location provides students and faculty members with a unique opportunity to be involved with cutting-edge healthcare issues as many of the health system changes currently sweeping the country have origins in Southern California.

DEPARTMENTS

The School of Public Health offers graduate programs leading to both academic and professional degrees in five departments. The Department of Biostatistics develops statistical and analytical techniques for public health use. The Department of Community Health Sciences addresses behaviors that prevent disease and enhance health, health problems of high-risk groups (women, children, the aged, the poor, the disadvantaged, and racial and ethnic minorities), health education and promotion, public health policy, community nutrition, and international health. The Department of Environmental Health Sciences elucidates health hazards in the general environment and in the workplace. The Department of Epidemiology is concerned with the nature, extent, and distribution of disease and health in populations. The Department of Health Services deals with the organization, financing, delivery, quality, and distribution of healthcare services. The school also administers interdepartmental degree programs in environmental science and engineering and in molecular toxicology.

See the Curricula and Courses section for further information on each department.

DEGREES AND PROGRAMS

The school offers the following degrees:

- Biostatistics (M.S., Ph.D.)
- Environmental Health Sciences (M.S., Ph.D.)
- Environmental Science and Engineering (D.Env.)
- Epidemiology (M.S., Ph.D.)
- Health Economics (Ph.D.)
- Health Services (M.S., Ph.D.)
- Molecular Toxicology (Ph.D.)
- Preventive Medicine and Public Health (M.S.)
- Public Health (M.P.H., M.S., Dr.P.H., Ph.D.)

The M.S. and Ph.D. degrees in Public Health are offered through the Department of Community Health Sciences. New students are not being admitted to the M.S. in Preventive Medicine and Public Health at this time.

Articulated Degree Programs

The school offers three articulated degree programs:

- Public Health M.P.H./African Studies M.A.
- Public Health M.P.H./Latin American Studies M.A.
- Public Health M.P.H./Medicine M.D.

Concurrent Degree Programs

The school offers four concurrent degree programs:

- Public Health M.P.H./Asian American Studies M.A.
- Public Health M.P.H./Islamic Studies M.A.
- Public Health M.P.H./Law J.D.
- Public Health M.P.H./Management M.B.A.
The School of Public Health offers an accredited residency in public health and general preventive medicine, a specialty recognized by the American Board of Preventive Medicine. It is designed to prepare physicians for leadership roles in preventive medicine and public health practice, research, and teaching. Residents participating in the academic phase must enroll in one of the departments within the School of Public Health and fulfill all of the requirements for the M.P.H. degree. During the practicum phase, residents obtain practical experience in preventive medicine supervised by onsite preceptors and the residency program director. Application is made both to the department and the residency program simultaneously.

Qualified physicians interested in learning more about the program should contact the School of Public Health Student Services Office. See http://www.ph.ucla.edu/pmr/.

**ADMISSION**

Admission criteria established by the UCLA Graduate Division require a bachelor's degree from a regionally accredited institution comparable in standard and content to a bachelor's degree from the University of California. A scholastic average of B (3.0 on a 4.0 scale) or better is required—or its equivalent if the letter grade system is not used—for the last 60 semester units or last 90 quarter units of undergraduate study and in any postbaccalaureate study. Further requirements for international students are explained in the Graduate Study section. See http://www.gdnet.ucla.edu/gasaa/admissions/admisinfo.html.

Departments in the school set additional admission requirements. See http://www.ph.ucla.edu/app_checklist.html for further information.

**DEGREE REQUIREMENTS**

Specific degree requirements vary according to the department and program. Refer to Program Requirements for UCLA Graduate Degrees at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.

**RESEARCH CENTERS**

The field of public health addresses a wide range of issues, making it a natural for interdisciplinary collaboration. UCLA faculty members and students reach beyond traditional academic boundaries to promote cooperative exchange across disciplines. The following is a list of interdisciplinary centers sponsored by or associated with the UCLA School of Public Health.

**CENTER FOR ADOLESCENT HEALTH PROMOTION**

The UCLA/RAND Center for Adolescent Health Promotion conducts studies and develops programs to improve the health and well-being of adolescents, with special emphasis on projects that involve parents of adolescents. The center is a partnership of the School of Public Health, Department of Pediatrics, RAND (a nonpartisan, private, nonprofit research institute that conducts research to improve public policy) and local communities.

The center’s multidisciplinary faculty and staff members represent the fields of public health, medicine, social and clinical psychology, sociology, economics, political science, anthropology, education, sampling, statistics, and survey design. It is innovative in its approach to community service, partnering with ethnically and economically diverse communities in Los Angeles County to identify opportunities for it to provide technical support to community groups for program implementation and assessment. In addition, the center has partnerships with the Los Angeles Unified School District, Los Angeles County Department of Health Services, and other local groups. See http://www.rand.org/health/ado.html.

**CENTER FOR ENVIRONMENTAL GENOMICS**

The Center for Environmental Genomics was established in May 2003 in partnership with the Jonsson Comprehensive Cancer Center. The goal of the center is to bring together experts from a variety of fields, including cancer, environmental health, epidemiology, biostatistics, human genetics, pathology, and pharmacology, to investigate the molecular mechanisms by which environmental agents such as air pollutants and radiation interact with genetic predisposing factors to cause disease. A better understanding of these processes paves the way not only for targeted drug therapies, but also for targeted public health efforts to reduce environmental exposures in high-risk populations. Environmental genomics helps prevent diseases rather than waiting to cure them once they have occurred.

**CENTER FOR HEALTH POLICY RESEARCH**

The Center for Health Policy Research was established in 1994 to apply the expertise of UCLA faculty members and researchers to meet national, state, and local community needs for health policy-related research and information and to accomplish three missions: (1) to conduct research on national, state, and local health policy issues, (2) to provide public service to policymakers and community leaders, and (3) to offer educational opportunities for graduate students and postdoctoral fellows.

Sponsored by the School of Public Health and the School of Public Affairs, the center provides a collaborative health policy research environment for the leading professional schools and academic
One major project is the California Health Interview Survey (CHIS), one of the largest health surveys in the nation. The center also sponsors major public service programs supported by extramural grants. See http://www.healthpolicy.ucla.edu.

**Center for Health Promotion and Disease Prevention**

Established in July 1991, the Center for Health Promotion and Disease Prevention is a joint endeavor of the School of Public Health and the David Geffen School of Medicine. Faculty members within the Geffen School of Medicine are involved in clinical activities and teaching, especially in the course on doctoring. Within the School of Public Health, they are engaged in teaching and research activities that are wide-ranging and involve studies on the quality of life for men with prostate cancer, manpower requirements for the care of those with HIV infections, community interventions for asthma control in Latino children, and systems for smoking cessation used by physicians caring for Latino patients. The center is also responsible for overseeing the Preventive Medicine Residency Program. See http://www.ph.ucla.edu/pmr/research.htm.

**Center for Health Services Management**

The UCLA Center for Health Services Management was established in 1996 as UCLA’s response to the increasingly challenging environment for healthcare management in California. It is designed to bring together the best in university-based research and education with the best and most current in management practices in the California healthcare community, for the mutual benefit of both. It is the vehicle for improved training and education of managers and executives, both in the degree and certificate programs at the University as well as the management development programs within healthcare organizations themselves.

In the fall of 1999 the Healthcare Collaborative at UCLA was established under the auspices of the center. The collaborative brings together students, alumni, faculty, and staff of the School of Public Health, the Anderson Graduate School of Management, and the David Geffen School of Medicine with members of the Southern California healthcare community. See http://www.emph.ucla.edu/HCC/. ☎(310) 206-3435

**Center for Healthier Children, Families, and Communities**

The Center for Healthier Children, Families, and Communities (CHCFC) was established at UCLA in 1995 to address some of the most challenging health and social problems facing children and families. The center’s mission is to improve society’s ability to provide children with the best opportunities for health, well-being, and the chance to assume productive roles within families and communities.

Through a unique interdisciplinary partnership between UCLA departments, schools, and affiliated institutions, including the Schools of Public Health, Medicine, Nursing, Education, Law, and Public Affairs and the Department of Psychology, as well as providers, community agencies, and affiliated institutions, a critical mass of expertise has been assembled to conduct activities in five major areas: (1) child health and social services, (2) applied research, (3) training of health and social service providers, (4) public policy research and analysis, and (5) technical assistance and support to community providers, agencies, and policymakers. See http://healthychild.ucla.edu.

**Center for Human Nutrition**

Established in 1996, the Center for Human Nutrition is a joint endeavor of the School of Public Health and the David Geffen School of Medicine. Participating faculty members have their academic appointments in either or both schools. The center brings together faculty members, postdoctoral research fellows, graduate students, and medical students to focus on the roles of nutrition and food in human health and disease and is closely affiliated with the UCLA Clinical Nutrition Research Unit, that focuses on nutrition and cancer prevention.

Programs include basic biological research; nutrition education for various constituencies, including medical, graduate, undergraduate, and postgraduate students; participation in multicenter clinical trials for primary and secondary disease prevention through dietary intervention; and public health and international nutrition. The public health and international aspects of the programs include focus on nutrition surveillance of populations, nutritional status and food supply in developing and transitional countries, and nutrition and food policy. See http://cellinteractive.com/ucla/. ☎(310) 206-1987

**Center for Occupational and Environmental Health**

The California State Legislature mandated that the Center for Occupational and Environmental Health (COEH) be formed in 1978, when a group of chemical workers became sterile from exposure to the pesticide DBCP, a known carcinogen and reproductive toxin. With branches in the north and south of the state, COEH trains occupational and environmental health professionals and scientists, conducts research, and provides services through consultation, education, and outreach. The centers constitute the first state-supported institutions to develop new occupational and environmental health leadership in the U.S.

The COEH branch at UCLA is housed in the Center for the Health Sciences and involves the Schools of Public Health, Medicine, and Nursing. Specific
COEH programs within the School of Public Health include environmental chemistry, occupational/environmental epidemiology, occupational/environmental medicine, occupational ergonomics, occupational hygiene, toxicology, gene-environment interactions, psychosocial factors in the work environment, occupational health education, and pollution prevention. See http://www.coeh.ucla.edu.

CENTER FOR PUBLIC HEALTH AND DISASTERS
The Center for Public Health and Disasters was established in 1997 to address the critical issues faced when a disaster impacts a community. The center promotes interdisciplinary efforts to reduce the health impacts of domestic, international, natural, and human-induced disasters. It facilitates dialogue between public health and medicine, engineering, physical and social sciences, and emergency management. This unique philosophy is applied to the education and training of practitioners and researchers, collaborative interdisciplinary research, and service to the community. The interdisciplinary center staff and participating faculty members have backgrounds that include emergency medicine, environmental health sciences, epidemiology, gerontology, health services, social work, sociology, urban planning, and public health.

The center is one of 15 Academic Centers for Public Health Preparedness funded by the Centers for Disease Control. The goal of these national centers is to improve competencies of front-line workers in public health to respond to public health threats. See http://www.cphd.ucla.edu.

CENTER TO ELIMINATE HEALTH DISPARITIES
Academic studies and current events have converged to highlight the magnitude of potentially preventable health disparities among various population groups, and the urgency of addressing these disparities. The Center to Eliminate Health Disparities (CEHD) identifies, investigates, and addresses these differences in health status and disease burden. A key feature of the center is its heavy focus on community-based intervention research to mitigate observed disparities.

The center aims to advance understanding of health disparities across the lifespan and to foster multidisciplinary research to improve the health of underserved communities. With focus on Los Angeles County, the center facilitates community and academic partnerships in research, trains new investigators in health disparities research, and assists community partners in implementing effective programs and advocating for effective policies to reduce disparities. The center also endeavors to erode the barriers preventing more effective collaboration with local health departments and other key community partners engaged in the practice of public health. CEHD is a collaborative center without walls that includes associates from academia, government, foundations, and private/nonprofit organizations. See http://ph.ucla.edu/cehd/.

DIVISION OF CANCER PREVENTION AND CONTROL CENTER RESEARCH
The Division of Cancer Prevention and Control Center Research (DCPCR) is a joint program of the School of Public Health and the David Geffen School of Medicine’s Jonsson Comprehensive Cancer Center. Since its inception in 1976, the DCPCR has been a recognized center of cancer prevention and control research at UCLA, throughout the Los Angeles community, and nationally. The DCPCR conducts rigorous peer-reviewed research in two major program areas—the Healthy and At-Risk Populations Program (http://www.ph.ucla.edu/hs/healthy.html) and the Patients and Survivors Program (http://www.ph.ucla.edu/hs/patients.html).

The Healthy and At-Risk Populations Program focuses on research in primary prevention and screening/early detection among healthy populations and persons at increased risk for developing cancer. The program’s research portfolio includes cancer epidemiology, gene-environment interaction, tobacco control, nutrition and exercise, and breast, cervix, prostate, and colon cancer screenings, as well as risk counseling and genetic testing of high-risk populations. The Patients and Survivors Program has as its major goal the reduction in avoidable morbidity and mortality among adult and pediatric patients with cancer and long-term survivors of cancer. See http://www.ph.ucla.edu/hs/prev_control.html or http://www.cancer.mednet.ucla.edu/research.

SOUTHERN CALIFORNIA ENVIRONMENTAL HEALTH SCIENCES CENTER
The Southern California Environmental Health Sciences Center (SCEHSC) was established through funding from the National Institute of Environmental Health Sciences (NIEMS) Researchers and professionals from UCLA and the University of Southern California have collaborated to create an interdisciplinary approach to the study and advancement of research in environmental health. As one of the newest of 19 centers across the nation, the SCEHSC primarily focuses on using epidemiologic methods to study effects of the environment on human health, especially with regard to the multiethnic populations of California and the Pacific Rim.

The SCEHSC is organized into an administrative core, five research cores, and four service cores, with the overall goal to understand how environmental factors affect health and how personal factors modify response. Research cores include exposure assessment, respiratory effects, childhood cancer, adult cancer, and statistical methods, while the service cores include analytical chemistry, molecular biology, biological sample processing, and biostatistics. See http://hydra.usc.edu/scehsc/default.asp.
SOUTHERN CALIFORNIA INJURY PREVENTION RESEARCH CENTER

Injuries kill more people under the age of 45 than all other causes of death combined. The Southern California Injury Prevention Research Center (SCIPRC) is one of 10 centers in the U.S. that focus on the problem of intentional (homicide, suicide, abuse) and unintentional (motor vehicle crash, drowning, falls) injuries through three phases of injury control—prevention, acute care, and rehabilitation—addressed through its research, training, and community service components.

The theme of SCIPRC is to research intentional and unintentional injuries among disadvantaged persons and other underserved populations. Highly focused, multidisciplinary community-based research projects are undertaken in collaboration with professionals from public health, medicine, the social sciences, law, and biomechanics affiliated with UCLA, the University of Southern California, Harbor-UCLA Medical Center, Sharp Memorial Hospital, Rancho Los Amigos Medical Center, California State University (Los Angeles), the Los Angeles County Department of Health Services, the Los Angeles County Department of the Coroner, the California State Department of Health Services, the California Office of Traffic Safety, Cal/OSHA, and the California State Coroners’ Association. See http://www.ph.ucla.edu/sciprc/.

SOUTHERN CALIFORNIA NIOSH EDUCATION AND RESEARCH CENTER

The Southern California NIOSH Education and Research Center is one of 16 multidisciplinary centers in the U.S. supported by the National Institute for Occupational Safety and Health for education and research in the field of occupational health. The center is administratively housed in the Department of Environmental Health Sciences and supports academic programs in occupational medicine at UCLA and UCI, occupational health nursing, and industrial hygiene at UCLA.

For these programs the center provides student support (fees and stipends for U.S. citizens or permanent residents) and infrastructure support. The center supports approximately 40 graduate students in the field of occupational health. It also supports a continuing education and outreach program, hazardous substances training for hazardous waste workers and industrial hygiene students, and a Pilot Project Research Training Program for ERC trainees. The continuing education program is primarily for professionals in the occupational health field and covers many topics in industrial hygiene, occupational health nursing, occupational medicine, occupational safety, ergonomics, and environmental areas. See http://www.ph.ucla.edu/erc/.

SOUTHERN CALIFORNIA PARTICLE CENTER AND SUPERSITE

The Southern California Particle Center and Supersite (SCPCS) was established in 1999 through funding from the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB) to study the nature and health effects of airborne particulate matter (PM). The SCPCS is one of five particulate research centers awarded grants as part of an EPA effort to learn more about the health problems caused by exposure to particle pollution. Based in the School of Public Health and the Institute of the Environment, the center includes faculty members from throughout UCLA, as well as researchers from the University of Southern California, University of California campuses at Riverside and Irvine, California Institute of Technology, and Rancho Los Amigos Medical Center.

The major objective of the SCPCS is to identify and conduct the highest priority research for PM to ensure protection of the public health. The center seeks to better determine the sources of particulate pollution, probe the chemical nature of particles, and investigate the health effects of breathing particulates. The SCPCS has created a structure to ensure integration of research and to create a research dynamic where findings facilitate new research that deepens understanding of the mechanisms of particle-related toxicity. See http://www.scpcs.ucla.edu.

SCHOOL OF THEATER, FILM, AND TELEVISION

Robert Rosen, Dean

UCLA
102 East Melnitz Building
Box 951622
Los Angeles, CA 90095-1622
(310) 825-5761
fax: (310) 825-3383
e-mail: info@tft.ucla.edu
http://www.tft.ucla.edu

The School of Theater, Film, and Television consists of the Department of Theater and the Department of Film, Television, and Digital Media, recognized national centers for higher education in production and performance as well as history, theory, and criticism.

Whether exploring the ancient and sacred roots of theater or the latest secular rituals enacted by popular film, creating a dramatic character on a bare stage or a dramatic narrative on screen, writing scripts or scholarly articles, or making digital movies or designing websites, all students in the school study both the aesthetics and cultural significance of theater, film, and television.
Through an intensive, multidiscipline curriculum, the school defines the inherent differences of theater, film, television, and new media, affirms their similarities, and encourages their interaction. As expressive art forms, modes of communication, and cultural interventions, theater, film and television, and digital media have in common the ability and power to reflect and shape our perception of a complex, diverse, and ever-changing world. We believe—as artists and scholars—that we have an obligation to reflect on this power and to use it responsibly.

Situated in the diverse and culturally rich environment of Los Angeles and drawing on the many resources of the campus at large, including UCLA Live, Geffen Playhouse, and UCLA Film and Television Archive, the school provides the ideal setting for students to engage in the study and practice of art forms essential to a healthy and dynamic society.

DEPARTMENTS AND PROGRAMS

The Department of Theater and the Department of Film, Television, and Digital Media are essential components of the rich intellectual, cultural, and professional life of UCLA. Depending on the degree involved, the school's programs are either strongly professional in nature or oriented toward advanced scholarly study and research in an atmosphere that recognizes and often draws on studio practice.

Students in undergraduate courses receive a broadly based, liberal education within the context of either theater or film and television.

The Master of Fine Arts degree programs prepare talented and highly motivated students for careers in the worlds of theater, film, television, and digital production. The M.A. and Ph.D. programs engage students in the critical study and research of these media, including their history, aesthetics, and theory, and prepare students for advanced research within the context of college and university teaching, as well as for writing and research in a variety of media-related professions.

In the Department of Theater, approximately 350 undergraduate and 125 graduate students interact with over 40 faculty members, outstanding guests of national and international standing, and a professional staff of 35 in an exciting artistic community of theater production and study. Resources include the four theaters of the Macgowan Hall complex, with the latest technologies needed for the creation, control, and integration of scenery, lighting, and sound. Specializations in the Master of Fine Arts program include acting, directing, playwriting, design, technology and production management, and the producers program.

The Department of Film, Television, and Digital Media includes both production and critical studies programs, with approximately 265 graduate and 60 undergraduate students. The 50 faculty members include leading scholars as well as members of the Los Angeles and international film and television professional communities. In production, graduate specializations are offered in the areas of film and television production, screenwriting, animation, and the producers program. The cinema and media studies program offers M.A. and Ph.D. degrees for the advanced scholarly study of film and television. The department's resources in Melnitz Hall include three sound stages, three television studios, extensive editing, scoring, and viewing facilities, a complete animation laboratory for both traditional and computer-generated animation, and a laboratory and research facility for digital media.

The M.A. and Ph.D. programs are supported by the collections of the University's libraries and the UCLA Film and Television Archive, the largest in the U.S. outside the Library of Congress. This archive forms a unique and priceless resource for research and classroom instruction.

M.A. and Ph.D. faculty members and students also participate in various campus organized research units.

Students interested in obtaining instructional credentials for California elementary and secondary schools should consult the Department of Education, 1009 Moore Hall. ☏ (310) 825-8328

DEGREES

The school offers the following degrees, in addition to an undergraduate minor in Theater:

Film and Television (B.A., M.A., M.F.A., C.Phil., Ph.D.)

Moving Image Archive Studies (M.A.)

Theater (B.A., M.A., M.F.A., C.Phil., Ph.D.)

UNDERGRADUATE ADMISSION

In addition to the University of California undergraduate application, departments in the School of Theater, Film, and Television require applicants to submit additional supporting materials. Information on departmental requirements is available at http://www.tft.ucla.edu. The annual deadline date for applications is November 30 for admission in the following Fall Quarter.
**UNDERGRADUATE DEGREE REQUIREMENTS**

School of Theater, Film, and Television students must meet three types of requirements for the Bachelor of Arts degree:

1. University requirements
2. School requirements
3. Department requirements

**UNIVERSITY REQUIREMENTS**

The University of California has two requirements that undergraduates must satisfy in order to graduate: (1) Entry-Level Writing or English as a Second Language and (2) American History and Institutions. See Degree Requirements in the Undergraduate Study section for details.

School of Theater, Film, and Television students enrolled in English as a Second Language 33A, 33B, 33C must take the courses for a letter grade.

**SCHOOL REQUIREMENTS**

The School of Theater, Film, and Television has seven general requirements that must be satisfied for the award of the degree: unit, scholarship, academic residence, writing, foreign language, literature, and general education.

### School of Theater, Film, and Television Structure of a Degree

**University Requirements**
1. Entry-Level Writing or English as a Second Language
2. American History and Institutions

**School Requirements**
1. Unit
2. Scholarship
3. Academic Residence
4. Writing Requirement
   1. Writing I
   2. Writing II
5. Foreign Language
6. Literature
7. General Education
   1. Foundations of Arts and Humanities
   2. Foundations of Society and Culture
   3. Foundations of Scientific Inquiry

**Department Requirements**
1. Preparation for the Major
2. The Major

Courses that do not satisfy the University, school, or department requirements are referred to as electives and are used to meet the minimum unit requirement for graduation.

**UNIT REQUIREMENT**

Students must complete for credit, with a passing grade, no less than 180 units and no more than 216 units, of which at least 64 units must be upper division courses (numbered 100 through 199). No more than 8 units of freshman seminars and/or 8 units of 300-level courses may be applied toward the degree. Credit for upper division tutorials numbered 195 through 199 is limited to a maximum of 8 units in a single term and a maximum of 32 units total for a letter grade.

**SCHOLARSHIP REQUIREMENT**

A 2.0 (C) average is required in all work attempted at the University of California, exclusive of courses in UCLA Extension and those graded Passed/Not Passed. A 2.0 (C) average is also required in all upper division courses in the major taken at the University, as well as in all courses applied toward the general education and University requirements.

**ACADEMIC RESIDENCE REQUIREMENT**

Students are in residence while enrolled and attending classes at UCLA as a major in the School of Theater, Film, and Television. Of the last 45 units completed for the bachelor’s degree, 35 must be earned in residence in the School of Theater, Film, and Television. No more than 18 of the 35 units may be completed in UCLA Summer Sessions.

Courses in UCLA Extension (either class or correspondence) may not be applied toward any part of the residence requirements.

**WRITING REQUIREMENT**

Students must complete the University’s Entry-Level Writing or English as a Second Language (ESL) requirement prior to completing the school writing requirement.

Students admitted to the school are required to complete a two-term writing requirement—Writing I and Writing II. Two courses in English composition are required for graduation. Both courses must be taken for a letter grade, and students must receive grades of C or better (C– grades are not acceptable).

**Writing I.** The Writing I requirement must be satisfied by completing English Composition 3 or 3H with a grade of C or better (C– or a Passed grade is not acceptable) within the first three terms of enrollment.

The Writing I requirement may also be satisfied by scoring 4 or 5 on one of the College Board Advanced Placement Tests in English or a combination of a score of 720 or better on the SAT Reasoning Test Writing Section and superior performance on the English Composition 3 Proficiency Examination.

Students whose native language is not English may satisfy the Writing I requirement by completing
English as a Second Language 36 with a grade of C or better (C– or a Passed grade is not acceptable). Admission into the course is determined by completion of English as a Second Language 35 with a passing grade or proficiency demonstrated on the English as a Second Language Placement Examination (ESLPE).

Writing II. The Writing II requirement is satisfied by selecting a course from a faculty-approved list of Writing II courses published in the Schedule of Classes at http://www.registrar.ucla.edu/soc/writing.htm and available in the Student Services Office. The course must be completed with a grade of C or better (C– or a Passed grade is not acceptable) within the first six terms of enrollment.

A Writing II course used to meet this requirement may not be applied toward a foundational area under general education or toward the literature requirement.

FOREIGN LANGUAGE REQUIREMENT

Students may meet the foreign language requirement by (1) scoring 3, 4, or 5 on the College Board Advanced Placement (AP) foreign language examination in French, German, or Spanish, or scoring 4 or 5 on the AP foreign language examination in Latin, (2) presenting a UCLA foreign language proficiency examination score indicating competency through level three, or (3) completing one college-level foreign language course equivalent to level three or above at UCLA with a grade of Passed or C or better.

LITERATURE REQUIREMENT

Three courses (12 units minimum) in literature are required, at least one of which must be upper division. Any literature course taken in the original language can fulfill this requirement. A list of courses that satisfy this requirement is available in the Student Services Office. A course taken to meet the Writing II requirement may not also be applied toward the literature requirement.

GENERAL EDUCATION REQUIREMENTS

General education (GE) is more than a checklist of required courses. It is a program of study that (1) reveals to students the ways that research scholars in the arts, humanities, social sciences, and natural sciences create and evaluate new knowledge, (2) introduces students to the important ideas and themes of human cultures, (3) fosters appreciation for the many perspectives and the diverse voices that may be heard in a democratic society, and (4) develops the intellectual skills that give students the dexterity they need to function in a rapidly changing world.

This entails the ability to make critical and logical assessments of information, both traditional and digital; deliver reasoned and persuasive arguments; and identify, acquire, and use the knowledge necessary to solve problems.

Requirements for Students Who Entered Fall Quarter 2004 and Thereafter

FOUNDATIONS OF KNOWLEDGE

General education courses are grouped into three foundational areas: Foundations of the Arts and Humanities, Foundations of Society and Culture, and Foundations of Scientific Inquiry.

Ten courses (48 units minimum) are required. A course taken to meet the Writing II requirement may not also be applied toward a GE requirement.

Courses listed in more than one category can fulfill GE requirements in only one of the cross-listed categories. GE courses may not be applied toward major requirements.

Foundations of the Arts and Humanities. Five 5-unit courses, with no more than two from any one subgroup:

- Literary and Cultural Analysis
- Philosophical and Linguistic Analysis
- Visual and Performance Arts Analysis and Practice

Total = 25 units minimum

Foundations of Society and Culture

- Historical Analysis
- Social Analysis

Third course from either subgroup

Total = 15 units minimum

Foundations of Scientific Inquiry

- Life Sciences
- Physical Sciences

Total = 8 units minimum

Total GE = 10 Courses/48 Units Minimum

A course taken to meet the Writing II requirement may not also be applied toward a GE requirement.

School of Theater, Film, and Television General Education Requirements

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<th>Foundations of the Arts and Humanities</th>
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<tr>
<td>Literary and Cultural Analysis</td>
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<td>Philosophical and Linguistic Analysis</td>
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<td>Visual and Performance Arts Analysis</td>
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<td>and Practice</td>
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No more than two courses from any one subgroup.
Total = 25 units minimum

Foundations of Society and Culture

- Historical Analysis                     | 1 Course |
- Social Analysis                         | 1 Course |
Thrid course from either subgroup          | 1 Course |
Total = 15 units minimum

Foundations of Scientific Inquiry

- Life Sciences                           | 1 Course |
- Physical Sciences                       | 1 Course |
Total = 8 units minimum

Total GE = 10 Courses/48 Units Minimum

A course taken to meet the Writing II requirement may not also be applied toward a GE requirement.

The aim of courses in this area is to provide perspectives and intellectual skills necessary to comprehend and think critically about our situation in the world as human beings. In particular, the courses provide the basic means to appreciate and evaluate the ongoing efforts of humans to explain, translate, and transform their diverse experiences of the world through such media as language, literature, philosophical systems, images, sounds, and performances. The courses introduce students to the historical
development and fundamental intellectual and ethical issues associated with the arts and humanities and may also investigate the complex relations between artistic and humanistic expression and other facets of society and culture.

Foundations of Society and Culture. Three 5-unit courses, one from each subgroup and one from either subgroup:

- Historical Analysis
- Social Analysis

The aim of courses in this area is to introduce students to the ways in which humans organize, structure, rationalize, and govern their diverse societies and cultures over time. The courses focus on a particular historical question, societal problem, or topic of political and economic concern in an effort to demonstrate how issues are objectified for study, how data is collected and analyzed, and how new understandings of social phenomena are achieved and evaluated.

Foundations of Scientific Inquiry. Two courses (8 units minimum) one from each subgroup:

- Life Sciences
- Physical Sciences

The aim of courses in this area is to ensure that students gain a fundamental understanding of how scientists formulate and answer questions about the operation of both the physical and biological world. The courses also deal with some of the most important issues, developments, and methodologies in contemporary science, addressing such topics as the origin of the universe, environmental degradation, and the decoding of the human genome. Through lectures, laboratory experiences, writing, and intensive discussions, students consider the important roles played by the laws of physics and chemistry in society, biology, Earth and environmental sciences, and astrophysics and cosmology.

Foundations Course Lists. Creating and maintaining a general education curriculum is a dynamic process; consequently, courses are frequently added to the list. For the most current list of approved courses that satisfy the Foundations of Knowledge GE plan, consult an academic counselor or see http://www.registrar.ucla.edu/ge/GE-TFTVNew06-07.pdf.

Requirements for Students Who Entered Prior to Fall Quarter 2004

For the approved list of courses, see http://www.registrar.ucla.edu/ge/GE-TFTVCont06-07.pdf.

Reciprocity with Other UC Campuses

Students who transfer to UCLA from other UC campuses or who change their major from another UCLA school or College and have met all GE requirements prior to attending UCLA or changing their UCLA major are not required to complete the School of Theater, Film, and Television GE requirements. Written verification from the dean at the other UC campus or UCLA College or school is required. Verification letters should be sent to Director of Student Services, School of Theater, Film, and Television, 103 East Melnitz Building, UCLA, Box 951622, Los Angeles, CA 90095-1622.

Intersegmental General Education Transfer Curriculum

Transfer students from California community colleges have the option to fulfill UCLA lower division GE requirements by completing the Intersegmental General Education Transfer Curriculum (IGETC) prior to transfer. The curriculum consists of a series of subject areas and types of courses which have been agreed on by the University of California and the California community colleges. Although GE or transfer core courses are degree requirements rather than admission requirements, students are advised to fulfill them prior to transfer. The IGETC significantly eases the transfer process, as all UCLA GE requirements are fulfilled when students complete the IGETC courses. Students who select the IGETC must complete it entirely before enrolling at UCLA. Otherwise, they must fulfill the School of Theater, Film, and Television GE requirements.

DEPARTMENT REQUIREMENTS

School of Theater, Film, and Television departments generally set two types of requirements that must be satisfied for the award of the degree: (1) Preparation for the Major (lower division courses) and (2) the Major (upper division courses). Preparation for the Major courses should be completed before beginning upper division work.

PREPARATION FOR THE MAJOR

A major requires completion of a set of courses known as Preparation for the Major. Each department sets its own Preparation for the Major requirements; see the Curricula and Courses section of this catalog.

THE MAJOR

A major is composed of no less than 56 units, including at least 36 units of upper division courses. The Theater major includes both lower and upper division courses. Those listed under Preparation for the Major (lower division) must be completed before upper division major work is undertaken. The Film and Television major requires upper division work only.

Students must complete their major with a scholarship average of at least 2.0 (C) in all courses in order to remain in the major. All courses in the school must be taken for a letter grade.

As changes in major requirements occur, students are expected to satisfy the new requirements as far as possible. Hardship cases should be discussed with
the department adviser, and petitions for adjustment should be submitted to the dean of the school when necessary.

Any department offering a major in the School of Theater, Film, and Television may require a general final examination.

**Double Majors.** Double majors in the School of Theater, Film, and Television and other academic units are not permitted.

**POLICIES AND REGULATIONS**

Degree requirements are subject to policies and regulations, including the following:

**STUDENT RESPONSIBILITY**

Students should take advantage of academic support resources, but they are ultimately responsible for keeping informed of and complying with the rules, regulations, and policies affecting their academic standing.

**STUDY LIST**

The Study List is a record of classes that a student is taking for a particular term. Each term the student Study List must include from 12 to 19 units. The school has no provision for part-time enrollment. After the first term, students may petition to carry more than 19 units (up to 22 units maximum) if they have an overall grade-point average of 3.0 (B) or better and have attained at least a B average in the preceding term with all courses passed. The petitions must be filed and approved by the Student Services Office no later than the end of the third week of instruction.

**MINIMUM PROGRESS**

Students are expected to complete satisfactorily at least 36 units during any three consecutive terms in residence; they are placed on probation if they fail to pass these units. They are subject to dismissal if they fail to pass at least 32 units in three consecutive regular terms in residence.

**CHANGING A MAJOR**

Students in good academic standing who wish to change their major may petition to do so provided they can complete the new major within the 216-unit limit. Petitions must be submitted to and approved by the department or committee in charge of the new major. Admission to certain majors may be closed or restricted; changes are normally not permitted if students are on probation or have begun their last term.

Due to curriculum changes, students in the Theater major are no longer allowed to change their major to Film and Television at the end of their sophomore year.

**CONCURRENT ENROLLMENT**

Enrollment at another institution or UCLA Extension while enrolled at UCLA is not permitted except in extraordinary circumstances. No credit is given for courses taken concurrently elsewhere without the approval of the school.

**CREDIT LIMITATIONS**

The following credit limitations apply to all undergraduate students enrolled in the school:

**Advanced Placement Tests.** Credit earned through the College Board Advanced Placement (AP) Tests may be applied toward the school and general education requirements. If students take the equivalent UCLA course, unit credit for such duplication is deducted before graduation.

**UCLA Extension.** Extension courses with the prefix X on those numbered in the 1 through 199, 200, 300, 400, or 800 series may not be applied toward the degree.

**Graduate Courses.** Undergraduate students who wish to take graduate courses (200 level) for credit toward the bachelor's degree must petition for advance approval of the department chair and the dean of the school and must meet the specific qualifications. Courses numbered in the 400 and 500 series are not open for credit to undergraduate students.

**COUNSELING SERVICES**

The School of Theater, Film, and Television offers advising, program planning in the major and general education requirements, and individual meetings with departmental counselors, including a yearly degree check. Prior to registration and enrollment in classes, each new student is assigned to a counselor in the major department. For further counseling information, contact the Student Services Office, School of Theater, Film, and Television, 103 East Melnitz Building. ☎ (310) 206-8441

**HONORS**

School of Theater, Film, and Television undergraduate students who achieve scholastic distinction may qualify for the following honors and programs:

**DEAN’S HONORS**

Dean’s Honors are awarded each term to students who complete their program of study with distinction according to criteria established by the dean of the school.

**LATIN HONORS**

Latin Honors are awarded at graduation to students with superior grade-point averages. To be eligible, students must have completed 90 or more units for a letter grade at the University of California. The lev-
els of honors and the requirements for each level are *summa cum laude*, an overall average of 3.886; *magna cum laude*, 3.854; *cum laude*, 3.758. The minimum GPAs required are subject to change on an annual basis. Required GPAs in effect in the graduating year determine student eligibility. See the *Schedule of Classes* for the most current calculations of Latin honors.

**DEPARTMENTAL SCHOLAR PROGRAM**

Exceptionally promising juniors or seniors may be nominated as Departmental Scholars to pursue bachelor’s and master’s degree programs simultaneously. Qualifications include completion of 24 courses (96 quarter units) at UCLA or the equivalent at a similar institution, the requirements in preparation for the major, and eligibility to participate in the school honors program. Students must also have at least one term of coursework remaining at UCLA. To obtain both the bachelor’s and master’s degrees students must be provisionally admitted to the Graduate Division, fulfill requirements for each program, and maintain a minimum B average. No course may be used to fulfill requirements for both degrees. Interested students should consult their department well in advance of application dates for graduate admission. Contact the Student Services Office in 103 East Melnitz Building for details.

**GRADUATE STUDY**

The advanced degree programs offered in the School of Theater, Film, and Television provide graduate students with unique research opportunities when combined with special resources, such as the Young Research Library, UCLA Film and Television Archive, Geffen Playhouse, special collections of the Arts Library, and the University’s exhibition and performance halls.

A program in teaching is offered by the Graduate School of Education and Information Studies in each of the areas.

Fellowships, grants, and assistantships are available through the dean of the Graduate Division. Donor awards are available through the School of Theater, Film, and Television.

**ADMISSION**

In addition to requiring that applicants hold a bachelor’s degree from an accredited U.S. institution or an equivalent degree of professional title from an international institution, each department in the school has limitations and additional requirements. Detailed information can be found in *Program Requirements for UCLA Graduate Degrees* at http://www.gdnet.ucla.edu/gasaa/library/pgnrqintro.htm.

For information on the proficiency in English requirements for international graduate students, see Graduate Admission in the Graduate Study section of this catalog.

**DEGREE REQUIREMENTS**

Requirements to fulfill each degree objective vary according to the degree and the department. For complete degree requirements, see *Program Requirements for UCLA Graduate Degrees* at http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm.
Undergraduate Course Numbering

Undergraduate courses are classified as lower division and upper division. Lower division courses (numbered 1-99) are often surveys offering preliminary introductions to the subject field. They are designed primarily for freshmen and sophomores, though upper division students may enroll for unit and grade credit. Lower division courses may not be applied toward graduate degrees.

Upper division courses (numbered 100-199) are open to all students who have met the requirements indicated in departmental requirements or the course description. Preparation generally includes at least one lower division course in the subject or two years of college work. With approval of the major department, graduate students may take 100-series courses toward satisfaction of master's degree requirements.

Undergraduate Seminars and Tutorials

Fiat Lux freshman seminars (numbered 19) are taught by faculty in areas of their expertise. They introduce freshmen to topics of intellectual importance and enable them to participate in critical discussion of these topics with a small group of peers. The seminar series takes its name from the motto of the University of California: Fiat Lux—Let There be Light!

Sophomore seminars (numbered 88) are departmentally sponsored courses designed to provide sophomores the opportunity to participate in small seminars to enhance writing, verbal, and analytical skills.

Honors seminars and tutorials (numbered 89/189 and 89HC/189HC) are primarily designed for students in the College Honors Program. They are adjunct to lecture courses and explore lecture topics in more depth through supplemental readings, papers, or other activities.

Student Research Program tutorials (numbered 99) offer students entry-level research experiences. Students serve as apprentices working with an individual faculty member or in a research group. Students are graded P/NP based on the number of hours they participate in research.

Upper division seminars (numbered 190-194) are small seminars with between 15 and 20 students that focus on research practice or issues. Many are designed to be taken along with a tutorial course in the 195-199 series.

Upper division tutorial courses (numbered 195-199) offer advanced opportunities for research through faculty supervised internships and apprenticeships as well as honors research, directed research, and senior projects. Courses are structured by the instructor and student at the time they are initiated and are open to juniors (with a minimum 3.0 grade-point average in the major field), seniors, and graduate students. To enroll, students submit a contract (available online through MyUCLA) and have it approved by both the instructor and department chair.

Note: Courses numbered 19, 89, 89HC, 99, 189, and 189HC are not listed in the print catalog. For course descriptions, see online catalog updates at http://www.registrar.ucla.edu/catalog/updates/.

Graduate Course Numbering

Graduate courses numbered 200-299 are generally open only to graduate students who have completed basic undergraduate courses in the subject. Courses and seminars in the 200 series can fulfill the minimum graduate course requirement for any advanced degree. With departmental and instructor consent, and subject to requirements in the appropriate College or school, undergraduate students may enroll in 200-series courses for unit credit toward the bachelor's degree. If students take a graduate course as an undergraduate, they may not apply that same course later toward a higher degree.

Graduate courses numbered 300-399 are highly specialized teacher-training courses which are not applicable toward University minimum requirements for graduate degrees. They are acceptable toward the bachelor's degree only at the discretion of the individual College or school.

Graduate courses numbered 400-499 are designed for professional programs leading to graduate degrees other than the M.A., M.S., and Ph.D. These courses may not be used to satisfy minimum graduate course requirements for the M.A. or M.S. degree but may apply as electives.

Individual study and research courses (numbered 500-599) are reserved for advanced study and are not open to undergraduates. Courses are numbered as follows: 595/596, directed individual study or research; 597, preparation for master's comprehensive or doctoral qualifying examination; 598, master's thesis research and preparation; and 599, doctoral dissertation research and preparation. Courses numbered 501 are not individual study and research but are cooperative programs held in conjunction with USC. See individual departmental listings for specific limitations on 500-series courses.

Note: These definitions do not apply to the School of Law, which maintains its own course numbering system.

Temporary Course Offerings

Courses that are temporary in nature, such as one-term-only or one-year-only are not listed in the catalog. Their descriptions can be found in the online Schedule of Classes.

Concurrent and Multiple Listings

Concurrently scheduled courses (identified by a capital C before the course number) are pairs of courses, usually within a single department or program, for which credit is given at two levels—undergraduate and graduate. Concurrently scheduled courses are offered at the same time and place with the same instructor, but work levels and performance standards are evaluated differently for students at each level. (Concurrently scheduled courses as described here should not be confused with concurrent courses offered through UCLA Extension.)

Multiple-listed courses (identified by a capital M before the course number) are courses offered jointly by more than one department. They need not have identical course numbers, but all other aspects of the course must be the same, such as title, units, requisites, format, and level. For example, Language in Culture is offered by the Department of Anthropology (Anthropology M140) and the Department of Linguistics (Linguistics M146). The course is listed under both departments.

UCLA Extension Courses

In general, students may not attend UCLA Extension for degree credit if they are enrolled in UCLA regular session at the same time. However, certain Extension courses (numbered 1-199), prefixed by XL or XLC in the Extension course listings, yield credit toward the bachelor's degree. Graduate students may petition to apply up to two XLC courses toward the master's degree. For more details, see Concurrent Enrollment in the Academic Policies section of this catalog.
AFRICAN STUDIES
Interdepartmental Program
College of Letters and Science

UCLA
10373 Bunche Hall
Box 951487
Los Angeles, CA 90095-1487
(310) 206-6571
fax: (310) 206-3555
e-mail: undergrads@international.ucla.edu
(idpgrads@international.ucla.edu) (graduate)
http://www.international.ucla.edu/idsps/
Andrew Apter, Ph.D., Chair
Faculty Advisory Committee
Edward A. Alpers, Ph.D. (History)
Andrew Apter, Ph.D. (Anthropology, History)
Donald J. Cosentino, Ph.D. (World Arts and Cultures)
Jacqueline Cogdell DieDel, Ph.D. (Ethnomusicology)
Teshome H. Gabriel, Ph.D. (Comparative Literature, Film, Television, and Digital Media)
Sondra Hale, Ph.D. (Anthropology, Women’s Studies)
Ghislaine E. Lyton, Ph.D. (History)
Steven D. Nelson, Ph.D. (Art History)
Charlotte G. Neumann, M.D. (Community Health Sciences)
Allen F. Roberts, Ph.D., ex officio (French and Francophone Studies, World Arts and Cultures)
Richard L. Sklar, Ph.D., Emeritus (Political Science)
Brenda Stevenson, Ph.D. (History)
Domino R. Thomas, Ph.D. (Comparative Literature, French and Francophone Studies)
Katrina D. Thompson, Ph.D., in Residence (Linguistics)

Scope and Objectives
The basic objective of the African Studies Program is an intellectual one — to provide interested students with the opportunity to engage in intensive study and research on Africa on an interdisciplinary basis. The program offers high quality African area courses in a wide range of fields, including the social sciences, humanities, and professional fields. While the Master of Arts is not a professional degree, students may enroll in courses in several professional schools on campus. An articulated degree program is also offered where students can work sequentially for the M.A. in African Studies and the Master of Public Health (M.P.H.).

Academic flexibility draws many students to the program. Because there are more than 50 active faculty members on campus with African interest and experience in many disciplines, students have multiple options to design individualized programs.

The program also offers the undergraduate African Studies minor that is designed primarily for students who plan to live and work in Africa or who are interested in government and public service careers involving African affairs. Students who plan to pursue graduate work related to Africa are also encouraged to add the minor to their major field of study.

Undergraduate Study
African Studies Minor
The African Studies minor can be taken jointly only with work toward a bachelor’s degree, normally in combination with one of the following fields: Afro-American studies, anthropology, art history, comparative literature, English, ethnomusicology, film and television, French, geography, Germanic languages, history, linguistics, Near Eastern languages and cultures, political science, theater, or world arts and cultures. The faculty adviser certifies completion of the program.

To enter the minor, students must have an overall grade-point average of 2.0 or better and have completed 45 units and a three-term sequence of an African language prior to or concurrent with coursework in the minor. Languages may include Hausa, Swahili, Wolof, Zulu, and Afrikaans or, by petition to the academic counselor, another African language. Students must file a petition and meet with the academic counselor, 10373 Bunche Hall, (310) 206-6571.

Required Lower Division Courses (8 to 9 units): History M10A, 10B (or 10BH or 10BW).

Required Upper Division Courses (20 to 25 units): Three courses selected from a list of designated core courses that offer exclusively African content and two courses from either the core list and/or an expanded list that includes courses with African content of at least 50 percent (consult the faculty adviser for recommended African-related courses). Students may petition to apply other topical courses when taught with an African content of 50 percent or more. A minimum of 20 units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

For more information, contact the Academic Counselor, 10373 Bunche Hall (310-206-6571) or Professor Andrew Apter, History, 5369 Bunche Hall, (310) 794-9547.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The African Studies Program offers the Master of Arts (M.A.) degree in African Studies. An articulated degree program (African Studies M.A./Public Health M.P.H.) is also offered.

African Studies
Graduate Courses

201B. Africa and Professions. (4) Seminar, three hours. Exploration of key contributions and debates of academic disciplines in African studies, with emphasis on professional dimension. Review of discipline’s literature, resources, career opportunities, and professionals themselves. Letter grading.

M229B. Africana Bibliography and Research Methods. (4) (Same as Information Studies M229B.) Discussion, four hours. Problems and techniques of research methodologies related to Africana studies. Emphasis on relevant basic and specialized reference materials, using full range of available information resources, including library collections of books, serials, and computerized databases. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching associate, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. Limited to graduate African studies students. May be repeated, but only 4 units may be applied toward minimum graduate course requirement. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examination. (4) Tutorial, to be arranged. Limited to graduate African studies students. Normally taken only during term in which student is being examined. May not be applied toward minimum graduate course requirement. S/U grading.

598. Research for and Preparation of M.A. Thesis. (4) Tutorial, to be arranged. Limited to graduate African studies students. Normally taken only during term in which student intends to complete M.A. thesis. May not be applied toward minimum graduate course requirement. S/U grading.

AFRO-AMERICAN STUDIES
Interdepartmental Program
College of Letters and Science

UCLA
160 Haines Hall
Box 951545
Los Angeles, CA 90095-1545
(310) 825-9821, 825-3776, 825-7403
fax: (310) 825-5019
e-mail: idpstaff@bunche.ucla.edu
http://www.afro-am.ucla.edu
Brenda Stevenson, Ph.D., Chair

Faculty Advisory Committee
Andrew Apter, Ph.D. (Anthropology, History)
Scot D. Brown, Ph.D. (History)
Devon Carbado, J.D. (Law)
L. Robin Deby, Ph.D. (History)
Robert A. Hill, M.Sc. (History)
Tyronne C. Howard, Ph.D. (Education)
Edmond Keller, Ph.D. (Political Science)
Vickie M. Mays, Ph.D. (Psychology)
Mignon Moore, Ph.D. (Sociology)
Harriette R. Mullen, Ph.D. (English)
Steven D. Nelson, Ph.D. (Art History)
Mark O. Sawyer, Ph.D. (Political Science)
Brenda Stevenson, Ph.D. (History)
Caroline A. Streeter, Ph.D. (English)
Anthony J. Tolbert, J.D. (Law)
E. Victor Wolfenstein, Ph.D. (Political Science)

Scope and Objectives

The Afro-American Studies Interdepartmental Program offers a Bachelor of Arts degree, an undergraduate Afro-American Studies minor, and a Master of Arts degree. A major or minor in this field provides a broadening of cultural experiences and perspectives. Career-wise, all students profit from Afro-American studies courses in an era when employers and academic institutions are actively seeking those with multicultural and interdisciplinary skills and backgrounds.

The fundamental goal of the Afro-American Studies curriculum is to provide students with a comprehensive and multidisciplinary introduction to the crucial sociocultural and social justice issues facing African Americans and their counterparts in other areas of the African diaspora today. The curriculum is designed to meet this goal in two primary ways. First, it provides an interdisciplinary exposure to particular features of the African American experience. Core courses offer an in-depth understanding of historical, anthropological, sociological, psychological, economic, and political aspects of African America. The curriculum also provides opportunities to study the literary, musical, and artistic heritage of peoples of African descent. Second, students analyze key issues through additional courses that bring to bear concepts, theories, and methods of traditional academic disciplines in areas such as cultural analysis and production, social justice, and public policy.

Undergraduate Study

Afro-American Studies B.A.

The Afro-American Studies B.A. program is periodically revised; check with the program office for changes and updates.

Preparation for the Major

Required: History M10A and the courses listed in one of the following concentrations, plus three courses from at least two additional concentrations (requirements for the courses listed must be completed before enrolling in a given course; this is especially important for the quantitative courses in economics and psychology): anthropology — Anthropology 7, 8, 9, 12; economics — Economics 1, 2, Mathematics 3A, 31E (or 3A and 3B, or 31A and 31B); English — English Composition 3, English 4W, 10A, 10B, 10C (all must be taken in sequence); history — History 1A, 1B, 1C, 10B, 13A, 13B, 13C, and one course from 97A through 97O or 100: philosophy — Philosophy 4, 21, 22, 31; political science — Economics 1, Political Science 6, 20, 40, Sociology 1; psychology — Anthropology 7, Mathematics 2, Physics 10 (or 1A or 6A); Psychology 100A, 100B, one year of high school chemistry (or Chemistry and Biochemistry 2 or 20A); sociology — Afro-American Studies M5 or Anthropology 34, Anthropology 9, Mathematics 2, Sociology 1. Students are strongly urged to complete the required lower division courses within the first two years of the major.

Transfer Students

Transfer applicants to the Afro-American Studies major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one civilization of Africa course and additional coursework in one of the areas of concentration.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: (1) Anthropology M164, English M104A or M104B or M104C, History M150B, M150C; (2) four upper division and/or graduate courses in Afro-American studies (or four departmental courses that are multiple-listed with Afro-American Studies); (3) six upper division electives within the department of concentration selected from the approved courses listed below; (4) two upper division electives outside the department of concentration selected from the approved courses list.

Students may petition the committee that administers the degree program to have a course not on the approved list accepted for the major. In arranging a course of study, students should select a combination of courses that best meets their current and future educational and career goals. They must maintain an overall 2.0 grade-point average in all courses taken.

Approved courses

(recommended courses are indicated by an asterisk):

English Composition 131A through 131D, 136A, 136B, 136C

Honor Option

Afro-American Studies majors with grade-point averages of 3.5 or better are eligible for the honors option which requires the completion of a senior thesis under the guidance of an Afro-American Studies faculty member. For more information, contact the student affairs officer of the Afro-American Studies Program.

Double Major Option

Some students elect to complete the requirements of both the Afro-American Studies major and one other major. Students interested in this option must maintain good academic standing and complete both majors within the unit maximum imposed by the College. Some courses used to satisfy the requirements for the principal major may also be used to satisfy the requirements for the secondary major, but no more than five courses may be common to both majors. Because of the complexity of the double major, students are encouraged to plan their curriculum early and to do so in consultation with the College counselors and the Afro-American Studies Program student affairs officer.
Graduate Degrees
The Afro-American Studies Program offers the Master of Arts (M.A.) degree in Afro-American Studies. A concurrent degree program (Afro-American Studies M.A./Law J.D.) is also offered.

Afro-American Studies

Lower Division Courses

M5. Social Organization of Black Communities. (5) (Same as Sociology M5.) Lecture, four hours; discussion, one hour. Focus on social organization of black communities, with an emphasis on focus on origins and development of black communities, defining characteristics and contemporary issues. Letter grading.

6. Trends in Black Intellectual Thought. (4) Lecture, three hours; discussion, one hour. Overview of major intellectual trends that have shaped ways in which Afro-American thinkers have interpreted experiences of blacks in the U.S. drawing from such fields as history, philosophy, and literature. Letter grading.

M10A. History of Africa to 1800. (5) (Same as History M10A.) Lecture, three hours; discussion, one hour. Exploration of development of African societies from earliest times to late 18th century. P/NP or letter grading.

Upper Division Courses

100B. Psychology from Afro-American Perspectives. (4) Lecture, three hours. Survey of psychological research relevant to Afro-Americans, with an emphasis on contributions of Afro-American psychologists. Topics include history of psychology, testing and intelligence, family, personality and motivation, racism and race relations, education, community psychology, and future of Afro-American psychology. P/NP or letter grading.


M102. Culture, Media, and Los Angeles. (6) (Same as Asian American Studies M160H and Honors College M102.) Lecture, four hours; screenings, two hours. Designed for juniors/seniors. Course covers developments in black American culture with an emphasis on cinema and popular culture. P/NP or letter grading.

M103A. African American Theater History: Slavery to Mid-1800s. (4) (Same as Theater M103A.) Lecture, three hours. Designed for juniors/seniors. Exploration of historical and literary effects of African American artists in America from slavery to mid-1800s. Letter grading.

M103B. African American Theater History: Minstrel Stage to Rise of American Musical. (4) (Same as Theater M103B.) Lecture, three hours. Designed for juniors/seniors. Exploration of extant material on history and literature of theater as developed and performed by African American artists in America from minstrel stage to rise of American musical. Letter grading.

M103E. African American Theater History: Depression to Present. (4) (Same as Theater M103E.) Lecture, three hours. Designed for juniors/seniors. Exploration of extant material on history and literature of theater as developed and performed by African American artists in America from Depression to present. Letter grading.

M104A. Early African-American Literature. (5) (Same as English M104A.) Lecture, four hours; discussion, one hour. Enforced requisites: English Composition 3 or 3H. Introductory survey of African American literature from 18th century through World War I, including oral and written forms (folktales, sermons, letters, fiction, poetry, essays). Letter grading.

M104B. African Literature from Harlem Renaissance to 1960s. (5) (Same as English M104B.) Lecture, four hours; discussion, one hour. Enforced requisites: English Composition 3 or 3H. Introductory survey of 20th-century African American literature from the New Negro Movement of post-World War I period to 1960s, including oral material (ballads, blues, speeches) and fiction, poetry, and essays by authors such as Jean Toomer, Claude McKay, Langston Hughes, Sterling Brown, Nella Larsen, Zora Neale Hurston, Richard Wright, Ann Petry, James Baldwin, and Ralph Ellison. P/NP or letter grading.

M104C. African American Literature since 1960s. (5) (Same as English M104C.) Lecture, four hours. Enforced requisites: English Composition 3 or 3H. Introductory survey of diversification of Afro-American literary expression produced from rise of Black Arts Movement of 1960s to present by writers such as Amiri Baraka, Nikki Giovanni, Alice Walker, Etheridge Knight, Toni Morrison, Martin Luther King, Jr., Paule Marshall, Ernest Gaines, Ishmael Reed, and Audre Lorde. P/NP or letter grading.

M107. Cultural History of Race. (4) (Same as Ethnicology M107.) Lecture, four hours; discussion, one hour. Examination of development of rap music and hip-hop culture, with an emphasis on musical and verbal qualities, philosophical and political ideologies, gender representation, and their impact on development of jazz. P/NP or letter grading.

M110A-CM110B. African American Musical Heritage. (4) (Formerly numbered M110A-M110B.) (Same as Ethnomusicology M110A-CM110B.) Lecture, four hours; discussion, one hour. Concurrently scheduled with courses CM110A-CM110B. P/NP or letter grading. CM110A. Sociocultural history and survey of African American music covering Africa and its impact on America; music of the 17th through 19th centuries; minstrelsy and its impact on representation of blacks in film, television, and theater; religious music, including hymns, spirituals, and gospel; black music of Caribbean and Central and South America; and music of black Los Angeles. CM110B. Sociocultural history and survey of African American music covering blues, pre-1947 jazz styles, rhythm ‘n’ blues, soul, funk, disco, hip-hop, and symbiotic relationship between recording industry and effects of cultural politics on black popular music productions.

M112A. African American Music in California. (4) (Same as Ethnicology M112A.) Lecture, four hours. Historical and analytical examination of African American music in California, including history, migration patterns, and urbanism to determine their impact on development of African American music in California. Concurrently scheduled with course CM121A. P/NP or letter grading.

M112B. African American Literature in California. (4) (Same as English M112B.) Lecture, four hours; discussion, one hour. Enforced requisites: English Composition 3 or 3H. Introductory survey of African American literature from post-World War I period to 1960s, including oral material (ballads, blues, speeches) and fiction, poetry, and essays by authors such as Amiri Baraka, Nikki Giovanni, Alice Walker, James Baldwin, and Ralph Ellison. P/NP or letter grading.

M113A-M113B. African American Studies Minor. The Afro-American Studies minor is designed for students who wish to augment their major program of study with courses from various disciplines germane to Afro-American studies. The minor exposes students to African American studies-related coursework, research, and literature in a number of disciplines, such as anthropology, economics, English, history, political science, and sociology.

M114. Graduate Lower Division Courses (8 units): Afro-American Studies M5 and 6, with grades of C or better.

M115. Graduate Required Upper Division Courses (24 units): Six courses selected from Afro-American Studies 100B, M103A, M103B, M104A, M104B, M104C, M107, M109, M110A, M110B, M114, M156A through M158E, M164, M172, M179A, 179B, C191, 199, Anthropology M164, English M104A, M104B, M104C, 111A, 120, 178A, M179A, Ethnomusicology M109, CM110A, CM110B, M111, M119, History 147A through M147D, M150A through M150E, M164A through M164E, 166A, 166B, 166C, Philosophy 104, 126, 150, 172, Political Science M105, M106, 116A, 137A, 137B, M141A, 141C, 142B, M144B, Psychology M110, 110, 111, 115, 120A, 127, 130, 132A, 135, 136A, 142H, M172, 175, 192, 193, 194A, Sociology 101, 102, 113, 133, 134, 156, 157, Theater M103A, M103B, M103E. A minimum of 20 units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program, and at least 16 units applied toward the minor must be in residence at UCLA. Transfer credit for any of the above is subject to program approval; consult the student affairs office before enrolling in any courses for the minor.

All minor courses must be taken for a letter grade, with a minimum grade of C (2.0) in each and an overall C average. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gradmissions/proginfo.html. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.
CM112D. African American Art. (4) (Same as Art History CM112D.) Lecture, three hours. Detailed inquiry into African American artists whose works provide insightful and critical commentary about major features of American life and society, including visits to various key African American art institutions in Los Angeles. Concurrently scheduled with course CM212D. P/NP or letter grading.

CM112E. African American Art. (4) (Same as Art History CM112E.) Lecture, three hours. Continuation of course CM112D, involving detailed inquiry into work of African-American artists. Concurrently scheduled with course CM212E. P/NP or letter grading.

CM112F. Imaging Black Popular Culture. (4) (Same as Art History CM112F.) Lecture, three hours. Critical examination of media ranging from African American painting and sculpture to MTV and advertising, with emphasis on relationship between black visual production and racism, Afrocentrism, political resistance, and notions of blackness. Concurrently scheduled with course CM212F. P/NP or letter grading.

M114C. African American Political Thought. (4) (Same as Political Science M114C.) Lecture, three or four hours; discussion, one hour (when scheduled). Intensive introduction to African American political thought, with focus on major ideological trends and political philosophy that have been applied and interpreted by African Americans. Debates and conflicts in black political thought, historical context of African American social movements, and relationship between black political thought and major trends in Western thought. P/NP or letter grading.

M114D. African American Freedom Narratives. (4) (Same as Political Science M114D.) Lecture, three or four hours; discussion, one hour (when scheduled). Historical, psychological, and thematic interpretation of selected narratives and storytelling in African American culture and politics. P/NP or letter grading.

M114E. Malcolm X and Black Liberation. (4) (Same as Political Science M114E.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Analysis of black radicalism in the mid-20th century, with special attention to contribution of Malcolm X and black nationalism to African American liberation movement. P/NP or letter grading.

M118. Student-Initiated Retreat and Outreach Issues in Higher Education. (4) (Formerly numbered M119F.) (Same as Anthropology M119F.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Exploration of some historically and in its present context in contemporary society. May be repeated twice for credit. Letter grading.

M120. Race, Inequality, and Public Policy. (4) (Same as Public Policy M120.) Lecture, three hours. Background in economics, sociology, or urban studies preferred but not required. Survey course to examine major debates and current controversies concerning public policy responses to social problems in urban America. Letter grading.

M144. Ethnic Politics: African American Politics. (4) (Same as Political Science M144B.) Lecture, three or four hours; discussion, one hour (when scheduled). Preparation: one 100-level political science course or one upper division course on race or ethnicity from history, psychology, or sociology. Requisite: Political Science 40. Designed for juniors/seniors. Emphasis on dynamics of minority group politics in the U.S., touching on conditions facing racial and ethnic groups, with black Americans being primary case for analysis. Three primary objectives: (1) to provide descriptive analyses of social, political, and economic conditions of black community, (2) to analyze important political issues facing black Americans, (3) to sharpen students’ analytical skills. P/NP or letter grading.

M145. Ellingtonia. (4) (Same as Ethnomusicology M111.) Lecture, three hours. Music of Duke Ellington, his life, and far-reaching influence of his efforts. Ellington’s music is known for its large size,iest and perhaps most important bodies of music ever produced in the U.S. Covers the many contributions of other artists who worked with Ellington, such as composers Gil Evans, Billy Strayhorn, and arranger John Lewis, and guest performers Cootie Williams, and Mercer Ellington. P/NP or letter grading.

M150D. Recent African American Urban History: Funk Music and Politics in Black Popular Culture. (4) (Formerly numbered M158D.) (Same as History M150D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Exploration of musical genre known as “funk” which emerged in its popular form during the late 1960s and reached popular high point, in black culture, during the 1970s. Funk, fusion of gospel, blues, jazz, rhythm and blues, soul, rock, and many other musical styles, offers students unique window into recent African American history. P/NP or letter grading.

M154C. Black Experience in Latin America and Caribbean. (4) (Same as Political Science M154C.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Culture, history, politics, and identity of African Americans in Spanish and Lusophone Caribbean, South America, and Central America. Exploration of issues of identity in context of Afro/Latino migration to the U.S. P/NP or letter grading.

M158A. Comparative Slavery Systems. (4) (Same as History M150A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Overview of African slavery in various New World slave societies, with emphasis on outlining similarities and differences in legal status, treatment, and slave cultures of North American, Caribbean, and Latin American slave societies. P/NP or letter grading.

M158B-M158C. Introduction to African-American History. (4-4) (Same as History M150B-M150C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of African-American experience, with emphasis on three great transitions of Afro-American life: transition from Africa to New World slavery, transition from slavery to freedom, and transition from rural to urban milieu. P/NP or letter grading.

M158E. African American Nationalism in First Half of the 20th Century. (4) (Same as History M150E.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Critical examination of African American search in the nation and itself on social movements both historically and in its present context in contemporary society. May be repeated twice for credit. Letter grading.

M159P. Constructing Race. (4) (Same as Anthropology M159P and Asian American Studies M159P.) Lecture, three hours. Examination of race, a socially defined category, from anthropological perspectives of their genesis, maintenance, and social functions. General problems and issues in fields of sociolinguistics examined through a case-study approach. P/NP or letter grading.

M167A-M167B. Intraracial Discriminations in African American Society and Culture. (5-5) (Same as Asian American Studies M167A-M167B and Chicana and Chicano Studies M167A-M167B.) Lecture, two hours; discussion, two hours. Not open to freshmen or students with credit for GE Clusters 20A and/or 20B. Examination of nature and meaning of race, racism, and interracial dialogues in the U.S. through various disciplinary perspectives, including sociology, history, literary criticism, and film studies. Race as social and historical category that shapes contemporary African American life. P/NP or letter grading.

M167A. Enforced corequisite: attendance, but not enrollment, in GE Clusters 20A lecture; M167B. Enforced corequisite: attendance, but not enrollment, in GE Clusters 20B lecture.

M172. The Afro-American Woman in the U.S. (4) (Same as Psychology M172 and Women’s Studies M172.) Lecture, two and one-half hours. Designed for juniors/seniors. Impact of social, psychological, political, and economic forces which impact on interpersonal relationships of African-American women as members of a large society and as members of their biological and ethnic group. P/NP or letter grading.

M173. Nonviolence and Social Movements. (4) (Same as Chicana and Chicano Studies M173 and Labor and Workplace Studies M173.) Lecture, three hours; discussion, one hour. Overview of nonviolence and its impact on social movements both historically and in its present context in contemporary society, featuring lectures, conversations, films, readings, and guest speakers. Exploration of some historically significant contributions of civil rights struggles and role of nonviolent action throughout recent U.S. history. Examination of particular lessons of different movements as they impact social change organizing in Los Angeles. P/NP or letter grading.

M178. Sociology of Caribbean. (4) (Same as Sociology M178.) Lecture, three hours; discussion, one hour. Limited to juniors/seniors. Historical sociology of Caribbean, with emphasis on colonialism and decolonization, development and underdevelopment, race-making institutions and evolution of race relations, nationalism and migration. P/NP or letter grading.
M179A. Topics in Afro-American Literature. (5) (Formerly numbered M179A.) (Same as English M179A.) Seminar, three hours. Enforced corequisite: English Composition 3 or 3H. Variable specialized studies course in Afro-American literature. Topics include Harlem Renaissance; Afro-American Literature in Na- dir, 1890 to 1914; Contemporary Afro-American Fic- tion. May be repeated for credit. P/NP or letter grad- ing.

179B. Special Studies in Comparative Literature: Caribbean Literature. (4) (Formerly numbered 179B.) Seminar, three hours. General introduction to literature of English-speaking Caribbean by reviewing its historical and geographical background. To ana- lyze historical process toward self-determination in lit- erature, following topics are included: (1) alienation and search for community, (2) "external" relationships (the ancestor, the kinsman, the other), and (3) form and language. P/NP or letter grading.

M182A. Language, Literacy, and Human Development Ethnography (2) (Same as Education M182A.) Fieldwork, three hours. Enforced corequisite: course M194A. Students visit after-school site on weekly bas- is and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M182B. Culture, Gender, and Human Development Ethnography (2) (Same as Education M182B.) Seminar, three hours. Enforced corequisite: course M194B. Students visit after-school site on weekly bas- is and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M182C. Culture, Communications, and Human Development Ethnography (2) (Same as Education M182C.) Fieldwork, six hours. Enforced corequisite: course M194C. Students visit after-school site on weekly bas- is and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M183A. Language, Literacy, and Human Development Ethnography (3) (Same as Education M183A.) Fieldwork, six hours. Enforced corequisite: course M194A. Students visit after-school site on weekly bas- is and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M183B. Culture, Gender, and Human Development Ethnography (3) (Same as Education M183B.) Fieldwork, six hours. Enforced corequisite: course M194B. Students visit after-school site on weekly bas- is and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M183C. Culture, Communications, and Human Development Ethnography (3) (Same as Educa- tion M183C.) Fieldwork, six hours. Enforced corequi- site: course M194C. Students visit after-school site on weekly basis and use ethnographic methods to docu- ment learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

188. Special Courses in Afro-American Studies. (4) Seminar, four hours. Departmentally sponsored experimental or temporary courses, such as those taught by visiting faculty members. May be repeated for credit. P/NP or letter grading.

C191. Variable Topics in Afro-American Studies. (4) (Formerly numbered C191.) Seminar, four hours. Research seminar on selected topics in Afro-Ameri- can studies. Reading, discussion, and development of culminating project. May be repeated for credit. Concurrently scheduled with course C291. Letter grading.

M194A. Language, Literacy, and Human Development Research Group Seminars (5) (Same as Educa- tion M194A.) Seminar, three hours; laboratory, two hours (when scheduled). Enforced corequisite: course M182A or M183A. Research seminar de- signed to provide opportunity to combine theory and practice in study of human development in education- al context. Focus on relationship between theories of development, culture, and language. May be taken inde- pendently for credit. Letter grading.

M194B. Culture, Gender, and Human Development Research Group Seminars (5) (Same as Educa- tion M194B.) Seminar, three hours; laboratory, two hours (when scheduled). Enforced corequisite: course M182B or M183B. Research seminar de- signed to provide opportunity to combine theory and practice in study of human development in education- al contexts. Focus on relationship between theories of development, culture, and gender. May be taken inde- pendently for credit. Letter grading.

M194C. Culture, Communications, and Human Development Research Group Seminars (5) (Same as Education M194C.) Seminar, three hours; laboratory, two hours (when scheduled). Enforced corequisite: course M182B or M183B. Research seminar de- signed to provide opportunity to combine theory and practice in study of human development in education- al contexts. Focus on relationship between theories of development, culture, and gender. May be taken inde- pendently for credit. Letter grading.

195. Community or Corporate Internships in Afro- American Studies. (4) Tutorial, four hours. Prepara- tion: 3.0 grade-point average in major. Limited to jun- ior/senior majors. Internship in supervised setting in community agency or business. Students meet on regular basis with instructor and provide periodic re- ports of their experiences. Eight units may be applied toward major requirements. Individual contract with supervising faculty member required. P/NP or letter grading.

197. Individual Studies in Afro-American Studies. (2 to 8) Tutorial, four hours. Preparation: 3.0 grade- point average in major. Limited to juniors/seniors. In- dividual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Eight units may be applied toward major requirements. Individual contract re- quired. P/NP or letter grading.

198. Honors Research in Afro-American Studies. (2 to 4) Tutorial, four hours. Limited to juniors/seniors. Development and completion of honors thesis or comprehensive research project under direct supervi- sion of faculty member. Individual contract required. Letter grading.

199. Directed Research or Senior Project in Afro- American Studies. (2 to 4) Tutorial, to be arranged with faculty member who directs study. Preparation: 3.0 grade-point average in major. Limited to juniors/ seniors. Supervised individual research or investiga- tion of large project under guidance of faculty mentor. Culminating paper or project required. Eight units may be applied toward major requirements. Individual contract required. P/NP or letter grading.

Graduate Courses

M200A. Advanced Historiography: Afro-Ameri- can. (4) (Same as History M200V) Seminar, three hours. May be repeated for credit. S/U or letter grad- ing.

200B. Seminar: Political Economy of Race. (4) Seminar, three hours. Seminar on political economy, with special reference to black political economy and with focus on dynamics of allocation of wealth and power resources among social classes and racial and ethnic groups in the U.S. Presented in a context that is at once comparative and international, seminar em- phasizes internationalism as well as the uniqueness of the Afro-American condi- tion. Attempts to relate the black condition in the U.S. to the socioeconomic systems of other countries and to compare it to political, social, and economic condi- tions of African peoples elsewhere. S/U or letter grad- ing.

M200C. Selected Problems in Urban Sociology. (4) (Same as Sociology M262) Seminar, three hours. S/U or letter grading.

M200D. Afro-American Sociolinguistics: Black English. (4) (Same as Anthropology M243O.) Lec- ture, three hours. Basic information on Black Ameri- can English, an important minority dialect in the U.S. Social implications of minority dialects examined from perspectives of their genesis, maintenance, and so- cial functions. General problems and issues in fields of sociolinguistics examined through a case study ap- proach. Students required to conduct research in consultation with instructor and participate in group discussion. S/U or letter grading.

M201. Seminar in Afro-American Musical Literature. (4) (Same as English M262.) Lecture, four hours. Inten- sive research and study of major themes, issues, and writers in Afro-American literature. Discussions and research on aesthetic, cultural, and social back- grounds of Afro-American writing. May be repeated for credit. S/U or letter grading.


CM210A-CM210B. African American Musical Heri- tage. (4-4) (Same as Ethnomusicology CM210A- CM212B.) Lecture, four hours; discussion, one hour. Concurrently scheduled with courses CM110A- CM110B. Designed for graduate students. In-depth historical and analytical examination of Afri- can American music in California, including history, research, and bibliography related to study of African American music. Letter grading.


CM212A. African American Music in California. (4) (Same as Ethnomusicology CM212.) Lecture, four hours. Historical and analytical examination of Afri- can American music in California, including history, migration patterns, and urbanism to determine their impact on development of African American music in California. Concurrently scheduled with course CM112A. S/U or letter grading.
CM212D. African American Art. (4) (Same as Art History CM212D.) Lecture, three hours. Detailed inquiry into works of 20th-century African American artists whose works provide insightful and critical commentary about major features of American life and society, including visits to various key African American art institutions in Los Angeles. Concurrently scheduled with course CM112D. S/U or letter grading.

CM212E. African American Art. (4) (Same as Art History CM212E.) Lecture, three hours. Continuation of course CM212D, involving detailed inquiry into work of 20th-century African American artists. Concurrently scheduled with course CM112E. Letter grading.

CM212F. Imaging Black Popular Culture. (4) (Same as Art History CM212F.) Lecture, three hours. Critical examination of media ranging from African American painting and sculpture to MTV and advertising, with emphasis on relationship between black visual production and racism, Afrocentrism, political resistance, and notions of blackness. Concurrently scheduled with course CM112F. S/U or letter grading.

M240. Assessment and Treatment of African American Families. (3) (Same as Psychiatry M240.) Seminar, two hours. Designed for graduate students. Course aims to prepare mental health professionals and trainees in evaluation and treatment of African American families in terms of their cultural milieu, historical background, and economic status. Didactic presentations by instructors and invited guests form basis for supervised evaluation and case management with an African American child and family. Letter grading.

241. Special Topics in Afro-American Studies. (4) Lecture, four hours; discussion, one hour. Intensive research and study of major themes and issues in various areas of Afro-American studies. S/U or letter grading.

M252S. Constructing Race. (4) (Same as Anthropology M252S.) Seminar, three hours. Examination of social construction of race from anthropological perspective in order to refine understanding of ways this category has had and continues to have concrete impact in the U.S. Exploration of range of topics, including role discipline of anthropology has played in construction of race, representations of race in popular culture, instability of race revealed in passing and debates about multiracial identity, construction of whiteness, and emergence of identity politics. S/U or letter grading.

M255. Topics in African American Art. (4) (Same as Art History M255.) Seminar, three hours. Requirements: course CM112D or CM112E or CM112F. Topics in African American art from the 18th century to the present. May be repeated for credit with consent of graduate adviser. S/U or letter grading.

270A. Survey of Afro-American Research. (4) Seminar, three hours. Overview of research methodologies in humanities and social sciences, with firsthand reports from faculty in various fields. Introduction to research and related to Afro-American studies and application of such research. Letter grading.

C291. Variable Topics in Afro-American Studies. (4) (Formerly numbered C201.) Seminar, four hours. Research seminar on selected topics in Afro-American studies. Reading, discussion, and development of culminating project. May be repeated for credit. Concurrently scheduled with course C191. Letter grading.

596. Directed Readings and Tutorials. (4) Tutorial, to be arranged. Provides students with umbrella under which they can pursue specialized interests from which there is insufficient demand to warrant offering a formal course. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examination. (4 or 8) Tutorial, to be arranged. Limited to graduate students. May not be applied toward M.A. course requirements. S/U grading.

598. Research for and Preparation of M.A. Thesis. (4 or 8) Tutorial, to be arranged. Limited to graduate students. May not be applied toward M.A. course requirements. S/U grading.
The 15 courses must fit one of the following regional emphasis patterns: (1) Native North America — eight courses, including those mentioned above and additional electives on Native North American topics or (2) indigenous peoples of the Americas — eight courses, including at least four dealing with indigenous people in Central and/or South America.

All courses must be taken for a letter grade, and students must maintain an overall 2.0 grade-point average. No more than two independent studies courses (199s) may be applied toward the degree.

American Indian Studies Minor

The American Indian Studies minor is designed for students who wish to augment their major program of study in the College of Letters and Science with a group of related courses from various disciplines germane to American Indian studies. The minor exposes students to Indian-related research and literature in a number of different disciplines, such as American Indian studies, anthropology, economics, history, political science, sociology, and theater.

To enter the minor, students must be in good academic standing (2.0 grade-point average), have completed 45 units, and file a petition at the American Indian Studies Center, 3220 Campbell Hall, (310) 206-7511. All degree requirements, including the specific requirements for this minor, must be fulfilled within the unit maximum set forth by the College of Letters and Science.

Required Lower Division Course (4 units): American Indian Studies M10 with a grade of C or better.

Required Upper Division Courses (28 units): Seven courses selected from the following: (1) one American Indian languages and communication systems course (Anthropology C144 or Linguistics 114); (2) two history and social sciences courses from American Indian Studies (C120, C121, C122SL, C130, 140, 158, C170, C175, C178, Anthropology 113Q, 113R, 114P, 114Q, 114R, 158, 172R, History 149A, 149B, 157B, Sociology M161, Women's Studies 130); (3) three humanistic perspectives on language and expressive culture courses from American Indian Studies 180, Art History C117A through C117D, History 149A, 149B, 157B, Linguistics 114P, 114Q, 114R, 158, 172R, History 149A, 149B, 157B, Sociology M161, Women's Studies 130; (4) one social sciences course and two express culture courses from various disciplines germane to American Indian studies.

All minor courses must be taken for a letter grade, with a minimum grade of C (2.0) in each and an overall C average. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The American Indian Studies Program offers the Master of Arts (M.A.) degree in American Indian Studies. A concurrent degree program (American Indian Studies M.A./Law J.D.) is also offered.

American Indian Studies Lower Division Course

M10. Introduction to American Indian Studies. (5) (Same as World Arts and Cultures M23.) Lecture, three hours; discussion, one hour; activity, one hour. Survey of selected Native North American cultures from pre-Western contact to contemporary period, with particular emphasis on early cultural diversity and diverse patterns of political, linguistic, social, legal, and cultural change in postcontact period. P/NP or letter grading.

Upper Division Courses

M118. Student-Initiated Retention and Outreach Issues in Higher Education. (4) (Formerly numbered M197R.) Lecture, four hours. Exploration of issues in outreach and retention of students in higher education, especially through student-initiated programs, efforts, activities, and services, with focus on UCLA as case. May be repeated twice for credit. Letter grading.

C210. Working in Tribal Communities: Introduction. (4) (Formerly numbered 120.) Lecture, four hours. Through readings, discussion, and Native guest lecturers, students learn to participate within Native American communities engaged in political, social, and cultural processes of change and preservation. Development of proposal for Native nation-building project. Concurrently scheduled with course C220. Letter grading.

C212. Working in Tribal Communities: Preparing for Fieldwork. (4) (Formerly numbered 121.) Lecture, four hours. Through readings, discussion, Native guest lecturers, and project participation, introduction to rules of conduct and skills necessary to successfully work or carry out community service projects for Native American communities and organizations. Concurrently scheduled with course C221. Letter grading.
140. Federal Indian Law and Policy. (4) Lecture, four hours. Through readings, discussion, and Native guest lecturers, introduction to fundamental concepts and history of federal Indian law and policy. Investigation of contemporary policies and legal issues and exploration of Native responses to policy and law. Letter grading.

C145. Contemporary Indigenous Nations. (4) Lecture, four hours. Introduction to topics on contemporary indigenous nations, including social movements, social and cultural change and continuity, nation building, law and justice relations, economic development, education and socialization, international relations, comparative policy, colonialism, migration, national and social identities, and other issues and social cultural processes, seen as distinct from ethnicity, race, class, and nation, with focus on indigenous communities that have maintained self-government, territory, and culture. Investigation and search for an analytic and policy that gives greater understanding and knowledge about current conditions and social and cultural processes of indigenous nations. Concurrently scheduled with course C245. Letter grading.

158. Nation Building. (4) Lecture, three hours; fieldwork/research, nine hours. Limited to junior/senior American Indian Studies majors. Examination of historical interplay of federal policies with tribal cultures that have impacted the development of American Indian tribal nations. Current developments within Indigenous nations, including restructuring government, developing economies, and asserting cultural sovereignty to be subjects of research, and required community-based projects. Letter grading.


C166RP. Perspectives on Health of Native North Americans. (4) (Same as Anthropology C168RP) Seminar, three hours. Required preparation: some knowledge of medical anthropology and/or history and contemporary situation of first peoples of North America. Examination of different perspectives related to health and healthcare of Native North Americans (within present boundaries of the U.S. and Canada) in relation to cultural, social, political, and economic aspects of changing historical context. Concurrently scheduled with course CM268P. P/NP or letter grading.

C170. California Indian History. (4) (Formerly numbered 170.) Seminar, three hours. Introduction to overview of California Indian history, specific tribal community histories, and/or contemporary California Indian history through readings, discussion, and Native guest lecturers. May be repeated for credit with topic change and consent of interdepartmental chair. Concurrently scheduled with course C270. Letter grading.

C175. Cultures of Native Southern California. (4) (Formerly numbered 175.) Lecture, three hours. Introduction to Southern California indigenous societies through an ongoing service learning project and direct community participation. May be repeated for credit with topic and/or instructor change and consent of interdepartmental chair. Concurrently scheduled with course C275. Letter grading.

C178. California Experiences in Native Cultural Resource Management. (4) Seminar, three hours. Exploration of creation and implementation of laws that affect cultural property and organizations in California, such as California Environmental Quality Act (CEQA), Native American Graves Protection and Repatriation Act (NAGPRA), AB 978 (California NAGPRA, Native American Graves Protection and Repatriation Act), National Environmental Policy Act (NEPA), and National Historic Preservation Act (NHPA), from applied standpoint. To understand goals and challenges of these laws, examination of series of cases from California sites. Concurrently scheduled with course C278. Letter grading.

180. Introduction to and Practicum in Native American Languages. (4) Lecture, three hours; laboratory, one hour. Development of ability to converse, read, and write at elementary level in Native American languages. Introduction to both phonological and grammatical structures, vocabulary, and cultural patterns using language guide to culture. May be repeated with language change and approval of interdepartmental chair. Letter grading.

187. Special Topics in American Indian Studies. (4) (Formerly numbered 187.) Lecture, four hours. Variables include topics related to following: Myths and Folklore of Indian Societies; Contemporary American Indian Literature; Social Science Perspectives of American Indian Life; Law and American Indian; History of American Indians (cultural area); Dance and Music of American Indians (cultural area); American Indian Policy. Consult Schedule of Classes for topics and instructors. May be repeated twice for credit. Letter grading.

197. Individual Studies in American Indian Studies. (2 to 4) (Formerly numbered 197.) Tutorial, three hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned readings and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

Graduate Courses

M200A. Advanced Historiography: American Indian Peoples. (4) (Same as History M200W.) Lecture, 90 minutes; seminar, 90 minutes. Introduction to cultural histories of North American Indians and review of Indian concepts of history. Stereotypical approach to content and methodologies related to the Indian past that is interdisciplinary and multicultural in its scope. Letter grading.

M200B. Cultural World Views of Native America. (4) (Same as English M266.) Seminar, three hours. Exploration of written literary texts from oral cultures and other expressive cultural forms — dance, art, song, religious and medicinal rituals — in selected Native American traditions, as they tell of traditional and modern contexts have been translated into contemporary literary texts (fiction, poetry, essay, and drama). Survey from secondary sources, of interdisciplinary methodological approaches, taken from literary analysis, structural anthropology, folklore, linguistics, and ethnomusicology. May be repeated for credit with instructor and/or topic change. Letter grading.

M200C. Contemporary Issues of American Indians. (4) (Same as Anthropology M269 and Sociology M275.) Seminar, three hours. Introduction to most important issues facing American Indians as individuals, communities, tribes, and organizations in contemporary world, building on historical background presented in course M200A and cultural and expressive experience of American Indians presented in course M200B. Letter grading.

201. Topics in American Indian Studies. (4) Discussion, three hours. S/U or letter grading.

202. Qualitative Research Design and Methodology. (4) S/U or letter grading. Seminar, three hours. Limited to graduate American Indian studies students. Introduction to some of key theoretical themes in American Indian studies and exploration of methods that can be used to participate in research on Native American cultures, societies, languages, and other issues. Letter grading.

C220. Working in Tribal Communities: Introduction. (4) Lecture, four hours. Through readings, discussion, and Native guest lecturers, students learn to participate within Native American communities engaged in political, social, and cultural processes of change and preservation. Development of proposal for Native nation-building project. Concurrently scheduled with course C120. S/U or letter grading.

C221. Working in Tribal Communities: Preparing for Fieldwork. (4) Lecture, four hours. Through readings, discussion, Native guest lecturers, and project participation, introduction to rules of conduct and skills necessary to successfully work or carry out community service projects for Native American communities and organizations. Concurrently scheduled with course C120SL. S/U or letter grading.

C222SL. Working in Tribal Communities: Service Learning. (4) Seminar, one hour; fieldwork, four hours. Enforced requisite: course C221. Recommended concurrently scheduled with course C220. Service learning project in Native American community service learning project within Native American communities and organizations where students are mentored and supported by faculty members, other students, and project directors toward completing assigned service learning tasks and contributing to project activities. May be repeated with consent of instructor. Concurrently scheduled with course C122SL. S/U or letter grading.

M228. Seminar: Indian Law — Tribal Legal Systems. (4) (Same as Law M528.) Seminar, two hours (15 weeks). Study of historic and contemporary legal systems of selected tribes, with emphasis on relationships among law, religion, and social order. Letter grading.


M238. Indian Law Clinic: Legislation. (5) (Same as Law M428.) Lecture, three hours. Students provide nonlitigation legal assistance to Native American tribal nations, mostly in California. Clinic services include development and modification of tribal legal codes and constitutional provisions, development of tribal courts and other dispute resolution processes, and drafting of intergovernmental agreements. Cross-cultural representation, legislative drafting, and intergovernmental negotiation skills stressed. Letter grading.


Anesthesiology

David Geffen School of Medicine

UCLA  
56-131 Center for the Health Sciences  
Box 951778  
Los Angeles, CA 90095-1778  
(310) 825-4350  
fax: (310) 794-9660  
http://www.anes.ucla.edu

Scope and Objectives

The medical student program in anesthesiology focuses on the delivery of peri-operative care to surgical patients. During their training in the department, students develop clinical skills of medical management of surgical patients, techniques of invasive line and monitor placement, and airway management skills. They are assigned to work with a specific attending anesthesiologist and/or anesthesiology resident on a daily basis in one of the operating room locations and participate in the preoperative evaluation and preparation of their patients and development of an anesthetic plan. Students then observe how to prepare for and execute their anesthetic plan. They have opportunity to perform procedures as their abilities and the situation permit. In addition, the department has established the Human Patient Simulator which provides students with a simulated operating room setting where a variety of clinical situations are initiated so they can practice their clinical skills. Students are also expected to attend clinically oriented lectures on a wide range of anesthesiology topics, including physiology, pharmacology, and critical care.

For further details on the Department of Anesthesiology and a listing of the courses offered, see http://www.anes.ucla.edu.

Upper Division Course

199. Directed Research in Anesthesiology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. F/P/NP or letter grading.

ANTHROPOLOGY

College of Letters and Science

UCLA  
341 Haines Hall  
Box 951553  
Los Angeles, CA 90095-1553  
(310) 825-2055  
fax: (310) 206-7833  
e-mail: anthro@ucla.edu  
http://www.anthro.ucla.edu

Scope and Objectives

Anthropology, the broadest of the social sciences, is the study of humankind. One of the strengths of anthropology as a discipline is its

261. Comparative Indigenous Societies. (4) Lecture, two hours; discussion, two hours. Designed for graduate students. Investigation of detailed historical and contemporary ethnographic analyses of social change and cultural continuity within indigenous nations, primarily of the U.S., but elsewhere also. Discussion of theories of change, comparative methodologies, and case materials. Letter grading.

M267. Indian Law. (5) (Same as Law M267.) Lecture, three hours (15 weeks). Special legal status of American Indians and Indian tribes and tension between moral/legal claims and political forces. Sources and scope of federal, state, and tribal power on Indian reservations; property law concepts unique to Indian tribes and Indians; rights of American Indians in relation to federal, state, and tribal governments and federal trust relationship to Indians. Letter grading.

M267A. Federal Indian Law II. (3) (Same as Law M267A.) Lecture, three hours. Special topics in Indian country jurisdiction and issues of Indian property rights, including land, water, cultural property, and hunting and fishing, as well as tribal economic development. Consideration of international law treatment of indigenous rights. S/U or letter grading.

CM268P. Perspectives on Health of Native North Americans. (4) Same as Anthropology CM268P.) Seminar, three hours. Recommended preparation: some knowledge of medical anthropology and/or history and contemporary situation of first peoples of North America. Examination of different perspectives related to health and healthcare of Native North Americans (within present boundaries of the U.S. and Canada) in relation to cultural, social, political, and economic aspects of changing historical context. Concurrently scheduled with course CM166P S/U or letter grading.

C270. California Indian History. (4) Lecture, four hours. Introduction to overview of California Indian history, specific tribal community histories, and/or contemporary California Indian history through readings, discussion, and Native guest lecturers. May be repeated for credit with topic change and consent of interdepartmental chair. Concurrently scheduled with course C170. S/U or letter grading.

C275. Cultures of Native Southern California. (4) Lecture, three hours. Introduction to Southern California indigenous societies through readings, discussion, guest lecturers, and direct community participation. May be repeated for credit with topic and/or instructor change and consent of interdepartmental chair. Concurrently scheduled with course C175. S/U or letter grading.

C278. California Experiences in Native Cultural Resource Management. (4) Seminar, three hours. Exploration of creation and implementation of laws that affect cultural resource management in California, such as California Environmental Quality Act (CEQA), Native American Graves Protection and Repatriation Act (NAGPRA), AB 576 (California NAGPRA), American Indian Religious Freedom Act, National Environmental Policy Act (NEPA), and National Historic Preservation Act (NHPA), from applied standpoint. To understand goals and challenges of these laws, examination of series of cases from California sites. Concurrently scheduled with course C178. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

“holistic” or integrative approach; it links the life sciences and the humanities and has strong ties with disciplines ranging from biology and psychology to linguistics, political science, and the fine arts. Anthropological study is appropriate for people with a wide variety of interests: human cultures and civilizations both present and past, human and animal behavior, particular regions of the world such as Africa, Asia, Latin America, Oceania, etc.

The department recognizes the following four fields in anthropology:

**Archaeology** is the study of human cultures and the natural, social, ideological, economic, and political environments in which they operated in the recent and distant past. The graduate and undergraduate programs focus on methods of discovery (field and laboratory courses), strategies of analysis pertaining to long-term cultural evolution (theory, analytic, and topical courses), and the unfolding of prehistory in many regions of the world, including North America, Mesoamerica, South America, and several parts of the Old World (regional courses). Faculty members have long-standing interests in the origins and evolution of complexity, including early human adaptations, the political organization of complex hunters/gatherers, the origins of early village life, and the emergence and florescence of ancient cities and states. Faculty members maintain programs of field research involving many students in North America, Mesoamerica, South America, and East and South Asia.

**Biological anthropology** is the study of humans and other primates from a Darwinian point of view. The program focuses on the evolutionary ecology of early hominins, extant primates, and contemporary humans and includes training in evolutionary theory, behavioral ecology, evolutionary psychology, paleoanthropology, paleoecology, primate behavior, and mathematical modeling. Faculty members associated with the program have engaged in fieldwork in Africa, Central America, and Southeast Asia where ongoing projects include work on primate behavior, hominid evolution, and evolutionary psychology.

**Linguistic anthropology** is an interdisciplinary field that addresses the manifold ways in which language, interaction, and culture mutually organize each other in different communities worldwide. Linguistic anthropologists at UCLA have a variety of backgrounds and research interests that include face-to-face communication, language contact and change, language and politics, language socialization across the life span, verbal art and performance, and the relation of language to ideology, mind, emotion, and identity. Courses are offered in ethnographic approaches to discourse analysis, field methods, language ideology, conversation analysis, language socialization, and communication in urban communities, as well as on cross-cultural language practices.

**Sociocultural anthropology** concerns the examination and understanding of social and cultural systems and processes, and the human capacities which enable them. Its goal is to understand their operation in specific settings and to understand the experience of individuals who live in these diverse systems. Faculty members have engaged in fieldwork in almost every area of the world, but most notably in Africa, Latin America, East and Southeast Asia, and Oceania. They have also engaged in ethnographic research among Americans with diverse ethnic identities and in various institutional settings.

Bridging the four primary subfields are several other dimensions of anthropological study, including psychocultural anthropology and medical anthropology. Courses are also offered in the history and theory of anthropology and a wide range of anthropological methods.

The department offers Bachelor of Arts and Bachelor of Science degrees and a minor in Anthropology for undergraduates; the graduate program leads to the Master of Arts and Ph.D. degrees. Studies in anthropology are particularly valuable for students planning careers in which an understanding of human behavior and cultural diversity is desirable, such as business, education, law, medicine, nursing, public health, social welfare, and urban planning. Because of its breadth of outlook, anthropology also offers an ideal basis for those seeking a general education in our increasingly interdependent world.

**Undergraduate Study**

**Anthropology B.A.**

**Preparation for the Major**

Required: Anthropology 7 or 12, 8, 9, 33. All courses must be taken for a letter grade, and students must maintain an overall 2.0 grade-point average.

**Transfer Students**

Transfer applicants to the Anthropology B.A. major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one human evolution course, one archaeology course, one sociocultural anthropology course, and one culture and communication course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

The major is designed for students interested in an anthropological understanding of human behavior. One of the strengths of anthropology is its cross-cultural “holistic” and integrative approach with many fields, such as biology, history, linguistics, the social sciences, and many of the humanities.

To provide a comprehensive understanding of the discipline as a whole, students must take two courses in the sociocultural anthropology field and one course in each of the other three fields (see “Scope and Objectives”). Students may take any upper division course in the given area to fulfill this requirement. All courses must be taken for a letter grade, and students must maintain an overall 2.0 GPA.

Students must complete 13 courses (52 to 60 units) as follows:

1. Two upper division courses in the sociocultural anthropology field and one in each of the other three fields (see “Scope and Objectives”). Students may take any upper division course in the given area to fulfill this requirement. All courses must be taken for a letter grade, and students must maintain an overall 2.0 GPA.

2. One upper division region and society course

3. One upper division history/theory course

4. One upper division methodology course

5. Three additional upper division anthropology courses

6. Two related fields courses that demonstrate cohesion, to be selected in consultation with the undergraduate adviser and approved by the department

Students are strongly encouraged to enroll in 3 to 4 units of 89 and/or 189 courses to gain small seminar experience. Ideally, at least one of the units should be at the upper division level.

**Concentrations for the Major**

Concentrations, although not required, may help define and structure an Anthropology major when students want emphasis in one of the four major fields. Whether or not they opt for a concentration, the requirements for the major must still be satisfied. It is possible to use courses within their specified concentration to fulfill overlapping requirements for the major. Exceptions to the requirements below are by petition only. More detailed information on the concentrations is available from the undergraduate adviser.

1. **Archaeology:** Two courses from Anthropology 110P, 111, 183; two field or laboratory methods courses from 115P, 117, 117P, 117Q; one methods course from C115R or 129Q; one quantitative methods course — M186; two area courses from 112, 113P, 113Q, 113R, 114L, 114P, 114Q, 114R, C114S, 114T, M115A, M115B, M116, M119, 119P; one theory course from 120, 124, 150, 152, 153, 153P, 156, 158, 185A, 185B, or 186P.

2. **Biological Anthropology:** Anthropology 120; one quantitative methods course — M186; one methods course from 115P, 117, 117P, 117Q, or 143; one human biology and behavioral ecology course from 124, 185A, 185B, or 186P; one paleoanthropology course from 121A, 121B, 121C, or both 12 and 129Q (credit is not
4. Sociocultural Anthropology: Anthropology

a. Applied and Development Subconcentration: one human genetics course from Ecology and Evolutionary Biology 135 or Molecular, Cell, and Developmental Biology CM156; one primate behavior course from Anthropology 128A, 128B, or Ecology and Evolutionary Biology 129

3. Linguistic Anthropology: Anthropology 33, M140, Linguistics 20, Sociology M124A; two methods courses from Anthropology 141, 142A, 143, Linguistics 103; one ethnography course from Anthropology C144, M145, 146, or Linguistics 114; one course from Anthropology 133Q, 133R, 135A, 135B, 135C, Communication Studies 100, Linguistics 110, or 127; one term of a non-European language

4. Sociocultural Anthropology: Anthropology 130, 150; one primary course from three of the four subconcentrations listed below; two history, theory, and methods courses from 139, 182, M186, Sociology 101; one region and society course from M154Q, 158, 171, 172A, 172B, 172R, M172V, 173Q, 174P, 175Q, 175S, 175T, 175U, 175V, 176, or 177; two additional courses from one of the subconcentrations listed below:


b. Ecological and Evolutionist Subconcentration: Primary course: Anthropology 153; additional courses: 128A, 128B, 158, M186, 186P, Geography 140


d. Psychocultural and Medical Subconcentration: Primary courses: Anthropology 135A, 135B, 135C, 135T; additional courses: 135S, M168

Anthropology B.S.

Preparation for the Major

Required: Anthropology 7 or 12, 8, 9, 33; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, and 14CL, or 20A, 20B, 20L, 30A, and 30AL; Life Sciences 1, 2, 3, 4; Mathematics 3A, 3B, and 3C, or 31A and 31B; Physics 6A, 6B, and 6C, or 6AH, 6BH, and 6CH; Statistics 12. All courses must be taken for a letter grade, and students must maintain an overall 2.0 grade-point average.

Transfer Students

Transfer applicants to the Anthropology B.S. major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one human evolution course, one archaeology course, one sociocultural anthropology course, one culture and communication course, two general biology courses for majors, one year of calculus, one year of general chemistry with laboratory, one year of general physics with laboratory, and one lower division organic chemistry course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

The major provides an overview of human evolution and is designed to prepare students for careers in anthropology and the health sciences, including medicine, dentistry, public health, and nursing. All courses must be taken for a letter grade, and students must maintain an overall 2.0 GPA.

Students must complete nine courses as follows:

1. Two upper division courses in the sociocultural anthropology field and one in each of the other three fields (archaeology, biological anthropology, and linguistic anthropology)

2. One upper division region and society course

3. One upper division history/theory course

4. Two additional upper division anthropology courses

Students are strongly encouraged to enroll in 3 to 4 units of 89 and/or 189 courses to gain small seminar experience. Ideally, at least one of the units should be at the upper division level.

Honors Program

The honors program provides research-oriented students with opportunity to engage in original research and analysis under the close supervision of faculty members and culminates in an honors thesis. To be admitted students should have a cumulative grade-point average of 3.0 overall and a 3.5 cumulative GPA in their upper division anthropology courses. The application for admission must be submitted during Fall Quarter. Ideal candidates should have junior or senior standing and have completed at least two upper division anthropology courses. The proposal, research, analysis, and writing of the paper take place over four terms via Anthropology 191H through 191HD. Course 191H is taken in Winter Quarter and 191HB in Spring Quarter. Research should be done in summer, and courses 191HC and 191HD are taken in Fall and Winter Quarters of the graduation year. Students should contact the departmental honors adviser early in their studies for more information.

Anthropology Minor

Students who wish to take a series of courses in anthropology, but major in another discipline, may be interested in the Anthropology minor. Students select courses from the four fields within anthropology (archaeology, biological anthropology, linguistic anthropology, sociocultural anthropology), although they are encouraged to focus the body of their coursework within one field.

To enter the minor, students must have an overall grade-point average of 2.0 or better.

Required Lower Division Courses (10 units):

Two courses from Anthropology 7 or 12, 8, 9, 33.

Required Upper Division Courses (20 units minimum): Core course (Anthropology 111, 120, 130, M140, or 150) from one of the four anthropology fields listed above; four additional courses. Students are encouraged to concentrate their upper division coursework within one field and are required to consult with the undergraduate adviser in planning their program of study.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Anthropology offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Anthropology.

Anthropology Lower Division Courses

7. Human Evolution, (5) Lecture, three hours; discussion, one hour. Required as preparation for both bachelor’s degrees. Evolutionary processes and evolutionary past of human species. P/NP or letter grading.

8. Archaeology: Introduction, (5) Lecture, three hours; discussion, one hour; one field trip. Required as preparation for both bachelor’s degrees. General survey of field and laboratory methods, theory, and major findings of anthropological archaeology, including case-study guest lectures presented by several campus archaeologists. P/NP or letter grading.

9. Culture and Society, (5) Lecture, three hours; discussion, one hour; fieldwork. Required as preparation for both bachelor’s degrees. Introduction to study of culture and society in comparative perspective. Examples from societies around the world to illustrate basic principles of formation, structure, and distribution of human institutions. Of special concern is the contribution and knowledge that cultural diversity makes toward understanding the problems of the modern world. P/NP or letter grading.

33. Culture and Communication. (5) Lecture, three hours; discussion, one hour. Required as preparation for both bachelor's degrees. Introduction to study of communication from anthropological perspective. Formal linguistic methods compared with ethno-graphically oriented methods focused on context-bound temporal unfolding of communicative activities. Topics include language in everyday life and ritual events, socialization, literacy, multilingualism, miscommunication, political discourse, or scientific archaeology. P/NP or letter grading.

34. Introduction to Urban Speech Communities. (4) Lecture, three hours; discussion, one hour. Introduction to study of speech communities in metropolitan areas, with special focus on communities in Los Angeles. Emphasis on ways in which communities share and incorporate speech norms of urban society while maintaining rules for conduct and interpretation of speech within specific speech communities. Topics include language and identity, socialization, social dialects, and communication. P/NP or letter grading.

110P. Principles of Archaeology. (4) Lecture, three hours. Requisite: course 6. Methodology and theory of archaeology within context of anthropology. Themes include theoretical developments over last 50 years, structure of archaeological reasoning, and selective survey of work on problems of general anthropological interest. P/NP or letter grading.


113. Archaeology of North America. (4) Lecture, three hours. Prehistory of North American Indians; evolution of Indian societies from earliest times to (and including) contemporary Indians; approaches and methods of American archaeology. P/NP or letter grading.

113Q. Prehistory and Ethnography of California. (4) Lecture, three hours. Requisite: course 8 or 9. From earliest Californians through 10,000 years of history, study of diversity in California's original peoples. Aspects of technology, ideology, ecology, and social/political organization. Historic impacts on Californians by Euro-Americans. P/NP or letter grading.

113R. Southwestern Archaeology. (4) Lecture, three hours. Examination of prehistory of American Southwest from 11,000 years ago to historic times. Emphasis on describing and explaining cultural variation and change, employing an evolutionary perspective. Special attention to advent of farming and settled towns, large-scale interactive networks, abandonment of Four Corners area, and historic cultures. P/NP or letter grading.

114L. Archaeology of Chiefdoms. (4) Seminar, three hours. Enforced requisite: course 8. Examination of chiefdom societies in anthropological record, with readings focused on theory and data from archaeological, historical, and ethnographic literature. Illustration of how people in ranked non-state societies created remarkably rich cultures over entire globe beginning several millennia ago in both Old World and Americas. Letter grading.

114P. Ancient Civilizations of Mesoamerica. (4) Lecture, three hours. Archaeology of pre-Hispanic native cultures of Mesoamerica from late Pleistocene through Spanish conquest, with emphasis on formation of sociopolitical developments, classic period civilizations, and Aztec society as revealed by archaeology and ethnohistory. P/NP or letter grading.

114Q. Topics in Archaeology of Mesoamerica. (4) Lecture, three hours. Designed for juniors/seniors. Specialized consideration of particular regions or topics in archaeology of pre-Hispanic Mesoamerica. Specific topics vary but include archaeology and ethnohistory, ancient Mesoamerican religions, Olmec art and archaeology, and the Maya. P/NP or letter grading.

114R. Ancient Civilizations of Andean South America. (4) Lecture, three hours. Requisite: course 8 or 9. Pre-Hispanic and Conquest period native cultures of Andean South America, as revealed by archaeology and early Spanish writing. Lens and their predecessors in Peru, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements. P/NP or letter grading.

C114S. Comparative Study of Ancient States. (4) Lecture, three hours. Introduction to study of complex societies in the Near East, Mesoamerica, and the Andes, including early Egyptian, Urup, Teotihuacan, classical Maya, Wari, and Tiwanaku, with focus on political and economic structures of these societies and on causes of state development and collapse. Concurrently scheduled with course CM214S. P/NP or letter grading.

C114T. Moche Civilization of Ancient Peru. (4) Lecture/demonstration, three hours. Requisite: course 114R. Moche civilization, which flourished on north coast of Peru between A.D. 100 and 800, as revealed by archaeology, iconography, ethnography, and early Spanish writing. Topics include aesthetic, technological, and artistic achievements. Letter grading.

M115A-M115B. Historical Archaeology. (4) (Same as History M102A-M102B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. P/NP or letter grading. M115A. World Perspective. Historical archaeological study requiring appreciation of historical sources, archaeology, and material culture. Thematic emphasis with exploration of breadth of discipline both in Old World and Americas. M115B. American Perspective. Emphasis on historical archaeology in North America, particularly to some practical applications.

115P. Archaeological Field Training. (6 or 13) Lecture, two to three hours; fieldwork, to be arranged (nine hours minimum for 6 units, 50 hours minimum for 13 units). Requisite: course 6. Off-campus field archaeology course offered in regular session or summer. Procedures of archaeological excavation, recording, mapping, surveying, and initial analysis of archaeological data. P/NP or letter grading.

C115R. Strategy of Archaeology. (4) Seminar, three hours. Designed for juniors/seniors. Introduction to problem formulation, theory, and method in archaeology, with emphasis on development of research design. Focus on how archaeological research is conceived and planned, with consideration of differing viewpoints and their usefulness. Concurrently scheduled with course C215R. Letter grading.

116. Archaeology of South Asia. (4) Lecture, three hours. Archaeology of Harappan, early historic, and medieval periods in Indian subcontinent. Investigation of large-scale social movement Buddhism, as well as consideration of how past is interpreted in present. P/NP or letter grading.

117. Archaeological Laboratory Methods. (6) Lecture, three hours; laboratory, two to three hours. Requisite: course 8. Introduction to archaeological analysis of range of prehistoric cultural materials. Procedures of classification, analysis, data entry. Extensive laboratory work with lithic artifacts, vertebrate fauna, shellfish, plant remains, bone and shell tools, ceramics. P/NP or letter grading.

117P. Selected Laboratory Topics in Archaeology. (4) Lecture, three hours. Requisite: course 8. How archaeological research is furthered by specialized analyses of particular classes of cultural remains. Topics may include animal bones, plants, ceramics, rock art. Hands-on experience working with collections and data. May be repeated for credit with topic change. P/NP or letter grading.

117Q. Intensive Laboratory Training in Archaeology. (6) Lecture, three hours; laboratory, three hours. Requisite: course 8. Archaeologists with special expertise in specific analytical techniques and topics oversee an intensive laboratory training on one of following topics: zooarchaeology, ethnoobotany, lithic analysis, ceramic analysis, etc. May be repeated for credit with topic change. P/NP or letter grading.

118. Selected Topics in Archaeology. (4) Lecture, three hours. Study of selected topics in archaeology. Consult Schedule of Classes for topics and instructors. May be repeated for credit with topic change. P/NP or letter grading.

M119. Topics in African History: Prehistoric Africa — Technological and Cultural Traditions. (4) (Same as History M164A.) Lecture, three hours; discussion, one hour (when scheduled). Preparation: one prior course in African history at UCLA. Designed for juniors/seniors. Survey of nondocumentary sources of early African history, with emphasis on archaeological evidence from origins of humanity until A.D. 1600. P/NP or letter grading.

119P. Cities Past and Present. (4) Lecture, three hours. Requisite: course 8 or 9. Examination of ancient and modern cities to evaluate how urban form developed and continues to thrive as human social phenomenon. Contemporary observations compared with archaeological case studies, including South America, Asia, Africa, and ancient Near East. Letter grading.

Biological Anthropology

120. Survey of Biological Anthropology. (4) Lecture, three hours. Requisite: course 7. Limited to majors and graduate anthropology students. Survey of biological anthropology including all major subareas. (Core course for biological field.) P/NP or letter grading.

121A. Primate Fossil Record. (4) Lecture, three hours. Requisite: course 7 or 12. Introduction to method and theory in paleoanthropology. Primate evolution, Cretaceous through the Miocene. May be taken independently for credit. P/NP or letter grading.

121C. Evolution of Genus Homo. (4) Lecture, three hours. Requisite: course 7 or 12. Origin and evolution of the genus Homo, including archaic sapiens and Neanderthals. Morphology, ecology, and behavior of these groups. Course ends with appearance of modern man. May be taken independently for credit. P/NP or letter grading.

121P. Reconstructing Hominid Behavior and Paleonecology. (4) Seminar, three hours. Use of paleontological, archaeological, ecological, and geological evidence to infer late Pliocene and early Pleistocene hominid behavior and environmental context of human evolution. P/NP or letter grading.

121Q. Paleopathology. (4) Lecture, three hours. Designed for juniors/seniors. Evidence of disease and trauma, as preserved in skeletal remains of ancient and modern human populations. Discussions of medical procedures (trepanation), health status, ethnic mutilation (cranial deformation, footbinding), cannibalism, and sacrifice and roles such activities have played in human societies. Letter grading.


124P. Evolution of Human Sexual Behavior. (4) Lecture, three hours; discussion, one hour. Recommended requisite: course 7 or 12. Examination of human sexual relations and social behavior from evolutionary perspective. Emphasis on theories and evidence for differences between men and women in their patterns of growth, maturation, fertility, mortality, parenting, and relations with members of opposite sex. Letter grading.

125. Selected Topics in Biological Anthropology. (4) Lecture, three hours. Study of selected topics in biological anthropology. Consult Schedule of Classes for topics and instructors. Requisite: one credit with permission of instructor. P/NP or letter grading.


128A. Primate Behavior Nonhuman to Human. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Review of primate behavior as known from laboratory and field studies. Theoretical issues of animal behavior, with special reference to nonhuman primates. Discussion of human behavior as the product of such evolutionary processes. P/NP or letter grading.


132. Study of Culture. (4) Lecture, three hours; discussion, one hour (when scheduled). Requisite: course 9. Designed for juniors/seniors. The 20th-century elaboration and development of the concept of culture. Examination of five major paradigms: culture as a human capacity, as patterns and products of behavior, as systems of meaning and cognition, as generative structure and semiotic system, as a component in social action and reality construction. (Core course for cultural fields.) P/NP or letter grading.

131. Culture: What Makes It All Work. (4) Lecture, three hours. Preparation: two lower division social sciences courses (may be from different departments). Examination of some basic questions addressed by anthropologists in the field of culture. Consideration of theories of culture and evolutionary origins of culture. Review of new analytic methods that allow students to begin to do quasi-experimental research in culture and introduction to multijugment as framework for modeling how culture can be both supra-organic and embedded in minds of culture bearers. P/NP or letter grading.

133P. Visual Anthropology: Documentary Photography. (4) Lecture, three hours. Photographs in anthropology serve many purposes: as primary data, illustrations of words in books, documentation for disappearng cultures, evidence of fieldwork, material objects for museum exhibitions, and even works of art. Topics include relationships between subject and treatment of image, between art photography and ethnographic documentation, role of museum photographs and caption, social practice of taking pictures, and case study on photographing Middle-East and North Africa. P/NP or letter grading.

133Q. Symbolic Systems. (4) Lecture, three hours. Designed for juniors/seniors. Analysis of anthropological research and theory on cultural systems of thought, behavior, and communication expressed in symbolic mode (as distinct from discursive, instrumental, and causal modes). Methods for study of symbolic meaning, including experiential approach. P/NP or letter grading.


133S. Ethnomathematics and Anthropology of Numeration. (4) Lecture, three hours. Counting systems such as one, two, three, many or modern equivalent of one, two, three, infinity are widespread in human societies. Counting things is important part of everyday life. But indigenous thinking goes far beyond pragmatics of counting, and conceptual systems underlyng counting are integrated with concepts people have about themselves and their societies. Numeracy is product of social life and not just reflection of one’s experience with physical world. Exploration of different ways that indigenous mathematical thinking is embedded in human societies and cultures, ranging from use of fractals in African art to algebra of kinship terminologies to typological psychology to complex experiements of concepts. P/NP or letter grading.
141. Ethnography of Everyday Speech. (5) Lecture, three hours; fieldwork. Requisite: course 33. Designed for students who have completed an introductory course in language. Emphasis is on the cultural and social significance of speech, with particular emphasis on the role of language in everyday life. Students will conduct an anthropological study of a particular aspect of everyday speech.

142A-142B. Microethnography of Communication. (4) Lecture. Requisite: course 33. Course 142A or Sociology 124A is requisite to 142B. Students prepare records (sound tape, videotape, or film) of naturally occurring social interactions, which are analyzed in class for interactive tasks, resources, and accomplishments displayed. Laboratory and fieldwork outside of class and minimal fees to offset costs of equipment maintenance and insurance required. P/NP or letter grading.

M142R. Culture of Jazz Aesthetics. (4) Same as Ethnomusicology M130 and World Arts and Cultures M136. Lecture, three hours. Requisite: course 9 or 33 or Ethnomusicology 20A or 20B or 20C or World Arts and Cultures 20. Aesthetics of jazz from point of view of musicians who shaped jazz as art form in the 20th century. Listening to and interacting with professional jazz musicians who answer questions and give musical and historical analysis of their work. Laboratory, case study, and historical development of jazz. P/NP or letter grading.

C144. Native American Languages and Cultures. (4) Lecture. Three hours. Requisite: course 33 or American Indian Studies M10. Introduction and comparative analysis of sociocultural aspects of language use in Native North American Indian speech communities. Special topics include both micro- and macro-sociolinguistic topics. Micro-sociolinguistic topics are comprised of such issues as multilingualism, cultural difference, and the relationship between communicative behavior and variation within speech communities (e.g., male and female speech, baby talk, ceremonial speech, etc.). Macro-sociolinguistic considerations include language planning and its relationship to language change and language use in American Indian education. Concurrently scheduled with course C243SP/ P/NP or letter grading.


146. Language and Culture of Polygenesis: Past, Present, and Future. (4) Lecture, three hours. Requisite: course 33. Introduction to Polynesian cultures and languages, with particular emphasis on past and present cultural organization, patterns of language structure and language use, verbal art, language socialization strategies, and forms of cultural assimilation and resistance to European contact. Fieldwork on contemporary Polynesian cultures in U.S. urban areas. Letter grading.

147. Selected Topics in Linguistic Anthropology. (4) Lecture, three hours. Study of selected topics in linguistic anthropology. Consult Schedule of Classes for topics and instructors. May be repeated for credit. P/NP or letter grading.

148. Talk and the Body. (4) Same as Applied Linguistics and TESL M161 and Communication Studies M123.) Seminar, four hours. Relationship between language and nonverbal behavior and the roles of performance. New approaches to phenomena such as embodiment become possible when body is analyzed, not as isolated entity, but as visible agent whose talk and action are lodged within both processes of human interaction and rich settings where people pursue courses of action that count in their lives. Letter grading.

149A. Language and Identity. (4) Lecture, three hours. Requisite: course 33. Language as social phenomenon. Introduction to several angles from which language use can be critically examined as integral to interactions between individuals and between social groups. Letter grading.


149C. Multilingualism: Communities and Histories in Contact. (4) Lecture, three hours. Requisite: course 33. Examination of communicative, political, and personal aspects of multilingualism (multilingualism) by individuals and by groups. Broad themes in social theory, anthropological inquiry, sociolinguistics, and literary studies. Lectures to contextualize class readings. Letter grading.

149D. Language, Culture, and Education. (4) Lecture, three hours. Requisite: course 33. Examination of various ways in which culture, and language in particular, influence not only educational processes and outcomes, but also the very conceptions of what normal development processes and desirable educational outcomes are. Letter grading.

M149E. Language Socialization. (4) Same as Applied Linguistics and TESL M123.) Seminar, four hours. Exploration of process of socialization through language, and socialization to use language across life span, across communities of practice within a single society, and across different ethnic and socio-economic groups. Examination of ways in which verbal interaction between novices and experts is structured linguistically and culturally. Letter grading.

Social Anthropology

150. Study of Social Systems. (4) Lecture, three hours. Requisite: course 9. Introduction to more specialized social anthropology courses. Examination of a variety of social systems and how societies are organized and social relations maintained. Basic frameworks of anthropological analysis; historical context and development of social anthropology discipline. Letter grading.


152. Politics: Tribe, State, Nation. (4) Lecture, three hours. Cross-cultural examination of politics and political organization. Law and maintenance of order; corporate groups; ideologies. Relations of political institutions to other institutions of society and to issues of identity and representation. Letter grading.


153P. Economic Anthropology. (4) Lecture, three hours. Requisite: course 9. Introduction to anthropological perspectives for interpretation of economic life and institutions. Economic facts to be placed in their larger social, political, and cultural contexts; examination of modes of production, distribution, and consumption of goods and services in their relation to social networks, power structures, and institutions of family, kinship, and class. P/NP or letter grading.


M154Q. Gender Systems: Global. (4) Same as Women’s Studies M154Q.) Lecture, three hours. Preparation: introductory sociocultural anthropology course. Anthropology of transnational feminisms from anticolonial to postcolonial perspectives. Women’s viewpoints in study of historical development and line of material conditions of women’s lives in world — gender division of labor, relationship of gender to state, and colonialism and resistance movements. P/NP or letter grading.

M155. Women’s Voices: Their Critique of Anthropology of Japan. (4) Same as Women’s Studies M155.) Lecture, three hours. Preparation: introductory sociocultural anthropology course. Anthropology of Japanese women long viewed Japan as homogeneous whole. Restoration of diversity and contradiction in it by listening to voices of Japanese women in various historical contexts. Recommended preparation: prior women’s studies courses or anthropology courses. Comparative study of social movements (e.g., nationalist, socialist, liberal/reform), beginning with Russia and China and including Cuba, Algeria, Guinea-Bissau, Mozambique, Nicaragua, and Iran. Analysis of women’s participation in social transformations and the centrality of gender interests. P/NP or letter grading.

156. Comparative Religion. (4) Lecture, three hours. Survey of various methodologies in comparative study of religious ideologies and action systems, including understanding of religious life through descriptive and structural approaches, and identification of social and psychological factors which may account for variation in religious systems cross-culturally. P/NP or letter grading.

157. Selected Topics in Social Anthropology. (4) Lecture, three hours. Study of selected topics in social anthropology. Consult Schedule of Classes for topics and instructors. May be repeated for credit. P/NP or letter grading.

158. Hunting and Gathering Societies. (4) Lecture, three hours. Requisite: course 9 or 150. Survey of hunting and gathering societies. Examination of their distinctive features from both ecological and cultural viewpoints. Discussion of possibility of developing general framework for synthesizing these two viewpoints. Use of this synthesis as basis for illustrating relevance of hunting and gathering societies as understanding of complex societies. P/NP or letter grading.

158P. Pastoral Nomads. (4) Lecture, three hours. Requisite: course 9 or 150. Survey of pastoral nomadic societies. Consideration of environmental and cultural demands of livestock domestication and production. Focus on ecological features, cultural practices, and social organization, with special attention to historical interactions between pastoral nomads and settled peoples. Letter grading.
M158Q. Past Societies and Their Lessons for Our Own Future. (5) (Same as Geography M153 and Honors Community M153) Lecture, two hours; discussion, two hours. Examination of modern and past tribal and band societies (Amazonian Indians, Kalahari bushmen, and others) that met varying fates, as background to examination of how modern state societies are coping or failing to cope with similar issues. P/NP or letter grading.

159. Warfare and Conflict. (4) Lecture, three hours. Examination of conflict and violent confrontation as these have been treated in anthropological literature. Cross-cultural comparison of institutions such as raids, feuds, ritual warfare. Consideration of application of anthropology to study of militaries, modern warfare, and large-scale ethnic conflict. Letter grading.

M159P. Constructing Race. (4) (Same as Afro-American Studies M159P and Asian American Studies M169P) Lecture, three hours. Examination of race, a socially constructed category, from anthropological perspective. Consideration of development of racial categories over time and in different regions, racial passing, multiracial identity in the U.S., whiteness, American Studies M159P and Asian American Stud-

M161. Development Anthropology. (4)

Regional Cultures

Africa

171. Sub-Saharan Africa. (4) Lecture, three hours. Issues of ecology and political economy; continuing impacts of colonialism, nationalism, and current challenges for development in social relations. Examination of Africa’s significance to development of anthropology. Cultural background for understanding events in contemporary Africa provided. Letter grading.

North America

172A. Native North Americans. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Consideration of diversity of Native American societies north of Mexico, including their origins, formation, and development. Particular attention to subsistence systems and their relationship to social institutions and cultural practices, especially religion. Letter grading.

172B. Change and Continuity among Native North Americans. (4) Lecture, three hours. Requisite: course 172A. Consideration of tremendous change Native American societies and cultures have undergone since European contact. Emphasis on patterns of adaptation and continuity as Native Americans confronted colonization and its implications. Letter grading.

172R. Cultures of the Pueblo Southwest. (4) Lecture, three hours. Survey of ethnographic and ethnohistorical research of Pueblo Indians (Hopis, Zuni, Tanoans, and Keresans) and their immediate neighbors. Basic information on history, languages, social organization, and traditional cultural systems of these groups. P/NP or letter grading.

172Y. Chinese Family and Kinship. (4) (Same as Chicana and Chicano Studies M172Y) Lecture, three hours. Requisite: course 9 or Chicana and Chicano Studies 10A or 10B. Culture change theory encompasses such issues as innovation, syncretism, colonialism, modernization, urbanization, migration, and acculturation. Examination of methods anthropologists/ethnographers use in studying and analyzing culture change within ethnographic historical backgrounds of Mexican and Mexican American people to clarify social and cultural origins of modern habits and customs and, more importantly, unravel various culture change threads of that experience. Topics include technology and evolution, Indian nation-states, miscegenation, peasantry, expansionism, industrialization, immigration, and adaptation. Field project on some aspect of culture change required. P/NP or letter grading.

173. Latin American Communities. (4) Lecture, three hours. Overview of social and cultural anthropology of small communities in Latin America. Similarities and contrasts in social organization and interpersonal relationships in context of economic, political, and cultural environments. P/NP or letter grading.

South America

174P. Ethnography of South American Indians. (4) Lecture, three hours. Introduction to ethnography of South American Indians, with special emphasis on Lowland South America. Structure of society, history and development of man and society in this world area and examination of exemplary cultures symptomatic of various levels of cultural achievement. P/NP or letter grading.

Asia

175Q. Ideology and Social Change in Contemporary China. (4) Lecture, three hours. Introduction to sociocultural changes in China from 1949 to present. Topics include ideology and politics in everyday life, social stratification and mobility, cultural construction of socialist person, changes in courts, marriage, and family, and political economy of reforms in post-Mao era. P/NP or letter grading.

175R. Societies of Central Asia. (4) Lecture, three hours. Overview of culture and society among the diverse peoples of Inner Asia, including Mongolia, Tibet, and Soviet Central Asia. Topics include environment and economic adaptation, political in traditional isolation and within the framework of recent national integration, kinship, forms of marriage and status of women, religion and the social order in Hindu/Buddhist culture contact zone, and current problems of modernization. P/NP or letter grading.

175S. Japan. (4) Lecture, three hours. Overview of contemporary Japanese society. General introduction, kinship, marriage and family life, social mobility and education, norms and values, religions, patterns of interpersonal relations, social deviance. P/NP or letter grading.

175T. Civilizations of East Asia. (4) Lecture, three hours. General anthropological introduction to closely linked civilizations of China, Korea, and Japan, providing comparative analysis of fundamental institutions such as family, state, and religion and assessing effects of urbanization and industrialization. Letter grading.

175U. Cultures of Indonesian Archipelago. (4) Lecture, three hours. Introduction to past and contemporary civilizations and cultures of Indonesia, including Javanese, Balinese, Toraja, Dayak, and Minangkabau. Geographical, ecological, and historical overview with examination of such topics as religious and political ideas and institutions, art, symbolism and ritual, illness and healing, and psychological issues and themes. P/NP or letter grading.

175V. Ethnology of Korea: Re-Presenting Lives in Contemporary South Korea. (4) Lecture, three hours. Examination of South Korea’s contemporary social positioning, with focus on its dynamic development out of a history of colonialism and war to capitalism; multiple and conflicting linkages of Korean people involving class, gender, family/kinship, and nation. Letter grading.

175Y. Chinese Family and Kinship. (4) Lecture, three hours. Examination of family and kinship organization in traditional Chinese society, socialist transformation of these institutions on mainland China during Maoist era, and role of familial culture in economic development of Taiwan, Hong Kong, Singapore, and mainland China in post-Mao era. Letter grading.

Middle East

176. Culture Area of Middle East. (4) Lecture, three hours. Study of Middle East has suggested many theories of the development of humankind, evolution of human society, birth of monotheism, and origin of agriculture, trade, and cities. Presentation of anthropological material relevant to understanding Middle East as culture area, and Islam as basis of its shared tradition. Letter grading.
Pacific

177. Cultures of Pacific. (4) Lecture, three hours. Four major culture areas of Australia, Melanesia, Polynesia, and Micronesia. General geographical features, peoples, history, and language distribution of whole region. Distinctive sociocultural features of each culture area presented in context of their adaptive significance. P/NP or letter grading.

Regional Cultures

179. Selected Topics in Regional Cultures. (4) Lecture, three hours. Study of selected topics in regional cultures. Consult Schedule of Classes for topics and instructors. May be repeated for credit with topic change. P/NP or letter grading.

History, Theory, and Method


182. History of Anthropology. (4) Lecture, three hours. Brief survey of development of Western social science, particularly anthropology, from Greek and Roman thought to emergence of evolutionary theory and concept of culture in the late 19th century. "Root paradigm" of Western science and science on such notables as Durkheim, Freud, Hall, Lom- broso, Marx, Piaget, Terman, and others. Consideration of how this influences ethnocentrism and Eurocentrism, sociocentricity, perception of deviance, and our view of culture in general. P/NP or letter grading.

185A-185B. Theoretical Behavioral Ecology. (4-4) (Formerly numbered M185A-M185B.) Lecture, three hours. Preparation: one upper division introduction to behavioral ecology course. Development of world ecology from the anthropological perspective. Discussion of how each of the major branches of archaeology has evolved a special character determined by peculiarities of its own data, methods, and intellectual affilia- tion. P/NP or letter grading.


197. Directed Research in Anthropology. (2 to 5) Independent study, with scheduled meetings to be arranged between faculty member and student. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. May be repeated for credit with topic change. P/NP or letter grading.

M201A-M201B. Graduate Core Seminars: Archaeology. (5-6) (Same as Archaeology M201A-M201B.) Seminar, three hours. Course M201A is required of all graduate students. Required of all graduate students. Discussion of major archaeological themes. Major emphasis on major themes. Emphasis on major themes. May be repeated for credit with instructor approval. S/U or letter grading.

202. Biological Anthropology Colloquium. (4) Seminar, three hours. Selected topics on status of current research in biological anthropology. May be repeated for credit. S/U or letter grading.

203A-203B-203C. Core Seminars: Sociocultural Anthropology. (4-4-4) Seminar, three hours. Letter grading.

Archaeology


212P. Selected Topics in Hunter/Gatherer Archaeology. (4) Seminar, three hours. Prehistory and ethnography of hunter-gatherer peoples. Consideration of range of issues, including, but not limited to, technological innovations, exchange systems, settlement and mobility, and social change. May be repeated for credit. S/U or letter grading.

M212S. Selected Laboratory Topics in Archaeology. (4) (Same as Archaeology M205A.) Lecture, three hours. Designed for graduate students in archaeology or in other departments. Specialized analysis of particular classes of cultural remains. Topic may be one of following: zooarchaeology, paleoethnobotany, ceramics, lithic analysis, rock art. Laboratory experience with collections and data. May be repeated for credit with topic change. S/U or letter grading.

M212T. Intensive Laboratory Training in Archaeology. (6) (Same as Archaeology M205B.) Lecture, three hours; laboratory, two hours minimum. Advanced laboratory training for graduate students with extended laboratory hours. Special laboratory-based topics, including but not limited to lithic analysis, ceramic analysis, zooarchaeology, and paleoethnobotany. May be repeated for credit with topic change. S/U or letter grading.

Special Studies

191. Variable Topics Research Seminars: Anthropology. (4) Seminar, three hours. Research seminar on selected topics in anthropology. Reading, discussions, and paper development. No formal project. Consult Schedule of Classes for topics and instructors. May be repeated for credit with topic change. P/NP or letter grading.

191HA. Beginning Seminar. (4) (Formerly numbered 179HA-B.) Course 191HA-B is not open to anthro- pology honors program students. Survey of major research strategies in anthropology to aid honors stu- dents in developing research proposals. Letter grading.

191HB. Field Methods. (4) (Formerly numbered 197HB.) Seminar, three hours. Limited to anthropolo- gy honors program students. Survey of major field methods in anthropology to prepare students to con- duct their own field research. Letter grading.

191HC. Data Analysis. (4) (Formerly numbered 197HC.) Seminar, three hours. Limited to anthropol- ogy honors program students. Survey of major forms of data analysis in anthropology to aid honors students in analysis of their own research data. Letter grading.

191HD. Writing for Anthropology. (4) (Formerly numbered 197HD.) Seminar, three hours. Limited to anthropology honors program students. Teaching of writing skills, with focus on how to write honors the- ses. Letter grading.


194. Research Group Seminars: Anthropology. (1) Seminar, one hour. Limited to undergraduate stu- dents who are part of research group or internship. Discussion of research methods and current literature in discipline or of research of faculty members or stu- dents. May meet concurrently with graduate research seminar. May be repeated for credit with topic change. P/NP grading.

197. Directed Research in Anthropology. (2 to 8) Independent study, with scheduled meetings to be arranged between faculty member and student. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned readings and tangible evidence of mastery of subject matter (e.g., paper or other product) re- quired. Individual contract required. P/NP or letter grading.

199. Directed Research in Anthropology. (2 to 8) Independent study, with scheduled meetings to be arranged between faculty member and student. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned readings and tangible evidence of mastery of subject matter (e.g., paper or other product) re- quired. Individual contract required. P/NP or letter grading.

Graduate Courses

200. Proseminar: Practice of Anthropology. (4) Seminar, three hours. Introduction to academic writing. Critical reading, presentation, and writing skills, with focus on how to write honors the- anthropology honors program students. Teaching of writing skills, with focus on how to write honors the- ses. Letter grading.

213. Selected Topics in Old World Archaeology. (4) Seminar, three hours. May be repeated for credit. S/U or letter grading.

214. Selected Topics in Prehistoric Civilizations of the New World. (4) Lecture, three hours. Mesoamerican and Andean civilizations normally constitute major focus of seminar. May be repeated for credit. S/U or letter grading.

CM214S. Comparative Study of Ancient States. (4) (Same as Archaeology M214.) Lecture, three hours. Comparative anthropological study of first complex societies in the Near East, Mesoamerica, and the Andes, including early Egyptian, Urrik, Teotihuacan, classic Maya, Wari, and Tiwanaku, with focus on political and economic structures of these societies and on causes of state development and collapse. Concurrently scheduled with course C114S. S/U or letter grading.

215. Field Training in Archaeology. (6 or 12) Lecture, two to three hours; fieldwork, eight or more hours (6 units) or 50 or more hours (12 units). Off-campus field archaeology course offered in regular session or summer. Intensive training in archaeological excavation, mapping, surveying, recording, preliminary analysis of field data, and project organization/supervision. May be repeated for credit. S/U or letter grading.

C215R. Strategy of Archaeology. (4) Seminar, three hours. Introduction to problem formulation, theory, and method with emphasis on development of research designs. Focus on how archaeological research is conceived and planned, and considering of differing viewpoints and their helpfulness. Concurrently scheduled with course C115R. Complete research proposal required of graduate students. Letter grading.

M216. Topics in Asian Archaeology. (4) (Same as Art History M262A.) Lecture, three hours. Designed for graduate students. May include identification of ethnic groups in archaeology, archaeology of religion, archaeological reflections of commerce and trade and their influence on social development, archaeology of language dispersal, cultural contact and nature of cultural “influence.” Letter grading.

217. Explanation of Societal Change. (4) Lecture, three hours. Examination of processes of societal evolution, emphasizing usefulness of a variety of explanatory models from general systems theory, ecology, anthropology, and other sources. Specific research questions vary with each course offering. May be repeated for credit. S/U or letter grading.

217A. Archaeology. (4) Seminar, three hours. Evaluation of cities as most complex form of human population center, using both archaeological and modern examples. Observations about material culture and space enable assessment of social dynamics as cities are constructed and lived in by variety of different ethnic, economic, ritual, and political groups. Letter grading.

218. Style and Ethnicity. (4) Seminar, three hours. How stylistic variation in material culture informs on and mediates the shape, boundaries, and interrelations of ethnic groups. Aimed primarily toward archaeologists and ethnographers, seminar also welcomes students interested in either material culture or style as such. Letter grading.

219. Complex Hunters/Gatherers in Theoretical Perspective. (4) Seminar, three hours. Examination of economic, political, and social foundations of complex hunter/gatherer societies, with focus on theory of emergence of complex cultural organization and recognition of complex middle-range societies in the archaeological record. S/U or letter grading.

220. Current Problems in Biological Anthropology. (4) Seminar, three hours. Detailed examination of current research in biological anthropology (specific topics to be announced). Emphasis on nature of hypotheses and their testing in ongoing student and faculty research. May be repeated for credit. S/U or letter grading.

221A-221B. Fossil Evidence for Human Evolution. (4-4) Seminar, four hours. Examination and analysis of fossil evidence for man’s evolution. S/U or letter grading.

222. Graduate Core Seminar: Biological Anthropology in Review. (6) (Formerly numbered 120G.) Seminar, three hours. Enforced corequisite: anthropology M214. Required of all graduate anthropology students who need foundational background in biological anthropology. Seminar discussion based on basic evolutionary principles, behavioral biology, hominid evolutionary history, and contemporary human variation. Letter grading.

Cultural Anthropology


230Q. Theories of Culture. (4) Lecture, three hours. Exploration of aspects within culture theory: emergence of culture with modes of production, discovery of cultural “frames” and “cultural black box,” cultural change, investigation of production of culture and transformations of meaning within cultural domains of politics, economy, and religion. S/U or letter grading.


232P. Current Issues in Ethnography. (4) Seminar, three hours. Designed for graduate students. S/U or letter grading.

233P. Symbolic Anthropology. (4) Seminar, three hours. Requisite: course 133R. Nature of symbolic relations (as distinguished from other referential ones), significance of symbolic systems (in terms of action, cognition, affectionality, contemplation), symbolic and isomorphic logic (as opposed to the causal one) are among the questions to be explored. May be repeated for credit. S/U or letter grading.

233Q. Aesthetic Anthropology. (4) Lecture, three hours. Requisite: course 133R. Selected questions concerning visual meaning and their relationships with the sociocultural context examined in depth. May be repeated for credit. S/U or letter grading.

234. Seminar: Psychocultural Studies and Medical Anthropology. (4) Seminar, three hours. Devoted to present state of research in psychocultural studies. Survey of work in child development and socialization, personality, psychobiology, transcultural psychia-try, deviance, learning, perception, cognition, and psychocultural perspectives on change. S/U or letter grading.

M234P. Transcultural Psychiatry. (4) (Same as Psychiatry M222.) Lecture, three hours. Consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, “culture specific” syndromes, non-Western psychiatry, and questions of “sick” societies. May be repeated for credit. S/U or letter grading.

M234Q. Psychological Anthropology. (4) (Same as Psychiatry M272.) Lecture, three hours. Various psychological issues in anthropology, both theoretical and methodological. Areas of interest include such things as culture and theory, culture and personality, and culture psychiatry. Discussion of questions relating to symbolic and unconsciousness process as they relate to culture. Topics vary from term to term. May be repeated for credit. S/U or letter grading.

234R. Culture, Cognition, and Being in the World. (4) Seminar, three hours. Whether and how culture and thought shape each other is a historically endur- ing and controversial topic. Focus on work challeng- ing prevailing implicit acceptance of theoretical sepa- ration between study of mind and study of culture. S/U or letter grading.

M234T. Anthropology of Human Body. (2 to 4) (Same as Psychiatry M282.) Seminar, three hours. Exploration of how sociocultural and political dynam- ics shape perceptions of and understandings about the human body, and how, reciprocally, those percep- tions and understandings influence social processes. Includes materials from both non-Western and West- ern societies. Letter grading.

M235. The Individual in Culture. (4) (Same as Psychiatry M213.) Seminar, three hours. Designed for graduate students. Letter grading.


239P. Selected Topics in Field Ethnography. (4 to 8) Seminar, three hours. Discussion and practicum in various techniques for collecting and analyzing ethnographic field data. S/U or letter grading.

Linguistic Anthropology


M241. Topics in Linguistic Anthropology. (4) (Same as Linguistics M246C.) Lecture, three hours. Problems in relations of language, culture, and soci- ety. May be repeated for credit. S/U or letter grading.

M242. Ethnography of Communication. (4) (Same as Applied Linguistics and TESL M207.) Lecture, three hours. Designed for graduate students. Seminar devoted to examining representative scholarship from fields of sociolinguistics and ethnography of commu- nication. Particular attention to theoretical develop- ments including relationship of ethnography of commu- nication to such disciplines as anthropology, linguis- tics, and sociology. Topical foci include style and strategy, speech variation, varieties of noncasual speech genres, languages and ethnicity, and nonver- bal communication behavior. S/U or letter grading.

243A. Language Ideologies: Political Economy of Language Beliefs and Practices. (4) Lecture, three hours. Language ideological research problematizes fundamental assumptions about speakers’ use of lan- guage and communicative practices: (1) speakers’ awareness of these structures and processes and (2) relationship of this consciousness to speakers’ politi- cal economic perspectives and to actual communicac- tive conduct. Letter grading.

Biological Anthropology

221A-221B. Fossil Evidence for Human Evolution. (4-4) Seminar, four hours. Examination and analysis of fossil evidence for man’s evolution. S/U or letter grading.

234R. Culture, Cognition, and Being in the World. (4) Seminar, three hours. Whether and how culture and thought shape each other is a historically endur- ing and controversial topic. Focus on work challeng- ing prevailing implicit acceptance of theoretical sepa- ration between study of mind and study of culture. S/U or letter grading.
C243P. Native American Languages and Cultures. (4) Lecture, three hours; seminar, two hours. Preparation: prior student or anthropology, linguistics, or American Indian studies. Introduction and comparative analysis of sociocultural aspects of language use in Native North American Indian speech communities. Specific foci include both micro- and macro-social and micro-sociolinguistic topics. Cases are comprised of such issues as multilingualism, cultural differences with respect to communication, and interaction within and between different communities (e.g., male and female speech, baby talk, ceremonial speech, etc.). Macro-sociolinguistic considerations include language contact and its relationship to language change and language in American Indian education. Currently offered with course C144. S/U or letter grading.

M243Q. Afro-American Sociolinguistics: Black English. (4) (Same as Afro-American Studies M202Q.) Lecture, three hours. Basic information on Black American English, an important minority dialect in the U.S. Social implications of minority dialects examined from perspectives of their genesis, maintenance, and social functions. General problems and issues in fields of sociolinguistics examined through a case study approach. Students required to conduct research in consultation with instructor and participate in group discussion. S/U or letter grading.

244. Field Methods in Linguistic Anthropology. (4) Seminar, three hours; work with informant, one hour. Requisite: Linguistics 20 or prior experience in linguistic analysis. Practice in eliciting and transcribing linguistic data from native speakers and informants. Instruction in phonetic transcription and phonological structures; introduction to skills and strategies pertinent to morphological, syntactic, and phonetic analysis. Practice with native speakers of non-Indo-European languages is important aspect of student participation. S/U or letter grading.

245. Linguistic and Intracultural Variation. (4) Lecture, three hours. Problem of variation as it impinges on disciplines of anthropology and linguistics. Among objectives of course are the following: to acknowledge importance of speech variation in anthropological linguistic research, to critically assess a broad and representative sample of modern scholarship devoted to study of intra-individual and interindividual variation, and to evaluate utility and potential applicability of recent linguistic models to anthropological linguistics and anthropological theory. Letter grading.

M246A. Grammar and Discourse. (4) (Same as Applied Linguistics and TESL M272J.) Seminar, four hours. Requisite: one of Applied Linguistics and TESL C201. Survey of the construction-based approach to studying language as meaningful form. Topics include grammatical and indexical categories, reference and social indexicality, relation of syntax to semantics and pragmatics, markedness, universals, cultural and cognitive implications of language structure and use. S/U or letter grading.

M246B. Grammar and Discourse Practicum. (4) (Same as Applied Linguistics and TESL M272K.) Seminar, four hours. Requisite: course M246A. Survey of advanced topics in grammar and discourse, including predicates, arguments and grammatical relations, noun phrase categories, case marking, verbal categories, topic marking devices, registers and speech varieties, reported speech, genre and text structure in discourse. Presentation and analysis of data from range of languages. S/U or letter grading.

M247. Topics in Semantics and Pragmatics. (4) (Same as Applied Linguistics and TESL M266M.) Seminar, four hours. Requisite: Applied Linguistics and TESL C201. Detailed examination of specialized topics in semantics and pragmatics. Topics vary from year to year and may include metaphor, theories of reference and denotation, honorific speech, evidentiality, reported speech, etc. May be repeated for credit with topic change. Letter grading.


M249A-M249B. Ethnographic Methods in Discourse Analysis. (Same as Applied Linguistics and TESL M270A-M270B.) Seminar, four hours. Two-term sequence on ethnographic approaches to recording and analyzing communicative events in their sociocultural context, involving student-initiated fieldwork in a community setting. Emphasis on hands-on activities within theoretical frameworks that consider language as a social and cultural practice. M249A. Requisite: course M242 or Applied Linguistics and TESL 260 or Sociology C244A. Devoted to skills related to collecting socially and culturally meaningful data. Letter grading. M249B. Requisite: course M249A. Devoted to production of ethnographic analysis, including how to present an analysis in form of a conference talk and how to develop an analysis into a grant or dissertation proposal. S/U or letter grading.

M250P. Ethnographic Technologies Laboratory I. (4) (Same as Applied Linguistics and TESL M270P.) Laboratory, four hours. Corequisite: course M249A or Applied Linguistics and TESL M270A. Hands-on mentorship in editing ethnographic video footage, incorporation of video transcriptions, and analysis of verbal interaction, writing a grant proposal, and assembling a conference presentation. S/U grading.

M250Q. Ethnographic Technologies Laboratory II. (4) (Same as Applied Linguistics and TESL M270Q.) Laboratory, four hours. Corequisite: course M249B or Applied Linguistics and TESL M270B. Hands-on mentorship in editing ethnographic video footage, incorporating video transcriptions, and analysis of verbal interaction, writing a grant proposal, and assembling a conference presentation. S/U grading.

Social Anthropology


251P. Cultural Ecology. (4) Lecture, three hours. May be repeated for credit. S/U or letter grading.

252P. Comparative Systems of Social Inequality. (4) Seminar, three hours. Examination in historical and contemporary perspective of particular systems of structured social inequality based on rank, class, and contemporary perspective of particular systems. Examples from Asian, Pacific, European, African, and American cultures. S/U or letter grading.

252Q. Anthropology of Resistance. (4) Lecture, one hour; discussion, two hours. Preparation: at least one upper division sociocultural anthropology course. Exploration of recent works in anthropology and other disciplines which address practice and resistance, as well as anthropological approaches to understanding gender systems cross-culturally, with emphasis on relationship between systems of gender, economy, ideological systems, and social inequality. S/U or letter grading.

Applied Anthropology


261Q. Issues in Applied Anthropology. (4) Seminar, three hours. Use of seminar format to explore selected domestic and international problems from applied anthropological perspective. Consideration of history, theory, and practice of anthropology, ethics, and careers. S/U or letter grading.

M263P. Gender Systems. (4) (Formerly numbered 263P) (Same as Women's Studies M263P.) Seminar, three hours. Current theoretical developments in understanding gender systems cross-culturally, with emphasis on relationship between systems of gender, economy, ideological systems, and social inequality. Selection of ethnographic cases from recent literature. S/U or letter grading.

M263Q. Advanced Seminar: Medical Anthropology. (2 to 4) (Same as Community Health Sciences M244, Nursing M273, and Psychiatry M273.) Seminar, three hours. Limited to 15 students. Examination of interrelationships between society, culture, ecology, health, and illness. Bases for written critical analysis and class discussion provided through key theoretical works. S/U or letter grading.

M264. Latin America: Traditional Medicine, Shamanism, and Folk Illness. (4) (Same as Community Health Sciences M264 and Latin American Studies M264.) Lecture, three hours. Recommended preparation: Community Health Sciences M202, bilingual English/Spanish skills. Examination of role of traditional medicine and shamanism in Latin America and exploration of how indigenous and mestizo groups diagnose and treat folk illness and West-defined diseases with a variety of health-seeking methods. Examination of art, music, and ritual and case examples of religion and healing practices via lecture, film, and audiotape. Letter grading.
277. Anthropology of China. (4) Seminar, three hours. Designed for graduate students. Survey of selected literature and current developments in field of Chinese social-cultural anthropology. Main topics include family and kinship, interpersonal relations, social differences, local elite and the state, rituals and beliefs, popular culture, consumerism, and cultural globalization. S/U or letter grading.

287P. Anthropology and Colonialism. (4) Lecture, three hours. Designed for graduate students. Exploration of multilacated nature of colonialism and its cultural manifestations in a body of historical articles. Reconsideration of history of anthropology for, as Talal Asad argues, “anthropology emerged as a distinctive discipline at the beginning of the colonial era.” S/U or letter grading.

M287G. Native American Historical Demography. (4) (Same as History M260D.) Lecture, two hours; discussion, one hour. Examination of population history of Native Americans in relation to and following contacts with Europeans, Africans, and others, circa 1492. Emphasis on number of American Indians and other Native Americans, their decline following European contact, and their recent resurgence. Letter grading.

292. Making Oral Presentations. (4) Lecture/student presentations, two hours; discussion, one hour. Designed for graduate students. How to organize and present seminar reports, papers at scholarly conferences, and to professional audiences. Opportunity for students to develop their speaking skills for actual practice in workshop atmosphere of mutual support and constructive criticism. S/U grading.

M293. Culture, Brain, and Development Forum. (1) (Formerly numbered 293.) (Same as Applied Linguistics M232, Education M285, Neurosciences M293, and Psychology M248) Seminar, 90 minutes every other week. Interdisciplinary seminar series to provide students with exposure to current research in understanding complex relationship between culture, brain, and development. S/U grading.

294. Human Complex Systems Forum. (1) Seminar, 90 minutes every other week. Interdisciplinary seminar series to provide students with exposure to current research in understanding complex relationship between culture, brain, and development. S/U grading.

Special Studies
375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow, showing exemplary performance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching Anthropology. (2 to 4) Seminar/ workshop, three hours. Designed for graduate students. Required of all new teaching assistants. Workshop/seminar in teaching techniques, including evaluation of each student’s own performance as a teaching assistant. Four-day workshop precedes beginning of term, followed by 10-week seminar during term designed to deal with problems and techniques of teaching anthropology. Unit credit may be applied toward full-time equivalence but not toward nine-course requirement for M.A. S/U grading.


APPLIED LINGUISTICS AND TEACHING ENGLISH AS A SECOND LANGUAGE

College of Letters and Science

UCLA
3300 Rolfe Hall
Box 951531
Los Angeles, CA 90095-1531
(310) 825-4631
fax: (310) 206-4118
e-mail: ngov@humnet.ucla.edu
http://www.appling.ucla.edu

Lyle F. Bachman, Ph.D., Chair

Professors
Roger W. Andersen, Ph.D.
Lyle F. Bachman, Ph.D.
Susan R. Curtis, Ph.D.
Frederick D. Erickson, Ph.D.
Charles Goodwin, Ph.D.
Marjorie Harness Goodwin, Ph.D.
Nina M. Hyams, Ph.D.
Shoichi Iwazaki, Ph.D.
Edward L. Keenan, Ph.D.
Reynaldo F. Macias, Ph.D.
Pamela L. Munro, Ph.D.
Elinor Ochs, Ph.D.
Emanuel A. Schegloff, Ph.D.
John H. Schumann, Ed.D.
Noreen M. Webb, Ph.D.
Olga T. Yokoyama, Ph.D.

Professors Emeriti
Marianne Celce-Murcia, Ph.D.
Evelyn R. Hatch, Ph.D.
Earl J. Rand, Ph.D.

Associate Professor
Hongyi Tao, Ph.D.

Lecturers
Janet Goodwin, M.A.
Christine Holten, M.A.
Linda Jensen, M.A.

Scope and Objectives

UCLA is a dynamic place to study applied linguistics. The Department of Applied Linguistics and Teaching English as a Second Language offers a Ph.D. in Applied Linguistics and a Master of Arts in Applied Linguistics and Teaching English as a Second Language. Three areas have been identified as integral to a thorough understanding of the field of applied linguistics: language acquisition, language assessment, and discourse and grammar analysis. Program participants are encouraged to study themes within these areas from a variety of perspectives.

Departmental faculty members, as well as professors in the Anthropology, Asian Languages and Cultures, Education, Linguistics, Neurobiology, Psychology, and Sociology Department, among others, represent a wide range of expertise and experience in language-related research. Their guidance and collaboration with students result in substantial research findings in the areas of specialization within the program, and their participation reinforces the interdisciplinary nature of applied linguistics research. Graduates pursue academic and professional careers at the highest level of service and inquiry.

The goal of the Ph.D. program in Applied Linguistics is to prepare students to investigate language-related problems and issues in the everyday world. This can best be achieved by providing students with a broad background of knowledge about the nature of language and language use as situated in social, discursive, and interactional contexts, along with the skills needed for teaching and conducting research at the university level. The program is designed to foster the mentorship relationship between students and faculty, as students are assigned a faculty mentor with whom they work throughout the program.

The M.A. program in Applied Linguistics and Teaching English as a Second Language (TESL) is designed as a first step in a research career in applied linguistics. It provides both breadth of knowledge in several areas of applied linguistics and the specialized knowledge and skills needed to plan and conduct research in one of the three areas of specialization.

Teacher education is no longer the main focus of the department; however, the department offers exceptional opportunities to students interested in pursuing this area as part of their academic program. Elective courses build on existing knowledge acquired in the required coursework in applied linguistics, and thus provide students with guidance in applying theoretical constructs to real-world classroom settings where language is taught and used. Language education skills provide graduate students with a secure means of financial support during their graduate program, and these skills may open doors to professional opportunities in academic and private sectors once students have completed their degree program. As part of the M.A. and Ph.D. programs, students may complete additional coursework to obtain the graduate-level Certificate in Teaching English as a Second Language.

Language Assessment

Language assessment is concerned with the empirical investigation of theoretical issues on the one hand, and with providing useful tools for assessment in applied linguistics on the other. Language assessment research has as its goals the formulation and empirical investigation of theories of language assessment performance and use, the empirical investigation of the ways in which performance on language assessments is related to communicative language use in its widest sense, and the fairness of the uses that are made of language assessment results.

Discourse and Grammar Analysis

Discourse and grammar analysis is concerned with how language users produce and interpret language in context. Discourse analysts research the linguistic structures of speech acts, conversational sequences, speech activities, oral and literature registers, and stance (among other constructs) and seek to relate these constructs to social and cultural norms, preferences, and expectations. The field articulates how lexico-grammar and discourse systematically vary across social situations and at the same time help to define those situations. Discourse analysis may be carried out as an end in itself or a tool contributing to research in language acquisition or language assessment.

A limited number of teaching assistantships are available to qualified M.A. and Ph.D. students. For information and applications, write to Lyn Repath-Martos, Center for World Languages, 1330 Rolfe Hall, UCLA, Box 951411, Los Angeles, CA 90095-1411, (310) 825-1875, lyn@summer.ucla.edu.

Undergraduate Study

Language, Interaction, and Culture Minor

The Language, Interaction, and Culture minor is designed to train students in the naturalistic study of discourse in everyday interaction.

To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed 80 quarter units, and file a petition with the minor adviser, 3300A Rolfe Hall, (310) 825-4631.

Required Lower Division Courses (8 units): Two courses from the following, with each course from a different group: group 1 — Anthropology 33 or 34; group 2 — Sociology 3 or 24; group 3 — Linguistics 1 or 2 or 20.

Required Upper Division Courses (28 units): Applied Linguistics and Teaching English as a Second Language M194 and six courses from the following, with at least one course from each group: group 1 — Anthropology M140, 141, 142A, 143, C144, M145, 146; group 2 —

No more than two upper division elective courses may be applied toward both this minor and a major or minor in another department or program. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Teaching English as a Second or Foreign Language Minor**

The Teaching English as a Second or Foreign Language minor provides students with an overview of current second language pedagogical theories and practices; the experience of observing the second language acquisition process both in and out of the classroom; a supervised practicum experience in a variety of second language classroom settings; and an opportunity to reflect on the interaction of theory and practice in the teaching of English as a second or foreign language.

To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed 80 quarter units, and file a petition with Lyn Repath-Martos, Center for World Languages, 1330 Rolfe Hall, UCLA, Box 951411, Los Angeles, CA 90095-1411, (310) 825-1875, lry@summer.ucla.edu.

**Required Lower Division Course (4 units):** Linguistics 20 with a grade of C or better.

**Required Upper Division Courses (28 units):**

1. Three pedagogical foundation courses from Applied Linguistics and Teaching English as a Second Language 101W or C110, C116, C118B; (2) a minimum of two pedagogical skill courses from C111, C112, C113, C115A, C117; (3) a maximum of two courses in language and/or educational issues from English 121, English Composition 120A, 120B, 132C, Linguistics M10, 130, C140, 175. Students may complete all requirements for the minor by taking courses in items 1 and 2 above.

A minimum of 20 units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program, and at least 16 units applied toward the minor must be taken in residence at UCLA. Transfer credit for any of the above is subject to departmental approval; consult the minor adviser before enrolling in any courses for the minor.

All minor courses must be taken for a letter grade, with a minimum grade of C (2.0) in each and an overall C average. Successful completion of the minor is indicated on the transcript and diploma.

**English as a Second Language**

English as a second language (ESL) courses are only for students whose native language is not English. Placement in these courses is established on the basis of the UCLA English as a Second Language Placement Examination (ESLPE).

The ESLPE is required of all entering UCLA students whose first language is not English and who have not otherwise satisfied the English as a Second Language (ESL) requirement. Neither the Test of English as a Foreign Language (TOEFL) nor any other English proficiency test can be submitted or accepted in lieu of the ESLPE.

The following nonnative-speaking students are exempt from the ESLPE: (1) first-year undergraduate students exempted based on their performance on the Analytical Writing Placement Examination (see Entry-Level Writing in the Undergraduate Study section of this catalog), (2) undergraduate transfer students exempted on the basis of their transcript evaluation (see the Undergraduate Study section of this catalog), and (3) graduate students who hold a bachelor’s or higher degree from a university in a country where the official language is English and in which English is the spoken tongue and the medium of instruction (see International Applicants in the Graduate Study section of this catalog).

All other students must sit for the ESLPE and may be required to complete one or more ESL courses to satisfy the ESL requirement. Failure to sit for the ESLPE results in a hold on student records.

Undergraduate students may take the ESLPE once only. Graduate students who believe that their initial ESLPE score is not reflective of their English language proficiency due to having recently arrived in the U.S. may sit for the examination a second time in the subsequent term only (retaking the examination in the same term is not counted as a valid result). In cases where students retake the examination in their second term of study, the most recent examination score is held to be valid. Unauthorized retakes result in an invalid examination score.

Results of the ESLPE are used to determine placement into the required sequence of ESL courses or exemption from the ESL requirement. If held for the ESL requirement, students must begin taking courses during their first term in residence at UCLA and must complete the courses in sequence. The required sequence for undergraduates is English as a Second Language 33A, 33B, 33C, and 35; each course must be passed with a grade of C or better (C– or a Passed grade is not acceptable). The required sequence for graduate students is English as a Second Language 33A, 33B, and 33C; each course must be passed with a grade of C or better if taken for a letter grade, or B or better if taken on an S/U basis. If students do not achieve a minimum score on the placement examination, they may be required to spend a term studying elementary English exclusively, through UCLA Extension, before retaking the ESLPE and continuing through the appropriate sequence of courses at UCLA.

College of Letters and Science undergraduates may satisfy the Writing I requirement by completing course 36 with a grade of C or better (C– or a Passed grade is not acceptable). Admission into course 36 is determined by completion of course 35 with a passing grade or proficiency demonstrated on the ESLPE.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**


**Applied Linguistics Graduate Courses**

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA program adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Study. (4 to 8) Tutorial, to be arranged. Limited to Ph.D. students. Independent study in an area of applied linguistics. Up to 8 units may be applied toward Ph.D. course requirements. May be repeated for credit. S/U or letter grading.

597. Preparation for Ph.D. Candidacy Examination. (4 to 8) Tutorial, to be arranged. Preparation: completion of at least six courses of the 32-unit requirement for Ph.D. May not be applied toward the 32-unit requirement. May be repeated for credit. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation. (4 to 10) Tutorial, to be arranged. Preparation: advancement to Ph.D. candidacy. Required of all Ph.D. candidates each term they are registered and engaged in dissertation preparation. May be repeated for credit but may not be applied toward Ph.D. course requirements. S/U grading.
Applied Linguistics and Teaching English as a Second Language

Lower Division Course

M40W. Language and Gender: Introduction to Gender and Stereotypes. (5) (Formerly numbered M40.) (Same as Communication Studies M40W, Japanese M40W, and Russian M40W.) Lecture, four hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for former course M40. Prior knowledge of foreign languages not required. Introduction to language as a social and cultural phenomenon, focusing on the concept of gender. Use of research and examples in English, Japanese, and Russian to explore nature of male and female “genderlects” and gendered language, as reflected in lexicon, language behavior, phonetics and intonation, and language acquisition and linguistic change. Satisfies Writing II requirement. Letter grading.

Upper Division Courses

100. Discourse and Society. (4) Lecture, four hours; discussion, two hours. Important contemporary perspectives for study of language in its social and cultural matrix. Topics include conversational organization, narrative, repair and grammatical organization, language in cultural settings, language socialization, and language impairment and institutional discourse. Focus on analysis of audio and video recordings of talk in a variety of natural settings. P/NP or letter grading.

101W. Introduction to Language Learning and Teaching. (5) Lecture, four hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H or English as a Second Language 36. Not open for credit to students with credit for former course 101. Examination of approaches to language learning involved in successful second and foreign language learning; application of this knowledge in development of framework for teaching second and foreign languages. Satisfies Writing II requirement. Letter grading.


C111. Methodology for Second/Foreign Language Education. (4) Lecture, four hours; laboratory, two hours. Requisite: English 101W or C110. Survey of theoretical and methodological issues related to second language written discourse and composition for second language writers, including critical examination of classroom research and overview of issues in evaluating and responding to written text. Concurrently scheduled with course C211. P/NP or letter grading.

C112. Reading for Second/Foreign Language Education. (4) Lecture, four hours. Requisite: course 101W or C110. Survey of theoretical and methodological issues related to second/foreign language reading, including critical examination of reading research and evaluation of research paradigms and classroom materials. Concurrently scheduled with course C212. P/NP or letter grading.


C115A. Media for Second/Foreign Language Education. (4) (Formerly numbered C115.) Lecture, four hours. Requisite: course 101W or C110. Rationale and pedagogical application for using media equipment and materials in second/foreign language classrooms. Training in standard classroom media equipment operation, basic materials preparation, and production techniques, and review of published media materials, with focus on their application to second/foreign language instruction. Concurrently scheduled with course C215A. P/NP or letter grading.


C117. Literature in Second/Foreign Language Education. (4) Lecture, four hours; seminar, two hours. Requisite: course 101W or C110. Survey of theoretical and methodological issues related to teaching literature to students in ESL/EFL settings and examination of appropriate classroom materials. Strong emphasis on cultural basis for literature. Concurrently scheduled with course C217. P/NP or letter grading.

C118A. Fundamentals of Second/Foreign Language Teaching. (4) Seminar, four hours. Requisite: course 101W or C110. Designed for students interested in microcomponents of effective second/foreign language teaching. In-depth examination of decision-making process underlying planning and implementation of lessons. Provides structured environment in which to hone fundamental teaching skills such as conducting warm-up activities, managing student dynamics, eliciting student contributions, correcting errors, sequencing lesson components, and transitioning between them. Concurrently scheduled with course C218A. P/NP or letter grading.

C118B. Second/Foreign Language Teaching Practicum. (4) (Formerly numbered C118.) Seminar, three hours; fieldwork, four hours. Requisite: courses 101W or C110. Theoretical and practical concerns regarding second/foreign language teaching, with emphasis on fieldwork experiences and grounding of solutions to problems faced in current research in language education and language pedagogy. Concurrently scheduled with course C218B. P/NP grading.

C119A-C119B. Current Issues in Second/Foreign Language Education. (4-2) (Formerly numbered C119.) Requisite: course 101W or C110. Specialized topics in language education. Emphasis varies according to current topics of theoretical concern in field of second/foreign language education. May be repeated for credit with topic change. Concurrently scheduled with courses C219A-C219B. P/NP or letter grading.

C119. Specialized Topics in Second/Foreign Language Education. (4-2) (Formerly numbered C119.) Requisite: course 101W or C110. Specialized topics in language education. Emphasis varies according to current topics of theoretical concern in field of second/foreign language education. May be repeated for credit with topic change. Concurrently scheduled with courses C219A-C219B. P/NP or letter grading.

C119A. Seminar, four hours; fieldwork, four hours. Requisite: courses 101W or C110. Rationale and pedagogical application for using media equipment and materials in second/foreign language classrooms. Training in standard classroom media equipment operation, basic materials preparation, and production techniques, and review of published media materials, with focus on their application to second/foreign language instruction. Concurrently scheduled with course C215A. P/NP or letter grading.

C119B. Seminar, four hours; fieldwork, four hours. Requisite: courses 101W or C110. Rationale and pedagogical application for using media equipment and materials in second/foreign language classrooms. Training in standard classroom media equipment operation, basic materials preparation, and production techniques, and review of published media materials, with focus on their application to second/foreign language instruction. Concurrently scheduled with course C215A. P/NP or letter grading.

C119A-C119B. Current Issues in Second/Foreign Language Education. (4-2) (Formerly numbered C119.) Requisite: course 101W or C110. Specialized topics in language education. Emphasis varies according to current topics of theoretical concern in field of second/foreign language education. May be repeated for credit with topic change. Concurrently scheduled with courses C219A-C219B. P/NP or letter grading.

C119B. Seminar, four hours; fieldwork, four hours. Requisite: courses 101W or C110. Rationale and pedagogical application for using media equipment and materials in second/foreign language classrooms. Training in standard classroom media equipment operation, basic materials preparation, and production techniques, and review of published media materials, with focus on their application to second/foreign language instruction. Concurrently scheduled with course C215A. P/NP or letter grading.

C121. Language Learning and Immigrant Experience. (4) Seminar, four hours. Exploration of value and relevance of linguistic anthropological, ethnomethodological, sociocultural, pragmatic, and sociolinguistic approaches to study of immigration and second language acquisition. Readings from language learning memoir provide literary account of immigrant experience which illustrates intimate relationships between language and culture in second language learning. Letter grading.

M125. Language Socialization. (4) (Same as Anthropology M149E.) Seminar, four hours. Exploration of process of socialization through language, and socialization to use language across lifespan, across communities of practice within single society, and across different ethnic and socioeconomic groups. Examination of ways in which verbal interaction between novices and experts is structured linguistically and culturally. Letter grading.


M161. Talk and the Body. (4) [Same as Anthropology M148 and Communication Studies M123.] Seminar, four hours. Relationships between language and human body raise host of interesting topics. New approaches to phenomena such as embodiment become possible when body is analyzed, not as isolated entity, but as visible agent whose talk and action are lodged within both processes of human interaction and rich settings where people pursue courses of action that count in their lives. Letter grading.

170. Field Methods in Discourse and Society. (4) Seminar, four hours. Ethnographic approaches to recording and analyzing communicative events and practices in their sociocultural context, including student-initiated fieldwork in community settings. Emphasis on hands-on activity within theoretical frameworks that consider language as a social and cultural practice. Letter grading.

197. Individual Studies in Applied Linguistics. (4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study for undergraduate students who desire more advanced or specialized treatment of issues in applied linguistics and/or teaching English as a second/foreign language. Permission is required; see graduate student adviser. Letter grading.

Graduate Courses

200. Research in Applied Linguistics. (4) Seminar, four hours. Requisites: courses C201, C202, C204, and C206. Graduate seminar in current issues in applied linguistics. Scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required; see graduate student adviser. Letter grading.


207. Ethnography of Communication. (4) [Same as Anthropology M242.] Lecture, three hours. Designed for graduate students. Seminar devoted to examining representative scholarship from fields of sociolinguistics and ethnography of communication. Particular attention to theoretical developments including relationship of ethnography of communication to such disciplines as anthropology, linguistics, and sociology. Topical focus include style and strategy, speech variation, varieties of noncanonical speech codes, oral literature, and nonverbal communication behavior. S/U or letter grading.


209. Introduction to Doctoral Studies in Applied Linguistics. (4) Seminar, four hours. Limited to Ph.D. students. Broad overview of fundamental and current philosophical issues in field of applied linguistics. Topics include epistemology for applied linguistics, nature of language, meaning, and physical worlds and causality in applied linguistics research, critical applied linguistics, and approaches and methodologies for research in applied linguistics. Discussion of illustrative research studies in applied linguistics. S/U grading.

210. Methodology for Second/Foreign Language Education. (4) Lecture, four hours. Requisite: Linguistics 20. Survey of theory and practice in teaching second/foreign languages, including (1) past and present methods used to teach second/foreign languages, (2) current theory and practice underlying skills-based instruction and integrated approaches, (3) factors that affect second language acquisition and learning, Development of knowledge base in and rational basis for design, development, implementation, and evaluation of second/foreign language programs. Concurrently scheduled with course C110. S/U or letter grading.


C215B. Computer-Enhanced Language Teaching and Learning. (4) Seminar, four hours; fieldwork, four hours. Requisite: course C210. Designed for students interested in computer-enhanced language learning in second/foreign language environments. Web-based teaching (basics of creating and maintaining class websites), designing computer-enhanced teaching materials (e.g., PowerPoint presentations), managing classroom data (e.g., Excel grade calculation), and creating electronic teaching portfolios, with focus on pedagogical rationale for classroom instruction and on professionalizing current second/foreign language teaching methods through application of computer technology. Project-based seminar to encourage participants to develop materials, either individually or collaboratively, for their current or intended teaching settings/populations. Concurrently scheduled with course C115B. Letter grading.


C218A. Fundamentals of Second/Foreign Language Teaching. (4) Seminar, four hours. Requisite: course C210. Designed for students interested in micro-lessons of effective second/foreign language teaching. In-depth examination of decision-making process underlying planning and implementation of lessons. Provides structured environment in which to hone fundamental teaching skills such as conducting warm-up activities, managing student dynamics, eliciting student contributions, correcting errors, sequencing lesson components, and transitioning between them. Concurrently scheduled with course C118A. S/U or letter grading.

C218B. Second/Foreign Language Teaching Practicum. (4) [Formerly numbered C218.] Seminar, three hours; fieldwork, four hours. Requisites: courses C210, C216. Theoretical and practical concerns regarding second/foreign language teaching, with emphasis on fieldwork experiences and grounding of solutions to problems faced in current research in language education and language pedagogy. Concurrently scheduled with course C118B. S/U grading.

C219A-C219B. Current Issues in Second/Foreign Language Education. (2-4) (Formerly numbered C218.) Requisite: course C210. Specialized topics in language education. Emphasis varies according to current topics of theoretical concern in field of second/foreign language education. May be repeated for credit with topic change, concurrently scheduled with courses C119A-C119B. Additional assignments required of graduate students. S/U or letter grading.

C219A. Seminar, four hours; C219B. Seminar, two hours.


222. Discourse-Centered Language Learning. (4) Requisite: course C202. Case-study and project-based research seminar on classroom language learning with authentic discourse input (usually in form of video and audio recordings of natural spoken discourse). Development of theoretical and technical tools for determining what can be learned from such recordings and how this learning might be facilitated, based on current second language acquisition research. Letter grading.


M224. Language Socialization. (4) Same as Anthropology M248.) Seminar, four hours. Requisite: course M206. Exploration of process of socialization through language and socialization to use language across the life span, across communities of practice within a single society, and across different ethnic and socioeconomic ways. In which verbal interaction between novices and experts is structured linguistically and culturally. S/U or letter grading.

229. Current Issues in Language Acquisition. (4) Requisite: course C202. Designed to explore current issues in language acquisition from both theoretical and applied research perspectives and to provide actual experience in addressing current topic. Specific topics vary according to trends in field. May be repeated for credit with topic change. Letter grading.

230. Advanced Seminar: Interlanguage Analysis. (4) Seminar, four hours. Requisite: course C220. Analysis of interlanguage from various points of view (e.g., topic-comment structure, tense, aspect, modality, thematic structure of utterances), with aim of understanding how it is organized. Original research projects. May be repeated for credit with topic change. Letter grading.

231. Crosslinguistic Topics in Language Acquisition. (4) Requisite: course C220. Advanced seminar on language acquisition in which one particular linguistic topic (e.g., development of tense/aspect, reference, subordination, agreement) is pursued from crosslinguistic and cross-disciplinary perspectives. Focus on language-specific versus universal (i.e., crosslinguistically valid) mechanisms of language development. May be repeated for credit with topic change. Letter grading.

M232. Culture, Brain, and Developmental Forum. (1) (Same as Anthropology M293, Education M285, Neuroscience M283, and Psychology M248.) Seminar, 90 minutes every other week. Interdisciplinary research seminar on human interaction. Use of both audio and video recordings of human interaction in variety of natural settings to examine range of phenomena, including ways in which processes of interaction between speakers and hearers are consequential for the neural organization of emerging talk, projection, gaze, gesture, participation frameworks, narrative, synchrony, multiparty activity, integration of semantic structure in environment within organization of talk-in-interaction, and organization of aphasia in discourse. Letter grading.


242. Experimental Design and Statistics for Applied Linguistics. (4) Seminar, four hours. Requisite: course C204. Specialized topics of interest to graduate students in applied linguistics, with focus on design and interpretation of research projects in the field. Exploration of issues in both qualitative and quantitative study design, interpretation of findings, and data analysis according to current theoretical methodologies in the field. Project required. S/U or letter grading.

249. Current Issues in Language Assessment. (4) Seminar, four hours. Requisite: courses C204, C269 or permission of instructor. Designed to explore current issues in language assessment from both theoretical and practical perspectives and to provide actual experience in addressing a current issue. Specific topics vary according to trends in the field. May be repeated for credit with topic change. S/U or letter grading.

250. Advanced Seminar: Language Assessment. (4) Seminar, four hours. Requisites: courses C204, C249. Development of a technical issue such as reliability, validation, criterion-referenced assessment, generalizability theory, item-response theory, or program evaluation to language assessment in depth. Specific topics vary. Project required. May be repeated for credit with topic change. S/U or letter grading.

258. Assessment Laboratory. (4) Collaborative coursework, with focus on specific theoretical and applied issues in development of innovative language assessment procedures for use in real-world settings. Specific projects determined by research being conducted by the working group in language assessment. Activities involve analysis of relevant data in seminar format. Letter grading.

M261. Topics in Discourse Analysis. (4) Requisite: course M206 or permission of instructor. Survey of a topic. Topics vary. Project required. May be repeated for credit with topic change. Letter grading.

M262. Topics in Cognitive, Discourse, and Functional Approaches to Linguistic Analysis. (4) (Same as German M264.) Seminar, three hours. Requisite: German C172 or C238. Readings, discussion, analyses, and validation procedures within sign-based linguistics, cognitive grammar, and discourse-functional approaches to language. Consideration of impact of grammaticality theory on various non-formal approaches to synchronic linguistics. Discussion of work by Contini-Morava, Diver, Goldberg, Janssen, Lakoff, Langacker, and Verhagen, as well as Bybee, Traugott, Hopper, and others. S/U or letter grading.

263. Crosslinguistic Topics in Functional Grammar I: Typology. (4) Seminar, four hours. Survey of a particular linguistic area from typological perspective within functional grammar framework. Topics include tense/mood/aspect, nominal reference, word order. May be repeated for credit with topic change. S/U or letter grading.

264. Crosslinguistic Topics in Functional Grammar II: Discourse. (4) Requisite: course C263. Co-requisite: course M206 or permission of instructor. Exploration of linguistic devices. Topics include tense/mood/aspect, nominal reference, word order. May be repeated for credit with topic change.

265. Topics in Functional Grammar. (4) Requisite: course C201. Specialized topics in functional grammar of interest to graduate students in applied linguistics. Emphasis varies according to current topics of theoretical import in field, such as voice, nominal reference, and word order. May be repeated for credit with topic change. Letter grading.

M271Q. Perspectives in Semantics and Pragmatics. (4) (Same as Anthropology M247.) Seminar, four hours. Requisite: course C201. Detailed examination of specialized topics in semantics and pragmatics. Topics vary from year to year and may include metaphor, theories of reference and denotation, honorific speech, evidentiality, reported speech, etc. May be repeated for credit with topic change. Letter grading.

279. Talk and Body. (4) Seminar, four hours. Requisite: course M206 or M207 or 208. Investigation of organization of language and embodied action within human interaction. Use of both audio and video recordings of human interaction in variety of natural settings to examine range of phenomena, including ways in which processes of interaction between speakers and hearers are consequential for the neural organization of emerging talk, projection, gaze, gesture, participation frameworks, narrative, synchrony, multiparty activity, integration of semantic structure in environment within organization of talk-in-interaction, and organization of aphasia in discourse. Student presentation of relevant data in seminar format. Letter grading.

M281. Crosslinguistic Research Laboratory. (4) Advanced procedures in data analysis in crosslinguistic research, including critical reading of relevant publications. Student must work toward a specific program-relevant project, such as thesis, dissertation proposal, applying for a grant, proposing a conference paper, or grant proposal. May be repeated for credit. S/U or letter grading.

289. Current Issues in Discourse Analysis. (4) Requisite: course M206. Specialized topics in discourse analysis of interest to graduate students in applied linguistics. Emphasis varies according to current topics of theoretical and practical concern in field. May be repeated for credit with topic change. Letter grading.

M270A-M270B. Ethnographic Methods in Discourse Analysis I, II. (4-4) (Same as Anthropology M249A-M249B.) Seminar, four hours. Two-term sequence on ethnographic approaches to recording and analyzing communicative events and practices in their sociocultural context, involving student-initiated fieldwork, and oral presentation of research, including critical reading of relevant publications. Focus on hands-on activities within theoretical frameworks that consider language as a social and cultural practice. M270A. Requisite: course M260 or Anthropology M242 or Sociology C244A. Designed to teach skills related to collecting socially and culturally meaningful data. Letter grading. M270B. Requisite: course M270A. Devoted to production of ethnographic analysis, including how to present an analysis in a form of a conference talk and how to develop an analysis into a grant or dissertation proposal. S/U or letter grading.

M270P. Ethnographic Technologies Laboratory I. (4) (Same as Anthropology M249P.) Laboratory, four hours. Corequisite: course M270A or Anthropology M249A. Hands-on mentorship in entering a community, obtaining informed consent, interviewing, note taking, and videorecording verbal interaction. S/U grading.

M270Q. Ethnographic Technologies Laboratory II. (4) (Same as Anthropology M249Q.) Laboratory, four hours. Corequisite: course M270B or Anthropology M249B. Hands-on narrative exercise in ethnographic analysis of video footage, incorporating video frame grabs into transcript and analysis of verbal interaction, writing a grant proposal, and assembling a conference presentation. S/U grading.

Applied Linguistics and Teaching English as a Second Language / 155
271. Advanced Seminar: Cohesion Analysis of English Structure. (4) Seminar, four hours. Requisi-
tie: course 216. Discussion of selected linguistic features of oral and written texts that go bey-
ond sentence level and thus signal cohesion. Study of structures to determine their function in a variety
of English texts representing several discourse types. Letter grading. M272. Grammar and Discourse. (4) (Same as An-
thropology M246A.) Seminar, four hours. Requisite: course C201. Survey of grammar- and discourse-
based approaches to study of language as meaning-
ful form. Topics include grammatical and indexical
categories, referential and social iconicity, relation
of syntax to semantics and pragmatics, markedness,
universals, cultural and cognitive implications of lan-
guage structure and use. S/U or letter grading.

273. Grammar and Discourse Practicum. (4) (Same as Anthropology M246B.) Seminar, four hours. Requisite: course M272. Survey of advanced topics in grammar and discourse, including predicates, argu-
ments and grammatical relations, noun phrase cate-
cories, case marking, verbal categories, topic mark-
ing devices, registers and speech varieties, reported speech, grammatical categories in discourse. Pre-
sentation and analysis of data from range of languag-
es. S/U or letter grading.

274. Advanced Seminar: Contextual Analysis of English Structure. (4) Seminar, four hours. Requi-
site: course C216. Discussion of selected words and/or structures in oral and written texts to deter-
mine when and why they occur. Beginning with fre-
quency and distribution of the form(s), exploration of meaning and function of the form(s). Letter grading.

278. Discourse Laboratory. (4) Requisite: courses M206, 260, two other discourse analysis courses. De-
sign for applied linguistics Ph.D. students. Ad-
vanced preparation with data analysis in the field of dis-
course analysis, including development of a large-
scale research project and critical review of current research. May be repeated for credit. S/U or letter grading.

288. Functional Grammar Laboratory. (4) Labo-
atory, four hours; fieldwork, eight hours. Critical discus-
sion and analysis of data that is naturally occurring, made up by participants and/or their native infor-
mants, or attested in written texts. Students trained to build hypothesis based on observable data, test it by experi-
menting with sentences and using native input, and generalize from their conclusions. Students pro-
vide cross-linguistic correspondences of given phe-
nomena and carry out contrastive research on dis-
course-pragmatic problems detected in one or anoth-
er language. Emphasis on each student carrying out one particular portion of project in collaboration with
and benefitting from critical feedback by fellow stu-
dents. Hands-on analysis rather than reading of sec-
ondary literature. S/U or letter grading.

291. Current Issues in Applied Linguistics. (4) Specialized topics in applied linguistics of current rel-
evance in two or more of the following areas: lan-
guage acquisition, language assessment, and dis-
course analysis/functional grammar, and current interest to students in applied linguistics and TESL. Emphasis varies according to current topics of theoretical con-
ern in the field. May be repeated for credit with topic
tics, and Communication Studies majors. Evolution, func-
tions, design, and diversity of animal communica-
tion systems, such as birdsong, dolphin calls, whale
song, primate social signals, and human language. Con-currently scheduled with course CM127. Letter grading.

355. Teaching Apprentice Practicum. (1 to 4) Sem-
inor, to accompany preparation: apprentice person-
nel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guid-
an and supervision of regular faculty member re-
ponsible for current instruction at UCLA. May be repeated for credit. S/U or letter grading.

360. Applied Linguistics and TESL M.A. Collo-
quium. (4) Discussion, four hours. M.A. candidates present and defend results of their thesis re-
search. Required of all candidates to be applied to and
ward M.A. degree requirements. Candidates for Ph.D. in Applied Linguistics may also use this course to re-
port on their dissertations. S/U grading.

495. Training and Supervision of Teaching Assis-
tants. (2) Seminar, two or more hours. Preparation:
appointment as a teaching assistant. Orientation,
preparation, and supervision of graduate students who have responsibilities for teaching ESL courses at
UCLA. Syllabus revision and materials preparation.
May not be applied toward degree requirements for
M.A. or certificate in TESL or Ph.D. in Applied Lin-
guistics. S/U or letter grading.

501. Cooperative Program. (2 to 8) Preparation:
consent of UCLA graduate advisor and graduate
dean, and host campus instructor, department chair,
and graduate dean. Used to record enrollment of
UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Study. (4 to 8)or
limited to graduate students. Survey of research
and methodology in academic disciplines. Pre-
requisite: permission of instructor. Letter grading.

598. M.A. Research and Thesis Preparation. (4 to
8) Limited to graduate students. Survey of research
needs and thesis preparation. Includes optional sec-
tion on experimental design and statistical methods in
Fall Quarter. Credit (4 units) toward degree is allowed
only once, but all M.A. candidates must enroll in
course each term they are registered and engaged in

English as a Second Language

Lower Division Courses

32. Conversation and Interaction for Academic Pur-
poses. (4) Lecture, 10 hours. Requisite: proficiency
demonstrated on English as a Second Language Place-
ment Examination. Displaces 8 units on student's
Study Track List but yields only 4 units of credit toward de-
gree. Intensive instruction in structure of English, with
focus on vocabulary building, listening and speaking
skills, and basic composition techniques. To satisfy En-
glish as a Second Language requirement, students must select letter grading. P/N (undergraduates), S/U (graduates), or letter grading.

33A. Introductory English for Academic Pur-
poses. (4) Lecture, 10 hours. Requisite: proficiency
demonstrated on English as a Second Language Place-
ment Examination. Displaces 8 units on student's
Study Track List but yields only 4 units of credit toward de-
gree. Course presents basic vocabulary, grammar, and
language skills for ESL students, with focus on writing process, grammatical structures key to clear and ef-
fective style, mechanics of writing, and practice with
major forms of academic writing. Additional emphasis on on-line reading skills for completion of course with
a grade of C or better satisfies Entry-Level Writing re-
quirement. Letter grading.

33B. Intermediate English for Academic Pur-
poses. (4) Lecture, 3 hours. Requisite: course 33A (C
or better) or proficiency demonstrated on English as a Sec-
cond Language Placement Examination. Review of
form and use of common grammatical structures found in academic discourse. Analysis of stylistic function of certain structures and practices in self-editing strategies. (P/NP (undergradua-
tes), S/U (graduates), or letter grading.

38A. Pronunciation: Stress and Intonation in En-
glish. (3) Formerly numbered 38.) Lecture, four hours.
Designed to help nonnative speakers of En-
glish communicate effectively in social as well as
academic/career settings and improve critical lis-
tening skills. Special focus on three important aspects of
pronunciation: stress, rhythm, and intonation. (P/NP
undergraduates), S/U (graduates), or letter grading.
38B. Pronunciation: Sound System of English. (4) (Formerly numbered 108.) Lecture, four hours. Required: course 33B or 33C or 35 or proficiency demonstrated on English as a Second Language Placement Examination. Detailed and systematic study of sounds of American English and way in which they are put together in connected speech, applied to improvement of student's own accent. P/NP (undergraduates), S/U (graduates), or letter grading.

39A. Intensive Language and Fluency Training for International Teaching Assistants. (4) Lecture, six hours. Recommended for individuals whose Test of Spoken English (TSE) score is 40 or below or whose UCLA Test of Oral Proficiency (TOP) score is 6.3 or below. Designed to aid international graduate students who wish to become teaching assistants, with focus on development of general communicative competence, fluency in classroom discourse, and improvement of accuracy of pronunciation and spoken grammar. Use of specialized pronunciation software in computer laboratory. P/NP (undergraduates), S/U (graduates), or letter grading.

39B. Communication Strategies for International Teaching Assistants. (4) Lecture, four hours. Recommended for individuals whose Test of Spoken English (TSE) score is 40 or 45 or whose UCLA Test of Oral Proficiency (TOP) score is 6.4 to 7.0. Designed to help nonnative speakers of English communicate effectively as teaching assistants, with focus on presentation skills, classroom language fluency, and pronunciation accuracy. P/NP (undergraduates), S/U (graduates), or letter grading.

39C. Presentation and Discussion-Leading Skills for International Teaching Assistants. (4) Lecture, four hours. Recommended for individuals whose Test of Spoken English (TSE) score is 45 or above or whose UCLA Test of Oral Proficiency (TOP) score is 7.0 or above. Designed to help nonnative speakers of English communicate effectively as teaching assistants. Activities include interactive teaching demonstrations and discussions on the importance of successful presentation. Emphasis on self, peer, and instructor feedback. P/NP (undergraduates), S/U (graduates), or letter grading.

97A. Variable Topics in English as a Second Language. (4) Lecture, four hours. Recommended for individuals whose Test of Spoken English (TSE) score is 45 or above or whose UCLA Test of Oral Proficiency (TOP) score is 7.0 or above. Designed to help nonnative speakers of English communicate effectively as teaching assistants. Activities include interactive teaching demonstrations and discussions on the importance of successful presentation. Emphasis on self, peer, and instructor feedback. P/NP (undergraduates), S/U (graduates), or letter grading.

97B. Variable Topics in English as a Second Language. (2) Lecture, two hours. Recommended: course 33B or proficiency demonstrated on English as a Second Language Placement Examination. Specialized topics in English as a second language or English for academic purposes. Emphasis varies according to topics covered and/or audience to whom course is directed. May be repeated for credit with topic change. P/NP (undergraduates), S/U (graduates), or letter grading.

106. Advanced Composition for ESL Students. (4) Lecture, four hours. Required: course 36 (C or better) or proficiency demonstrated on English as a Second Language Placement Examination, and an appropriate Composition Placement Test score. Focus on production of fully developed, stylistically sophisticated expository and argumentative essays based on complex academic readings. Additional emphasis on grammatical structure and style. P/NP (undergraduates), S/U (graduates), or letter grading.

107. Academic Reading and Vocabulary. (4) Lecture, four hours. Required: course 33C or 35 (may be taken concurrently) or proficiency demonstrated on English as a Second Language Placement Examination. Instruction in and practice of academic reading skills using authentic university texts. Focus on improving reading rate and comprehension, expanding academic vocabulary, and developing critical reading skills. P/NP (undergraduates), S/U (graduates), or letter grading.

109. Literature and Language. (4) Lecture, four hours. Required: course 33C or 35 (may be taken concurrently) or proficiency demonstrated on English as a Second Language Placement Examination. Selections from English and American literature presented so as to make full allowance for students' linguistic and cultural problems and to contribute to increasing command of the English language. P/NP (undergraduates), S/U (graduates), or letter grading.

197. Individual Studies in English as a Second Language. (4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study for undergraduate and graduate students who desire more advanced or specialized treatment of issues in English as a second language beyond those covered in current course offerings. S/U (graduates), or letter grading.

ARCHAEOLOGY
Interdepartmental Program College of Letters and Science
UCLA
A148 Fowler Building
Box 951510
Los Angeles, CA 90095-1510
(310) 25-4169, 825-8064
Fax: (310) 266-4723
E-mail: eogenia@ioa.ucla.edu
http://www.ioa.ucla.edu/gradprop.php
Richard G. Leslie, Ph.D., Chair
Faculty Advisory Committee
Jeanne E. Arnold, Ph.D. (Anthropology)
P. Jeffrey Brantingham, Ph.D. (Anthropology)
Aaron A. Burke, Ph.D. (Near Eastern Languages and Cultures)
Elizabeth F. Carter, Ph.D. (Near Eastern Languages and Cultures)
Susan B. Downey, Ph.D. (Art History)
Ioanna Kakoulou, D.Phil. (Materials Science and Engineering)
Richard G. Leslie, Ph.D. (Anthropology)
Sarah P. Morris, Ph.D. (Classics)
John K. Papadopoulos, Ph.D. (Classics)
Monica L. Smith, Ph.D. (Anthropology)
Charles S. Stanish, Ph.D. (Anthropology)
Lothar von Falkenhauen, Ph.D. (Art History)
Wiltamina Z. Wendrich, Ph.D. (Near Eastern Languages and Cultures)

Scope and Objectives
The interdisciplinary program offers M.A. and Ph.D. degrees in Archaeology. It brings together interests and specialties represented by those departments offering courses in archaeology, as well as others offering courses relevant to archaeology.

The primary purpose of the program is to train scholars in archaeology for university-level teaching and research and other professional aims. Its resources are intended for those archaeology students whose academic goals cannot be met within any single department and who, consequently, require an individually designed plan of study combining academic preparation in two or more departments. Applications are especially encouraged from students whose interests may form bridges with disciplines and departments not offering archaeology (e.g., botany, chemistry, geology, mathematics, statistics, zoology, etc.). There are opportunities for participation in a variety of field, laboratory, and computer studies.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasas/library/pgmqr.intro.html. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Archaeology Program offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Archaeology but does not encourage applicants who seek only an M.A. degree.

Archeology
Upper Division Courses

C120. Special Topics in Archaeology. (2 or 4) Lecture, three hours. Designed for juniors/seniors. Special topics on theoretical subjects in archaeology such as new strategies, regional synthesis, or current work by core faculty of program or special visiting scholars. May be repeated for credit with topic change. Concurrently scheduled with course C220. Final project or paper required if taken for 4 units (P/NP or letter grading); 2-unit course has P/NP grading.

C159. Fieldwork in Archaeology. (2 to 12) Fieldwork, to be arranged. Participation in archaeological field excavations or museum research under supervision of staff archaeologists at UCLA. Minimum of one month of field time away from campus required. May be repeated for credit with consent of adviser. Concurrently scheduled with course C259, P/NP or letter grading.
C210. Archaeological Materials Identification and Characterization. (4) Lecture, one hour; laboratory, two hours. Laboratory-oriented introduction for archaeologists to the techniques and qualitative description of solid materials, especially metals, ceramics, and other inorganic and some organic substances. Concurrently scheduled with course C110. S/U or letter grading.

M214. Comparative Study of Ancient States. (4) (Same as Anthropology CM214S.) Lecture, three hours. Comparative anthropological study of first complex societies in the Near East, Mesoamerica, and the Andes, including early Egyptian, Uruk, Teotihuacan, classic Maya, Wari, and Tiwanaku, with focus on political and economic structures of these societies and on causes of state development and collapse. S/U or letter grading.

C220. Special Topics in Archaeology. (2 or 4) Formerly numbered 220. Lecture, three hours. Special topics on theoretical subjects in archaeology such as new strategies, regional synthesis, or current work by core faculty of program or special visiting scholars. May be repeated for credit with topic change. Concurrently scheduled with course C120. Final project or paper required if taken for 4 units (S/U or letter grading); 2-unit course has S/U grading.

C259. Fieldwork in Archaeology. (2 to 12) Formerly numbered 259. Fieldwork, to be arranged. Participation in archaeological field excavations or museum research under supervision of staff archaeologists at UCLA. Minimum of one month of field time away from campus required. May be repeated for credit with consent of adviser. Concurrently scheduled with course C159. S/U or letter grading.

M265. Depositional History and Stratigraphic Analysis. (4) (Same as Ancient Near East M265.) Lecture, two hours. Theoretical understanding of depositional processes (‘flaws”) which lead to site formation and of stratigraphic procedures to be used in recovery of embedded cultural materials. Study of issues covered in the literature, with specific test cases from actual excavations and site reports. Coverage of theoretical implications of such disciplines as surveying and paleontology with the help of specialists. S/U or letter grading.

C320. Ancient and Historic Metals: Corrosion, Technology, and Microstructure. (6) Seminar, four hours; laboratory, four hours. Overview of technology of metals and relevant interpretative methods. May be repeated for credit with consent of adviser. S/U or letter grading.

M305A. Selected Laboratory Topics in Archaeology. (4) (Same as Anthropology M305A.) Lecture, three hours. Designed for graduate students in archaeology or in cognate departments. Specialized analysis of particular classes of cultural remains. Topics may be one of following: zooarchaeology, paleoethnobotany, ceramics, lithic analysis, rock art. Laboratory experience with collections and data. May be repeated for credit with topic change. S/U or letter grading.

M305B. Intensive Laboratory Training in Archaeology. (6) (Same as Anthropology M305B.) Lecture, three hours; laboratory, two hours minimum. Advanced laboratory training for graduate students with extended laboratory hours. Special laboratory-based topics, including but not limited to lithic analysis, ceramic analysis, zooarchaeology, and paleoethnobotany. May be repeated for credit with topic change. S/U or letter grading.

C280. Ancient and Historic Metals: Corrosion, Technology, and Microstructure. (4) (Same as Anthropology M280.) Lecture, four hours; laboratory, four hours. Overview of technology of ancient metals, aspects of extraction and alloying, corrosion that ancient metals undergo, and how this impacts preservation. Exploration of knowledge and research work of last two decades that has substantially advanced understanding of processes of extraction, alloying, surface patination, metallic coatings, corrosion, and microstructure. Laboratory work in preparation and examination of metallic samples under microscope, as well as lectures on technology of metallic works of art. Discussion of phase and stability diagrams of common alloying systems and environments. Metallographic study samples represent copper and gold-copper alloys. Concurrently scheduled with course C280. Letter grading.

Architectural Materials Identification and Characterization. (4) Lecture, one hour; laboratory, two hours. Laboratory-oriented introduction for archaeologists to the techniques and qualitative description of solid materials, especially metals, ceramics, and other inorganic and some organic substances. Concurrently scheduled with course C110. S/U or letter grading.

Scope and Objectives

The Department of Architecture and Urban Design at UCLA offers a Bachelor of Arts degree in Architectural Studies and four graduate degree programs tailored to the needs of different groups of students: M.Arch. I, M.Arch. II, M.A., and Ph.D.

The B.A. in Architectural Studies is a two-year program, with focus on the built environment. The curriculum visualizes architecture as a cultural, creative, and technical practice and a discipline with direct social impact. Within the context of a liberal arts education, a finely balanced set of architecture and urban design courses, ranging from the history and theory of design to contemporary building technologies, provides students with a diverse foundation of knowledge in the field of architecture and pre-
Preparation for the Major

The Major
Required: Architecture and Urban Design 121, 122, 123, 131, 132, 133, 141, 142, 143.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gsaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and web-sites of the schools, departments, and programs.

Graduate Degrees
The Department of Architecture and Urban Design offers Master of Architecture I (M.Arch. I) and Master of Architecture II (M.Arch. II) degrees, and Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Architecture. A concurrent degree program (Architecture M.A. and Master of Urban Planning M.A.) is also offered.

Architecture and Urban Design
Lower Division Courses
10A. History of Architecture and Urban Design: Prehistory to Mannerism. (5) Lecture, three hours; discussion, one hour; outside study, 11 hours. Development in architecture and urban history from prehistory to 1600, constructing critical positions within which implications of terms history, architecture, city, and culture can be explored. Focus on examples from Europe and Mediterranean Basin and periodic exploration of world context. P/NP or letter grading.

10B. History of Architecture and Urban Design: Baroque to Contemporary Moment. (5) Lecture, three hours; discussion, one hour; outside study, 11 hours. Study of architectural and urban history from baroque to contemporary moment that covers significant buildings, spaces, artifacts, and theories of modernism. Architecture performs as reflection of cultural, sociopolitical, philosophical, and technological transformations in world history. Stylistic genres, applied terminology, seminal texts, and alternative historiographies that apply to design of built domain that range in scale from details to cities. While canon of Western tradition remains overall focus, weekly thematic categories provide variety of conduits for addressing architecture and urban design in global context. P/NP or letter grading.

30. Introduction to Architectural Studies. (5) Lecture, three hours; discussion, one hour; outside study, 11 hours. Exploration of role of built environment in social, cultural, and political life; how buildings are constructed, what they mean, effects they have on world, and ways they imagine new futures and shape private and public life. Focus on series of contemporary case studies for what each reveals about new possibilities for shaping world in which we live, with emphasis on how architecture extends to cities, roads, books, and films. Consideration of historical context and cultural genealogy of particular buildings and environments, material and economic conditions of building and more. P/NP or letter grading.

Upper Division Courses
102. Introduction to Representation. (2) Studio, four hours; outside study two hours. Limited to currently enrolled college/university students and graduates of colleges/universities. Introduction to techniques of spatial representation as they relate to architectural design. How to communicate two- and three-dimensional drawing and modeling. Analog and digital techniques and opportunity afforded by moving between both. Analog techniques include orthographic and axonometric projection. Digital techniques focus on computer graphics fundamentals, including bit map and vector graphic imaging using Adobe suite and modeling using Rhinoceros. Offered in summer only. Letter grading.

103. Introduction to Architectural Design. (6) Studio, 18 hours. Limited to currently enrolled college/university students and graduates of colleges/universities. Introduction to basic architectural design principles and problem solving: How to control point, line, surface, and volume to shape spaces for human use. Visual analysis as tool for discussing and understanding organization. Techniques of repetition, variation, order, scale, and rhythm. Use of case-study analysis to uncover disciplinary issues within design problems and production of individual solutions to problems. Offered in summer only. Letter grading.

121. Studio I. (6) Studio, eight hours; outside study, 10 hours. Limited to Architectural Studies majors. Introduction to basic architectural design principles and problem solving: how to control point, line, surface, and volume to shape spaces for human use. Visual analysis as tool for discussing and understanding organization. Techniques of repetition, variation, order, scale, and rhythm. Use of case-study analysis to uncover disciplinary issues within design problems, as well as to produce individual solutions to those problems. Letter grading.

122. Studio II. (6) Studio, eight hours; outside study, 10 hours. Enforced requisite: course 121. Limited to Architectural Studies majors. Introduction to disciplinary issues, techniques, and organizations of landscape and how they influence design of building and site. Development of material and temporal characteristics of architecture relative to role those play in landscape. Introduction to issues of accessibility and egress as systems of movement. Structure as serial component that relates to site, construction, topography, climatology, accessibility, and their mutual interaction. Letter grading.

123. Studio III. (6) Studio, eight hours; outside study, 10 hours. Enforced requisite: courses 121, 122. Limited to Architectural Studies majors. Introduction to disciplinary issues, techniques, and organizations of landscape and how they influence design of building and site. Development of material and temporal characteristics of architecture relative to role those play in landscape. Introduction to issues of accessibility and egress as systems of movement. Structure as serial component that relates to site, construction, topography, climatology, accessibility, and their mutual interaction. Letter grading.

M130. Space and Place. (4) (Formerly numbered M195.) (Same as World Arts and Cultures M130.) Lecture, three hours. Survey of array of spaces and places from cross-cultural or comparative perspective and with performance emphasis, with focus on mutual interaction of human beings and their created environments. Emphasis on "common," "ordinary," "anonymous," or "vernacular" nonbuilt and built environments, which are built and used by members of small-scale, "traditional," and "modern" communities around world. P/NP or letter grading.

131. Issues in Contemporary Design. (5) Lecture, three hours; outside study, 12 hours. Limited to Architectural Studies majors. How global design culture today operates as part of set of spatial, economic, political, and social discourses. Development of cities to new formal languages in architecture, consequences of fact that great percentage of our lives is spent in controlled designed environments, including role that research and interdisciplinary play today in influencing design ideas and processes, as well as how design is influenced by technology and new urban conditions. Letter grading.
132. Domestic Architecture: Critical History. (5) Lecture, three hours; outside study, 12 hours. Limited to Architecture and Urban Planning majors. Investigation of relationships between culture and design through medium of domestic architecture, from communal living arrangements of antiquity to functional and automated ideals of modern movement. Exploration of how design of domestic architecture is innovative and accommodates corresponding developments in lifestyle and taste. Letter grading.

133. Modernism and Metropolis. (5) Lecture, three hours; outside study, 11 hours. Limited to Architecture Studies majors. Introduction to techniques of spatial representation as they relate to architectural design. How to communicate using two-and three-dimensional drawing and modeling. Analogue and digital techniques and opportunity afforded by moving between both media. Analogous techniques include orthographic and axonometric projection. Digital techniques focus on computer graphics fundamentals, including bit map and vector graphic imaging using Adobe suite and modeling using Rhinoceros. Letter grading.

142. Technology II: Building Materials and Methods. (5) Laboratory, four hours; outside study, 11 hours. Limited to Architectural Studies majors. Introduction to construction systems and materials in relation to design, such as framed, bearing wall, or hybrid systems. Graphic conventions and organization of construction documents. Letter grading.

143. Technology III: Digital Technology. (5) Laboratory, three hours; outside study, 11 hours. Limited to Architectural Studies majors. Overview of three-di-mensional computer-aided visualization concepts, teaching applications of AutoCAD and Maya and their use relative to process of design and visual communication. Basic representation methods and tools and introduction to additional concepts required to dynamically interact with computer and to explore and understand the capabilities of different methods of representation. Explanation of bitmap versus vector graphics, typography basics, and color output and integration for print and web, and introduction to three-dimensional digital modeling and fabrication. Letter grading.

CM153. Introduction to Sustainable Architecture and Community Planning. (4) (Formerly numbered CM191.) (Same as Environment M153.) Lecture, three hours. Relationship of built environment to natural environment through whole systems approach, with focus on sustainable design of buildings and planning of communities. Emphasis on energy efficiency, renewable energy, and appropriate use of resources including materials, water, and land. Concurrently scheduled with course CM153. Letter grading.

CM247A. Introduction to Sustainable Architecture and Community Planning. (4) (Same as Urban Planning M239.) Lecture, three hours. Relationship of built environment to natural environment through whole systems approach, with focus on sustainable design of buildings and planning of communities. Emphasis on energy efficiency, renewable energy, and appropriate use of resources including materials, water, and land. Concurrently scheduled with course CM153. Letter grading.

M271. Elements of Urban Design. (4) (Same as Urban Planning M292.) Lecture, three hours. Introduction to basic concepts and theories concerning impact of the environment on human behavior, perception, and thought. Review of research results concerning space perception, cognitive mapping, preferences and attitudes toward the environment, effects of crowding and stress, personal space and territoriality.

Graduate Courses

M201. Theories of Architecture. (4) (Same as Urban Planning M201.) Lecture, three hours. Exploration of conceptual and historical structures that shape current issues in architectural theory. Readings in primary texts serve as framework for understanding nature of speculative inquiry in architectural context. Letter grading.

220. Introduction to Computers. (2) Lecture, 90 minutes; laboratory, 90 minutes; outside study, three hours. Introduction to basic concepts, skills, and theoretical aspects of computer-aided architecture design microcomputer skills. Applications selected are commonly found in professional offices. Two- and three-di-mensional systems. Lecture grading.

M226A. Introduction to Computer-Aided Architectural Design, Two-Dimensional. (4) (Same as Urban Planning M226A.) Lecture, three hours; laboratory, one hour; course and laboratory include hardware, software, and networks; paint, draft, multimedia, DTP, and presentation programs; CAD in office environment. Letter grading.

M226B. Introduction to Computer-Aided Architectural Design, Three-Dimensional. (4) (Same as Urban Planning M226B.) Lecture, three hours; laboratory, one hour. Concepts of three-dimensional space, modeling in virtual reality; file formats; modeling, rendering, and animation programs; video confer- ence. Letter grading.

226C. Computer Visualization. (4) Lecture, three hours. Designed for graduate students. Concept and techniques of computer visualization of artifacts, including realistic rendering and animation. Letter grading.

M227A. Programming Computer Applications in Architecture and Urban Design. (4) (Same as Design I Media Arts CM241.) Lecture, three hours; outside study, nine hours. Introductory course in logic of computing through experiments in computer graphics programming. Investigation of both procedural and object-oriented approaches to programming. May be repeated for credit with consent of adviser. S/U or letter grading.

M227B. Introduction to Geometric Modeling. (4) (Same as Design I Media Arts CM242.) Lecture, three hours; outside study, nine hours. Requires: course M227A; Survey of geometric and three-di-mensional modeling, with emphasis on implementa- tion of three-dimensional solids constructions and ed- iting operations. Basic representations and opera- tions on shapes and solids. May be repeated for credit with consent of adviser. S/U or letter grading.

M227C. User Interaction Techniques in Design. (4) (Same as Design I Media Arts CM243.) Lecture, three hours; outside study, nine hours. Requires: course M227A or knowledge of C++ programming lan- guage. Programming techniques for implementing modern computer-user interfaces, specifically looking at issues relevant to building software tools for com- puter-aided problem solving in architecture and de- sign. May be repeated for credit with consent of ad- viser. S/U or letter grading.

227D. Design and Building Models. (4) Lecture, three hours. Reviews topics covered in M227A and knowledge potentially used in design. Knowledge representation, abstractions, and constructs. Logical structure of design information. Development of knowledge used in design, including possible use and definition, analysis, and structure.
296. Proseminar: Critical Studies in Architectural Culture. (4) Seminar, three hours. Orientation for Ph.D. students of architectural theory, scholarship, and research and to current research directions and questions, through intensive reading and critical discussion.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

401. Advanced Topics Studio. (6) Studio, 12 hours; outside study, six hours. Preparation: satisfactory completion of intermediate-level studios (courses 412, 413, 414) or M.Arch. II. Students may choose (through a lottery) from a number of different projects focusing on special topics in architectural and urban design to be offered by faculty members. May be repeated for credit. Letter grading.

402. Final Advanced Topics Studio. (6) Studio, 12 hours; outside study, six hours. Preparation: satisfactory completion of intermediate- and advanced-level studios for M.Arch. I students; satisfactory completion of advanced studio and fourth-semester training for M.Arch. II students. Students may choose (through a lottery) from a number of different advanced studio projects focusing on special topics in architectural and urban design to be offered by faculty members. Exit document (analytic paper with graphic component that critically examines final student design work) required at completion of course. Letter grading.

403A-403B-403C. Research Studios. (2-2-6) For courses 403A, 403B: seminar, three hours; outside study, three hours; for course 403C: studio, 12 hours; outside study, six hours. Preparation: satisfactory completion of intermediate-level studios (courses 412, 413, 414, 415) or M.Arch. II. Students. In-depth research phase of studio (courses 403A, 403B) and advanced studio project (course 403C), with focus on number of different special topics in architecture and urban design. In Progress (403A, 403B) and letter (403C) grading.

M404. Joint Planning/Architecture Studio. (4) (Same as Urban Planning M404.) Lecture, one hour; discussion, one hour; studio, four hours. Opportunity to work on joint planning/architecture project for a client. Outside speakers; field trips. Examples of past projects include housing, street planning, Santa Monica; New American House for nontraditional households; Pico-Aliso Housing, Boyle Heights; working with residents in Los Angeles City public housing developments.

411. Introductory Design Studio. (6) Studio, 12 hours; outside study, six hours. Introduction to sketching, drawing, perspectives, CAD. Architectural composition is initially studied in terms of its separate elements. After each is studied by means of a manipulative exercise which allows for experimentation of its intrinsic possibilities, students undertake a series of closely controlled exercises dealing with combining the elements and then design small buildings. Letter grading.

412. Building Design Studio. (6) Studio, 12 hours; outside study, six hours. Preparation: course 411. Concentration on basic skills, leading to projects exploring architectural program in relation to design process and, particularly, implications of program on architectural forms and concepts. In second phase, introduction of structural elements to fulfill program requirements and to support and further develop intended forms and concepts. Letter grading.

413. Building Design with Landscape Studio. (6) Studio, 12 hours; outside study, six hours. Preparation: course 412. Introduction to theoretical and technical issues such as site planning, urban design, landscape design, building typology. Building design and site planning in relation to water, landforms, and plants in natural light, heat, and ventilation. Letter grading.

414. Major Building Design Studio. (6) Studio, 12 hours; outside study, six hours. Preparation: course 413. Designed for second-year graduate students. Introduction to issues such as programming and program manipulation, site planning, urban design, and integration of technical systems and architectural expression. Emphasis either on treatment in breadth of large-scale projects or exploration in depth of a select number of smaller-scale projects. Students learn to integrate structure and environmental control and to present their ideas in graphics or models. Letter grading.

415. Comprehensive Studio. (6) Studio, 12 hours; outside study, six hours. Preparation: course 414. Completion of core sequence (courses 411 through 414), with focus on development phase of a project. Technical concerns such as lighting, material innovation, sustainability, construction documents, and building envelopes to be considered critical to generation of an architectural form, integrated in design of a single building project. Letter grading.


496. Special Projects in Architecture. (2 to 8) Projects initiated either by individual students or student teams and directed by a faculty member. May be repeated for credit.

497. Special Projects in Urban Design. (2 to 8) Projects initiated either by individual students or student teams and directed by a faculty member. May be repeated for credit.

498. Comprehensive Examination Seminar. (4) Seminar, three hours; outside study, nine hours. Seminar intended to begin process of developing independent proposal with related research and documentation that moves toward production of final document or book for each project. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements. S/U grading.


597. Preparation for Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 8) May be repeated for credit. S/U grading.


ART
School of the Arts and Architecture
UCLA
2275 Broad Art Center
Box 951615
Los Angeles, CA 90095-1615
(310) 825-3281
fax: (310) 206-6676
e-mail: artinfo@arts.ucla.edu
http://www.art.ucla.edu
Russell Ferguson, M.A., Chair

Professors
John A. Baldessari, M.A.
Jennifer Bolande, B.F.A.
Barbara Drucker, M.F.A.
Russell Ferguson, M.A.
Roger R. Herman, M.F.A.
Mary Kelly, M.A.
Barbara Kruger
Catherine S. Opiel, M.F.A.
Lari Q. Piment, M.F.A.
Charles R. Ray, M.F.A.
Adrian A. Saxe, B.F.A.
James Welling, M.F.A.
Patricia A. Wickman, M.F.A.

Professors Emeriti
Samuel Amato, B.F.A.
William J. Brice
Raymond B. Brown, M.A.
Christopher L. Burden, M.F.A.
Elliot J. Elgart, M.F.A.
Robert F. Heinecken, M.A.
Henry T. Hopkins, M.F.A.
Paul McCarthy, M.F.A.
Nancy Rubins, M.F.A.


496. Special Projects in Architecture. (2 to 8) Projects initiated either by individual students or student teams and directed by a faculty member. May be repeated for credit.

497. Special Projects in Urban Design. (2 to 8) Projects initiated either by individual students or student teams and directed by a faculty member. May be repeated for credit.

498. Comprehensive Examination Seminar. (4) Seminar, three hours; outside study, nine hours. Seminar intended to begin process of developing independent proposal with related research and documentation that moves toward production of final document or book for each project. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements. S/U grading.


597. Preparation for Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 8) May be repeated for credit. S/U grading.


436. Introduction to Building Construction. (2) Laboratory; two hours; outside study, four hours. Introduction to construction techniques. Study of physical principles and materials for making architecture through series of exercises and field trips. Letter grading.

437. Building Construction. (4) Laboratory, four hours; outside study, eight hours. Principles of structure and enclosure, with focus on production and materials research. Exploration of building elements for formal and functional properties; in addition, design development of project in previous studio may be developed in detail with integration of a range of technical systems. Letter grading.

441. Environmental Control Systems. (4) Design of systems necessary for functioning of large buildings; air handling, fire and life safety, plumbing, vertical and horizontal circulation, communication and electrical power distribution, analysis of interaction of these systems and their integrated effects on architectural form of a building.

442. Building Climatology. (4) Preparation: basic physics. Design of buildings which specifically respond to local climate; utilization of natural energies, human thermal comfort; sun motion and sun control devices; use of plant materials and landform to modify microclimate.

ART / 161
Scope and Objectives

The Department of Art offers professional art training that emphasizes experimentation and encourages students to draw from many disciplines in their creative process. The department provides a strong background in theory and criticism to support contemporary studio practice. Bachelor of Arts degree coursework and Master of Fine Arts degree specializations include painting and drawing, new genres, photography, sculpture, and ceramics. An interdisciplinary studio option is offered within the M.F.A. program. All programs have access to the art resources at UCLA and in the Los Angeles community.

The Department of Art reserves the right to hold for exhibition purposes examples of any work done in classes and to retain for the permanent collection of its galleries such examples as may be selected.

Additionally, the Department of Art reserves the right to use documentation and reproductions of student art work from studio courses, student exhibitions, and other records of creative work in publications including, but not limited to, the undergraduate and graduate brochures and publications, department and school websites, and presentations and events related to student recruitment and outreach.

Undergraduate Study

Art B.A.

Preparation for the Major


The Major

Required: A minimum of nine upper division courses, including Art 100 or 132 or one course from an approved list of upper division nonmajor courses, 150, six courses from at least four of the following studio areas: 130, 133, 137, 140, 145, 147, 148, one course from Art History M101A through 119E or C140A through C180C, and 15 units of art electives.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Art offers the Master of Arts (M.A.) and Master of Fine Arts (M.F.A.) degrees in Art.

Art

Lower Division Courses

1A. Drawing. (4) Studio, eight hours; five hours arranged. Course in basic drawing skills intended as preparation for work in a variety of media.

1B. Sculpture. (4) Studio, eight hours; five hours arranged. Introduction to concepts and forms of contemporary sculpture to become familiar with tools and material to enable students to visually manifest their individual ideas. Presentation of work of contemporary artists.

11A. Painting. (4) Studio, eight hours; five hours arranged. Basics of painting; introduction to technical procedures, tools, and materials. Discussion of fundamental conceptual and formal concerns. P/NP or letter grading.

11B. Photography. (4) Studio, eight hours; five hours arranged. Fundamentals in technique, with emphasis on individual projects. Varied approaches, processes, and applications of the photographic medium within the context of art, supported by studies in theory, aesthetics, and history of photography. P/NP or letter grading.

11C. Printmaking. (4) Studio, eight hours; five hours arranged. Introductory survey of various technical and conceptual concerns in a variety of printmaking media as preparation for more focused study in particular media at upper division level. P/NP or letter grading.

11D. New Genres. (4) Studio, eight hours; five hours arranged. Introduction to projects in installation, performance, video, film, intermediary, and other nontraditional media and processes. P/NP or letter grading.

11E. Ceramics. (4) Studio, eight hours; five hours arranged. Introduction to ceramic materials and processes, with emphasis on personal and cultural expression in ceramic media. Discussion of ceramics in contemporary artistic practice and social history of ceramic art. Letter grading.

31A. Modernism. (5) Lecture, three hours; discussion, one hour; field trips, three hours. Impact of modernist thought on art and society from mid-19th through early-20th centuries. Exploration of origins, development, theory, and practice of modernism in Europe and the U.S. Letter grading.

31B. Modernism. (5) Lecture, three hours; discussion, one hour; field trips, three hours. Requisite for Art majors: course 31A. Continuation of impact of modernist ideas through mid-20th century; with focus primarily on work made from the 1920s to 1960s. Letter grading.

31C. Modernism. (5) Lecture, three hours; discussion, one hour; field trips, three hours. Requisites for Art majors: courses 31A, 31B. Continuation of impact of modernist ideas through latter part of 20th century, covering shift from modernist to postmodernist practices and theories, with focus on work made from the 1960s to the present. Letter grading.

132. Survey of Critical Thought. (5) Lecture, three hours; discussion, one hour; screenings/research, 11 hours. Requisites: courses 31A, 31B, 31C. Overview of premodern, modern, and postmodern theory as reflected in critical writing and artistic practice, with emphasis on 1940s to present. Specific topics may vary. May be repeated for maximum of 20 units. Letter grading.

133. Advanced Painting. (5) Studio, eight hours; seven hours arranged. Requisite: course 11A. Varied media and subjects to further develop students’ technical and expressive media and ideas. May be repeated for a maximum of 20 units. Letter grading.

137. Advanced New Genres. (5) Studio, eight hours; seven hours arranged. Requisite: course 11D. Emphasis to be selected by faculty members from one or more of following media: installation, performance, video, film, other nontraditional media and processes. May be repeated for a maximum of 20 units. Letter grading.

140. Advanced Printmaking. (5) Studio, eight hours; seven hours arranged. Requisite: course 11C. Select ed studies in fine printmaking, historical and contemporary: woodcut, etching and engraving, lithography, silk screen, and mixed media. May be repeated for a maximum of 20 units. Letter grading.

145. Advanced Sculpture. (5) Studio, eight hours; seven hours arranged. Requisite: course 11B. Selected projects in printmaking and related media, concentrating on development of individual students’ artwork. Studio emphasis is on specialization in theory and critical analysis. May be repeated for a maximum of 20 units. Letter grading.

147. Advanced Photography. (5) Studio, eight hours; seven hours arranged. Requisite: course 11B. Selected projects in printmaking and related media, concentrating on development of individual students’ artwork. Studio emphasis is on specialization in theory and critical analysis. May be repeated for a maximum of 20 units. Letter grading.

148. Advanced Ceramics. (5) Studio, eight hours; seven hours arranged. Requisite: course 11E. Select ed studies in ceramics, with emphasis on individualized creative experimentation with materials and techniques introduced in course. Methods and processes to be selected from range of possibilities, including handforming and modeling, preparation and use of molds, slipcasting, and use of potter’s wheel. May be repeated for a maximum of 20 units. Letter grading.

150. Senior Studio. (5) Studio, eight hours; seven hours arranged. Limited to seniors. Advanced studio projects, with emphasis on analysis and criticism of individual creative work and ideas. Letter grading.

170. Special Topics in Studio. (4) (Formerly numbered 189.) Studio/museum visits, eight hours; four hours arranged. Limited to junior/senior Art majors. Current themes in art theory, practice, and criticism, offering students opportunity to explore these issues in studio context through critique of work and discussion of recommended readings. May be repeated for maximum of 16 units. Letter grading.

C180. Seminar: Art. (4) Seminar, three hours. Limited to junior/senior Art majors. Advanced topics in critical theory and study of contemporary art, with emphasis on individuals, issues, and methodologies. Possible areas of study from structuralism, deconstruction, feminist and psychoanalytic theory, commodification, and censorship. May be repeated for credit. Concurrently scheduled with course C280. Letter grading.

C181. Exhibition and System. (4) Seminar, four hours. Preparation: at least one course from 100 through 150. Examination of temporary exhibition and its associated field of publications as intertextual system of meaning, beginning with individual works and proceeding to on-site analysis of current exhibitions. Concurrently scheduled with course C281. Letter grading.
M184. Chicana Art and Artists. (Formerly numbered M190.) (Same as Chicana and Chicano Studies M175 and World Arts and Cultures M128.) Lecture, four hours. Introduction to Chicana art and artists. Examination of Chicana aesthetic. Chicana artists have developed unique experience and identity as artists and Chicanas. Letter grading.

M185. Whose Monument Where: Course on Public Art. (4) (Formerly numbered M188.) (Same as Chicana and Chicano Studies M185 and World Arts and Cultures M125A.) Seminar, four hours. Recommended corequisite: course M186A, M186B, or M186C. Examination of public monuments in the U.S. as basis for cultural insight and critique of American values from perspective of artist. Use of urban Los Angeles as textbook in urban space issues such as who is the “public,” what is “public space” at end of the 20th century, what defines neighborhoods, and do different ethnic populations use public space differently. P/N or letter grading.

M186A. Beyond the Mexican Mural: Beginning Muralism and Community Development. (4) (Same as Chicana and Chicano Studies M186A and World Arts and Cultures M125A.) Seminar/lecture, six hours. Corequisite: course M186AL. Investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and/or painting for placement in a community. Students research, design, and work with community participants. P/N or letter grading.

M186AL-M186BL-M186CL. Beyond the Mexican Mural: Muralism and Community Laboratory. (2-2-2) (Same as Chicana and Chicano Studies M186AL-M186BL-M186CL and World Arts and Cultures M125AL-M125BL-M125CL.) Laboratory, two hours. Course M186AL is requisite to M186BL, which is requisite to M186CL. Mural and Digital Laboratory is a studio housed at Social and Public Art Resource Center in Venice, CA, where students work in community-based setting. Open to students during scheduled hours with laboratory tech support, it offers instruction as students independently and in collaborative teams research, design, and produce large-scale painted and digitally generated murals to be placed in community setting. P,NP or letter grading. M186AL. Beginning; M186BL. Intermediate; M186CL. Advanced.

M186B. Beyond the Mexican Mural: Intermediate Muralism and Community Development. (4) (Same as Chicana and Chicano Studies M186B and World Arts and Cultures M125B.) Studio, eight hours. Corequisite: course M186BL. Continuation of investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and/or painting for placement in community. Students research, design, and work with community participants. Continuation of project through stages of production to full scale and community approval. P,NP or letter grading.

M186C. Beyond the Mexican Mural: Advanced Muralism and Community Development. (4) (Same as Chicana and Chicano Studies M186C and World Arts and Cultures M125C.) Studio/lecture, six hours. Requisites: courses M186B, M186BL. Corequisite: course M186CL. Continuation of investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and/or painting for placement in community. Students research, design, and work with community participants. Continuation of project through installation, documentation, and dedication, with work on more advanced independent projects. P/N or letter grading.

C187. Contemporary Art Collections in Los Angeles. (2) Seminar, three hours; outside study, three hours. Limited to junior/senior Art majors. Exploration of critical issues regarding concept of collections and collecting. Visits to institutions and collections and discussion of vision, goals, and scope of collections, as well as individual works. Concurrently scheduled with course C287. Letter grading.

190. Studio/Research Colloquia in Art. (1) Seminar, three hours. Corequisites: courses 197 or 198. Limited to juniors/seniors. Designed to bring together students undertaking supervised studio tutorial projects or research in seminar setting with one or more faculty members to discuss and to respond to work in discipline. May be repeated for a maximum of 4 units. P/N grading.

193. Seminars: Current Topics in Art. (1) Seminar, three hours. Limited to junior/senior Art majors. Discussion of selected current exhibitions, visiting artist lectures, screenings, and readings in field. P/N grading.

195. Community Internship in Art. (2) Tutorial, six hours. Limited to juniors/seniors. Internship in supervised setting in community agency or business related to art. Students meet on regular basis with instructor and provide periodic reports of their experience. May be repeated for maximum of 8 units. Individual contract with supervising faculty member required. Only 4 units may be applied toward upper division art elective major requirement. P/N grading.

197. Individual Studies in Art. (2 to 4) (Formerly numbered 199.) Tutorial, to be arranged. Preparation: 3.0 grade-point average in major. Corequisite: course 190. Limited to junior/senior Art majors. Individual intensive studio project or study, with scheduled meeting times to be arranged between faculty member and student. Tangible evidence of project or mastery of subject matter required. May be repeated for a maximum of 8 units. Individual contract required. Letter grading.

198. Hours for Individual Study in Art. (2 to 4) (Formerly numbered 197.) Tutorial, to be arranged. Preparation: 3.0 grade-point average overall, 3.5 grade-point average in major. Corequisite: course 190. Limited to juniors/senior Art majors. Development and completion of comprehensive research or studio project under direct supervision of faculty member. May be repeated for a maximum of 8 units. Individual contract required. Letter grading.

Graduate Courses

271. Graduate Painting. (2 to 8) Studio, eight hours. Study in painting and associated media. May be repeated for credit with consent of adviser. Letter grading.

272. Graduate Printmaking. (2 to 8) Studio, eight hours. Studies in literacy and experimental printmaking. Selected studies in intaglio, lithograph, woodcut, silk screen, photo printmaking, and mixed media. May be repeated for credit with consent of adviser. Letter grading.

273. Graduate Sculpture. (2 to 8) Studio, eight hours. Studies in sculpture with specific attention to ongoing nature, specificity, and approach to each student's particular discipline. Individual studio visits and consultation. May be repeated for credit with consent of adviser. Letter grading.

274. Graduate Photography. (2 to 8) Studio, eight hours. Studies concentrating on development of individual students' artwork. Studio emphasis with adja cent discussions in theoretical and critical analysis, specific attention to original, expressive, social, and humanistic values of art. May be repeated for credit with consent of adviser. Letter grading.

275. Graduate New Genres. (2 to 8) Studio, eight hours. Studies in alternative media, including installation, performance, video, film, and other nontraditional media and processes. May be repeated for credit with consent of adviser. Letter grading.

276. Graduate Group Critique. (4) Discussion, four hours; tutorial, to be arranged. Group critique/discussion of students' research. Additional tutorial meetings by arrangement with instructor. May be repeated for credit. Letter grading.

277. Graduate Ceramics. (2 to 8) Studio, eight hours. Studies in ceramics and art with investigation of traditional and experimental processes and intellectual approaches to art practice utilizing ceramic media. Emphasis on development of significant body of original work reflecting student's expressive and theoretical concerns. May be repeated for credit. Letter grading.

280. Seminar: Art. (4) (Formerly numbered 280.) Seminar, three hours. Art and its relationship to critical theory and art of contemporary art, with emphasis on individuals, issues, and methodologies. Possible areas of study from structuralism, deconstruction, feminist and psychoanalytic theory, commodification, and censorship. May be repeated for credit. Concurrently scheduled with course C180. Letter grading.

281. Exhibition and System. (4) Seminar, four hours. Examination of temporary exhibition and its associated body of publications as a system of meaning, beginning with individual works and proceeding to on-site analysis of current exhibitions. May be repeated for credit. Concurrently scheduled with course C181. Letter grading.

282. Exhibitions and Public Programs. (4) Seminar, four hours. Introduction to principles of program planning and community development in relation to visual arts and work of art museums. May be repeated for credit. Concurrently scheduled with course C182. Letter grading.

283. Special Topics in Art. (2 or 4) Seminar, six hours (2-unit course) or 12 hours (4-unit course). Selected topics in art expressed as variables of approaches which may include projects, readings, discussion, research papers, and oral presentations. Topics announced in advance. May be repeated for credit. Concurrently scheduled with course C183. Letter grading.

287. Contemporary Art Collections in Los Angeles. (2) Seminar, three hours; outside study, three hours. Exploration of critical issues regarding concept of collections and collecting. Visits to institutions and collections and discussion of vision, goals, and scope of collections, as well as individual works. Concurrently scheduled with course C187. Letter grading.

290. Visiting Artists Program. (4) Seminar, three hours. Limited to graduate students. Introduction to visit ing artists in their area of study, with focus on one-on-one critiques with wide range of practitioners. In Progress (400A) and SU (400B) grading.

290C. Visiting Artists Studio. (4) Studio, 12 hours. Limited to graduate art students. Introduction to visiting artists in their area of study, with focus on one-on-one critiques with wide range of practitioners. SU grading.
ART HISTORY
College of Letters and Science

UCLA
100 Dodd Hall
Box 951417
Los Angeles, CA 90095-1417
(310) 206-6905
fax: (310) 206-1903
http://www.humnet.ucla.edu/humnet/arthist/home.html

Irene A. Bierman-McKinney, Ph.D., Chair

Professors
Albert I. Boime, Ph.D.
Robert L. Brown, Ph.D.
Susan B. Downey, Ph.D.
Burglind Jungmann, Ph.D.
Mary Kelly, M.A.
Cecelia F. Klein, Ph.D.
David M. Kunzle, Ph.D.
Donald F. McCallum, Ph.D.
David A. Scott, Ph.D.
Debora L. Silverman, Ph.D.
Zoë S. Strother, Ph.D.
Lothar von Falkenhayn, Ph.D.
Joanna C. Woods-Marsden, Ph.D.

Professors Emeriti
Kalhanina Otto-Dorn, Ph.D.
Carlo Pedretti, M.A. (Armand Hammer Professor Emeritus of Leonardo Studies)
Donald A. Preziosi, Ph.D.
Anthony Vidler, Dipl.Arch.

Associate Professors
Irene A. Bierman-McKinney, Ph.D.
Charlene Villaseñor Black, Ph.D.
Sharon E. Gerstel, Ph.D.
Miwon Kwon, Ph.D.

Assistant Professors
George T. Baker, Ph.D.
Hui-Shu Lee, Ph.D.
Saloni Mathur, Ph.D.
Steven D. Nelson, Ph.D.

Senior Lecturer S.O.E
Jean S. Weisz, Ph.D., Emerita

Scope and Objectives
The department offers programs leading to the Bachelor of Arts, Master of Arts, and Ph.D. degrees. It endorses an interdisciplinary and intercultural approach to art history of all periods and places. By thinking across current categories and boundaries and even critically interrogating art history itself, students are encouraged to question the canon, rethink the relationship between margins and centers, and practice a socially and politically responsible art history.

The rich and varied art resources available at UCLA and throughout Southern California offer students extraordinary opportunities to supplement the formal curriculum.

Undergraduate Study
Art History B.A.

Preparation for the Major
Required: Two courses from Art History 50, 51, 54, 57 and two courses from 55A, 55B, 56A, 56B. It is strongly recommended that these courses be taken prior to enrollment in upper division courses.

Transfer Students
Transfer applicants to the Art History major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two art history courses in ancient, Renaissance and baroque, medieval, or modern art and two courses in African, Asian, oceanic, Native American, or pre-Columbian art.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Eleven upper division art history courses as follows:
A total of six courses (24 units) from the following 12 areas are required, distributed as follows: one course from three different areas in Group A (three courses total) and one course from three different areas in Group B (three courses total):

Group A (three courses total):


Group B (three courses total):


Five art history electives from the above 12 areas are required; courses 100, 127, and 197 may also be included.

Two terms of one foreign language are also required. The language is in addition to the College foreign language requirement. For example, if French was used to satisfy the College foreign language requirement, a language other than French needs to be taken to satisfy the foreign language requirement for the major.

Art History majors should be aware that the upper division course requirements in the major (44 units) do not meet the upper division requirement of 60 units for graduation. Additional upper division units must be taken to reach the 60-unit total.

It is recommended that students have each term's program approved by the departmental adviser.

Hons Program
The honors program is designed for Art History majors who are interested in carrying out an independent research project that culminates in a departmental honors thesis of approximately 30 pages. The program gives qualified students the opportunity to work closely with individual professors on an in-depth supervised research and writing project.

All junior and senior Art History majors who have completed a minimum of four upper division art history courses with a departmental grade-point average of 3.5 or better and an overall GPA of 3.0 or better are eligible to apply. Consult the art history undergraduate counselor one term prior to beginning the honors program.

To qualify for graduation with honors, students must (1) complete all requirements for the major, (2) have a cumulative grade-point average of 3.5 or better in upper division courses in the department and an overall GPA of 3.0 or better, and (3) complete Art History 198A and 198B with a grade of A– or better.

To qualify for graduation with highest honors, students must (1) complete all requirements for the major, (2) have a cumulative GPA of 3.85 or better in upper division courses in the department and an overall GPA of 3.65 or better, and (3) complete courses 198A and 198B with a grade of A.

Art History Minor
The Art History minor is designed for students who wish to augment their major with a series of courses that analyze the history, theory, and criticism of diverse visual traditions in world culture. On the lower division level, the minor exposes students to overviews of these traditions in broad time periods from ancient to modern, from the regional to the global, as well as to courses that trace the historical significance of art in the context of specific thematic and media concerns. Upper division courses offer more specialized content that explores crucial episodes or areas with more intense and rigorous theoretical and methodological strategies.

To enter the minor students must be in good academic standing with an overall grade-point average of 2.0 or better, have completed 45 units, and file a petition in 100 Dodd Hall. Students are advised to declare the minor early.
and meet with the student affairs officer (310-825-3992) to plan a coherent program.

**Required Lower Division Courses (15 units):**
Three courses selected from Art History 50, 51, 54, 55A, 55B, 56A, 56B, 57.

**Required Upper Division Courses (20 units):**
Five art history courses, with at least two from each group:


Art History 127 (4 units) may be taken as one of the five upper division courses required for the minor.

One course may be taken on a Passed/Not Passed basis; all other minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gssa/library/pgmrqtrnto.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and web-sites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Art History offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Art History.

## Art History

### Lower Division Courses

**50. Ancient Art.** (5) Lecture, three hours; quiz, one hour; museum field trips. Prehistoric, Egyptian, Mesopotamian, Aegean, Greek, Hellenistic, and Roman art and architecture. P/NP or letter grading.

**51. Medieval Art.** (5) Lecture, three hours; quiz, two hours. Early Christian, Byzantine, Islamic, Carolingian, Ottoman, Romanesque, and Gothic art and architecture. P/NP or letter grading.

**54. Modern Art.** (5) Lecture, three hours; quiz, one hour; museum field trips. Social history of modern art from period of French Revolution to circa 1968. Artists and their works treated from perspective of sociopolitical and broad cultural developments. P/NP or letter grading.

**55A. Introduction to Arts of Africa.** (5) Lecture, three hours; discussion, one hour; museum field trips. Introduction to arts and architecture of Africa. Examination of social and historical contexts of their production. Introduction to body of information within framework of conceptual problem through series of case studies. P/NP or letter grading.

**56B. Chinese Art.** (5) Lecture, three hours; discussion, one hour; museum field trips. General introduction to Chinese art, covering all major periods from Neolithic to the modern age. Presentation of monuments as well as artifacts in variety of media in their social and historical contexts. P/NP or letter grading.

**57. Renaissance and Baroque Art and Ideology.** (5) Lecture, three hours; discussion, one hour. Survey of Renaissance and baroque art and ideology to introduce students to basic tools of stylistic and iconographical analysis. Coverage of historical development of European art and architecture over a period of almost 500 years and exploration of ways in which those in religious and secular power used images to promote their particular ideologies. P/NP or letter grading.

**88A-88Z. Lower Division Seminars.** (4 each) Seminar, three hours. Limited to freshmen. Variable topics; consult Schedule of Classes or department for topics to be offered in a specific term. P/NP or letter grading.

**88A. Buddha's Life and Teachings in Art, Texts, and Worship.** (4) Development of Buddhist art in India through Buddha's teachings, expressed in art, architecture, texts, and ritual. Re-creation of Buddha's life by analyzing art and reading Buddhist texts of his life.

### Upper Division Courses

100. Art Historical Theories and Methodologies. (4) Seminar, three hours. Requisites: three courses from 50 through 57. Critical examination of history of discipline of art history, with studies of various theoretical, critical, and methodological approaches to visual arts. Letter grading.

**M101A. Egyptian Art and Archaeology.** (Formerly numbered 101A.) (Same as Ancient Near East M101A.) Lecture, three hours. Study of architecture, sculpture, painting, and minor arts during Predynastic period and Old Kingdom. P/NP or letter grading.

**M101B. Egyptian Art and Archaeology of Middle and New Kingdoms.** (Formerly numbered 101B.) (Same as Near Eastern Languages M101B.) Lecture, three hours. Requisite: course 50. Study of architecture, sculpture, painting, and minor arts during Middle and New Kingdoms. P/NP or letter grading.

**M102A. Minoan Art and Archaeology.** (Same as Classics M103A.) Lecture, three hours. Requisite: course 50 or Classics 10. Study of development of art and architecture in Minoan Crete from circa 3000 to 1000 B.C. P/NP or letter grading.

**M102B. Mycenaean Art and Archaeology.** (Same as Classics M103B.) Lecture, three hours. Requisite: course 50 or Classics 10. Study of development of art and architecture in Mycenaean Greece from circa 2000 to 1000 B.C. P/NP or letter grading.

**M102C. Archaic Greek Art and Archaeology.** (Same as Classics M103C.) Lecture, three hours. Requisite: course 50 or Classics 10. Study of development of art and architecture of Greek world from approximately 800 through 490 B.C. P/NP or letter grading.

**M102D. Classical Greek Art and Archaeology.** (Same as Classics M153D.) Lecture, three hours. Requisite: course 50 or Classics 10. Study of development of art and architecture of Greek world from approximately 490 through 350 B.C. P/NP or letter grading.

**M102E. Hellenistic Greek Art and Archaeology.** (Same as Classics M153E.) Lecture, three hours. Requisite: course 50 or Classics 10. Study of development of art and architecture of Greek world from middle of the 4th century B.C., including transmittal of Greek art forms to the Romans. P/NP or letter grading.

**M102F. Etruscan Art.** (Same as Classics M153F.) Lecture, three hours. Requisite: course 50 or Classics 20. Arts of Italic peninsula from circa 1000 B.C. to end of Roman Republic. P/NP or letter grading.
106A. Byzantine Art. (4) Lecture, three hours. Requisite: course 51. Theory and development of Byzantine art from the iconoclastic controversy to 1453 and diffusion of Byzantine art in Armenia, Georgia, the Caucasus, and Russia.


106D. Late Renaissance Art: Counter-Reformation. (4) Lecture, three hours. Requisite: course 57. Painting, sculpture, and architecture of the late 16th and early 17th centuries considered in context of Counter-Reformation.

108A-108B. Northern Renaissance Art. (4-4) Lecture, three hours. Requisite: course 57. Course 108A is requisite to 108B. Painting and sculpture in the Northern Renaissance.

108C. From Bruegel to Rubens. (4, 4) Lecture, three hours. Requisite: course 57. Art and history in the Spanish southern Netherlands (i.e., present-day Belgium), circa 1550 to 1650, in context of Spanish rule and revolt against it (1568 to 1585), truce with the northern independent (Dutch) Netherlands (1609 to 1621), and renewal of war (1621 to 1648). P/NP or letter grading.

109A. Baroque Art. (4) Lecture, three hours. Requisite: course 57. Art and architecture of Spain or Italy, 16th to late 17th century. Concurrently scheduled with course C209A. P/NP or letter grading.

109B. Baroque Art. (4) Lecture, three hours. Requisite: course C109A. Art and architecture of Northern Europe, 16th to late 17th century.

109C. European Art of the 18th Century. (4, 4) Lecture, three hours. Requisite: course 57. Painting, architecture, and sculpture of the 18th century examined in light of political and intellectual developments. Special emphasis on effect of the rise of democratic institutions, especially the French Revolution.


110B. European Art of the 19th Century. (4) Lecture, three hours. Requisite: course 57. Art and architecture of Europe, 18th to 19th centuries, and architecture in the U.S. from the Civil War to turn of the century. Concurrently scheduled with course C210B.

111C. American Art, 1900 to 1945. (4) Lecture, three hours. Painting, sculpture, and architecture in the U.S. from 1900 to 1945. Concurrently scheduled with course C212C. P/NP or letter grading.

111D. African American Art. (4) (Same as Afro-American Studies CM112D.) Lecture, three hours. Continuation of course C212D, involving detailed inquiry into work of 20th-century African American artists whose works provide insightful and critical commentary about major features of American life and society, including visits to various key African American art institutions in Los Angeles. Concurrently scheduled with course CM112E. P/NP or letter grading.

112D. African American Art. (4) (Same as Afro-American Studies CM112E.) Lecture, three hours. Continuation of course CM112E, involving detailed inquiry into work of 20th-century African American artists whose works provide insightful and critical commentary about major features of American life and society, including visits to various key African American art institutions in Los Angeles. Concurrently scheduled with course CM121E. P/NP or letter grading.

113B. African American Art. (4) (Same as Afro-American Studies CM112E.) Lecture, three hours. Continuation of course CM112E, involving detailed inquiry into work of 20th-century African American artists whose works provide insightful and critical commentary about major features of American life and society, including visits to various key African American art institutions in Los Angeles. Concurrently scheduled with course CM122D. P/NP or letter grading.


1110H. Latin American Art of the 20th Century. (4) Lecture, three hours. Late 20th century modern and contemporary art and architecture of selected Latin American countries, including both modernist and postmodernist forms, considered in context of social and political concerns, both national and international. Concurrently scheduled with course C254. P/NP or letter grading.

1112A. Art in America before the Civil War. (4) Lecture, three hours. Painting, sculpture, and architecture in the U.S. from Colonial period through the Civil War. Concurrently scheduled with course C212A.

1112B. American Art in the Gilded Age, 1860 to 1900. (4) Lecture, three hours. Painting, sculpture, and architecture in the U.S. from the Civil War to turn of the century. Concurrently scheduled with course C212B.

1112C. American Art, 1900 to 1945. (4) Lecture, three hours. Painting, sculpture, and photography in the U.S. from 1900 to 1945. Concurrently scheduled with course C212C. P/NP or letter grading.

1112D. African American Art. (4) (Same as Afro-American Studies CM112D.) Lecture, three hours. Critical examination of media ranging from African American painting and sculpture to MTV and advertising, with emphasis on relationship between black visual production, Afrocentrism, political resistance, and notions of blackness. Concurrently scheduled with course CM121E. P/NP or letter grading.

1112E. Imaging Black Popular Culture. (4) (Same as Afro-American Studies CM112E.) Lecture, three hours. Critical examination of media ranging from African American painting and sculpture to MTV and advertising, with emphasis on relationship between black visual production, Afrocentrism, political resistance, and notions of blackness. Concurrently scheduled with course CM121E. P/NP or letter grading.

1114A. Early Art of Indonesia. (4) Lecture, three hours. Not open to freshmen. Survey of Indonesian art from its beginning in prehistory through the 19th century. Emphasis on development of Buddhist art and its relationship with the culture.

1114D. Later Art of India. (4) Lecture, three hours. Not open to freshmen. Survey of Indian art from the 10th to 19th century. Decline of Buddhist art, especially south Indian art, and its development. P/NP or letter grading.

1114E. Arts of Korea. (4) Lecture, three hours. Art and archaeology of Korea from the Neolithic Period through the Yi dynasty. Particular emphasis on early Korean art and manufactures and state formation. Buddhist art, Korean ceramics, and Yi literati painting.

1114F. Arts of Southeast Asia. (4) Lecture, three hours. Not open to freshmen. Southeast Asian art from its beginning in prehistory through the 19th century. Study of art of selected cultures from Burma, Malaysia, Thailand, Cambodia, Vietnam, and Indonesia.
118. Arts of Sub-Saharan Africa. (4) Lecture, three hours. Critical examination of key themes in art and architecture of Africa, with emphasis on ways visual arts and built environment function with respect to larger social and cultural issues. P/NP or letter grading.

118D. Arts of Native North America. (4) Lecture, three hours. Requisite: course 55A. Survey of painting, sculpture, and other arts from the Eskimo to peoples of the Caribbean and southwestern U.S.

118E. Advanced Studies in Non-Western Art. (4) Lecture, three hours. Requisite: course 118A or 118C or 118D. Selected topics in arts of non-Western peoples which reflect interests of individual regular and/or visiting faculty members. Concurrently scheduled with course C249A. P/NP or letter grading.

119C. Contemporary Arts of Africa. (4) Lecture, three hours. Survey of African visual practices since the mid-20th century, with special emphasis on changing meaning of art object, status of "African" artist, global reception of contemporary African art, and very definitions of "contemporary African art." Concurrently scheduled with course C216C. P/NP or letter grading.

119D. Architecture and Urbanism in Africa. (4) Lecture, three hours. Survey of African built environment various constructional epochs from about 200 C.E. to the present, with emphasis on cultural, social, and historical contexts of architecture, gender, and space, and contemporary African cities. Concurrently scheduled with course C216D. P/NP or letter grading.

119E. African Civilizations. (4) Lecture, three hours. Development of three very different African civilizations through their arts from 100 B.C.E. to the present. P/NP or letter grading.

127. Undergraduate Seminar. (4) Seminar, three hours. Designed for juniors/seniors. Selected aspects of art history explored through readings, discussion, research papers, and oral presentations. May be repeated twice.

140A. History of Korean Painting. (4) Lecture, three hours. Requisite: course 114E. Korean painting history from Three Kingdom period to the 19th century, with special emphasis on Choson dynasty (1392 to 1910). Concurrently scheduled with course C242A. P/NP or letter grading.

140B. History of Korean Ceramics. (4) Lecture, three hours. Requisite: course 114E. History of Korean ceramic art from Neolithic period to the 19th century, with special emphasis on technological and stylistic developments. Concurrently scheduled with course C242B. P/NP or letter grading.

140C. History of Korean Buddhist Art. (4) Lecture, three hours. Requisite: course 114E. History of Korean Buddhist art from Three Kingdom period to Choson dynasty, with special emphasis on Buddhist sculpture, painting, and architecture. Concurrently scheduled with course C242C. P/NP or letter grading.

140D. Selected Topics in Korean Art. (4) Lecture, three hours. Requisite: course 114E. Variable topics in contemporary art (post-1945) which reflect interests of individual regular and/or visiting faculty members. May be repeated once for credit. P/NP or letter grading.


150A. Contemporary Art, 1940s to 1950s. (4) Lecture, three hours. Requisite: course 54. Study of major artistic and cultural trends following World War II in the U.S. and Europe, covering abstract expressionism to pop art. Concurrently scheduled with course C250A. P/NP or letter grading.


150C. Contemporary Art, 1980s to Present. (4) Lecture, three hours; discussion, one hour. Requisite: course 54. Study of politics of representation at end of century, covering dominant strategies in postmodernism art. Concurrently scheduled with course C250C. P/NP or letter grading.

151A-C. Selected Topics in Contemporary Art. (4) Lecture, three hours. Requisite: course 54. Changing topics in contemporary art (post-1945) which reflect interests of individual regular and/or visiting faculty members. May be repeated once for credit. P/NP or letter grading.


C171B. 1910 to the Present. History of photography in the 20th century, with special attention to photography’s entrance into projects of avant-garde and its role in formation of postmodern aesthetic. C171C. Selected Topics. Variable topics in history of photography that reflect interests of individual regular and/or visiting faculty members.

M172. Armenian Painting of the 17th to 20th Centuries. (4) (Same as Armenian M172.) Lecture, three hours. Overview of development of modern Armenian painting out of its matrix in the 17th and 18th centuries. P/NP or letter grading.

M173. Medieval Armenian Miniature Painting. (4) (Same as Armenian M173.) Lecture, three hours. Examination of cultural and historical impact of Armenian miniature painting on its surrounding cultures. P/NP or letter grading.

C180A. Art and Empire. (4) Lecture, three hours. Examination of relationships between art and imperial ideologies and introduction to current issues in colonial studies and postcolonial criticism. Concurrently scheduled with course C280A. P/NP or letter grading.


C180C. Modern and Contemporary South Asian Art. (4) Lecture, three hours. Topics in modern and contemporary South Asian art since 1947 to the present. Concurrently scheduled with course C280C. Letter grading.
Graduate Courses

200. Art Historical Theories and Methodologies. (4) Seminar, three hours. Critical examination of history of discipline of art history, with studies of various theoretical, critical, and methodological approaches to visual arts. May be repeated for credit with consent of adviser. S/U or letter grading.

201. Topics in Historiography of Art History. (4) Discussion, three hours. Critical examination of historiographic traditions and fields within the discipline of art history, concentrating on particular time periods, geographical areas, artistic traditions, or the work of one or more authors. May be repeated for credit with consent of adviser.

202. Topics in Theory and Criticism in Art History. (4) Seminar, three hours. Focuses studies of various theoretical and critical traditions within art history, concentrating on particular issues, authors, or methodologies either within or across historical and cultural areas. May be repeated for credit with consent of adviser. S/U or letter grading.

203A-C203B. Museum Studies. (4-4) Lecture, three hours; demonstrations/field trips. May be repeated for credit with consent of adviser. Concurrently scheduled with courses C103A-C103B. S/U or letter grading.

203A. Introduction to historical evolution of museums and museumology, theories and methods of their operations, historical and critical relationships between museology, art history, and new technologies for archiving and exhibiting artifacts and historical materials. C203B. Lectures and discussions organized to foster active critical engagement with museum policies, operations, and productions involving focused study and on-site research on particular museum institutions and exhibitions.

203C. Museum Studies Practicum. (2 or 4) Lecture, three hours. Requisites: courses C203A, C203B. On-site examination and discussion of selected artworks, exhibitions, and associated published and distributed materials, and of museum and gallery institutions, practices, and policies. Concurrently scheduled with course C103C. Letter grading.

210. Selected Topics in African Art Studies. (4) Seminar, three hours. Changing topics in museological, curatorial, and exhibition practices that reflect interests of regular and visiting faculty members. S/U or letter grading.

203E. Issues in Materials Preservation. (4) Lecture, three hours. Designed for anthropology, archaeology, and art history graduate students. Introduction to preservation of cultural heritage materials, including what should be preserved and why, as well as who should be involved in decision-making process. Discussion of issues of preservation and restoration of these cultural heritage materials both in museum and outdoor environment contexts, Materials and techniques used to make cultural heritage materials, in relation to preservation efforts needed to prevent decay and loss. Introduction to examples of conservation techniques, relations, monuments, and collections. Ethical and contextual aspects with reference to changing values, illustrating how cultural materials may have been treated differently according to those values. May be scheduled with course C103D. S/U or letter grading.

204. Restoration, Preservation, and Conservation. (4) Seminar, two hours. May not be repeated.

205. Literature of African Art. (4) Seminar, two hours. Critical studies in history and connoisseurship of graphic arts in the Western world. Group or individual studies often culminate in professionally directed exhibitions produced by Grunwald Center for the Graphic Arts. May be repeated for credit with consent of adviser.

206. Studies in Drawings. (4) Seminar, two hours. Critical studies in history and connoisseurship of draughtsmanship in the Western world. Individual studies emphasizing professional presentation. Group studies may culminate in exhibitions sponsored by Grunwald Center for the Graphic Arts. May be repeated for credit with consent of adviser.

207. Consortium Scholar Seminar at Getty Research Institute. (3) Seminar, three hours. Intramural research projects and seminars within and across historical and cultural areas and fields within the discipline of art history, concentrating on particular time periods, geographical areas, artistic traditions, or the work of one or more authors. May be repeated for credit with consent of adviser.

208. Literature of African Art. (4) Seminar, three hours. Required to enable students to prepare both graduate African Art minors and specialists to read certain paradigmatic texts in field of African art history with critical fluency. S/U or letter grading.

209A. Baroque Art. (4) Lecture, three hours. Requisites: course 57. Art and architecture of Spain or Italy, about 1600 to 17th century. Concurrently scheduled with course C109A. S/U or letter grading.

210. Egyptian Art. (4) Seminar, two hours. Requisites: courses M101A, M101B, M102A. Art in Egypt during Late period and Greco-Roman period. Students should be ready to prepare for every meeting briefing of topic from archaeological memoirs, not to exceed 10 minutes. Some lectures may be repeated for credit with consent of adviser.

211. Topics in Aegean Art. (4) Seminar, two hours. Requisites: courses M102A, M102B. Art and architecture of Aegean Bronze Age (3000 to 1000 B.C.), Minoan and Mycenaean art and history of art of Crete, Greece, the Cyclades, or Western Anatolia. May be repeated for credit with consent of adviser.

212A. American Art before the Civil War. (4) Lecture, three hours. Painting, sculpture, and architecture in the U.S. from Colonial period through the Civil War. May be repeated for credit with consent of adviser. Concurrently scheduled with course C112A.

212B. American Art in the Gilded Age, 1860 to 1900. (4) Lecture, three hours. Painting, sculpture, and architecture in the U.S. from the Civil War to the turn of the century. May be repeated for credit with consent of adviser. Concurrently scheduled with course C112B.

212C. American Art, 1900 to 1945. (4) Lecture, three hours. Painting, sculpture, and architecture in the U.S. from 1900 to 1945. May be repeated for credit with consent of adviser. Concurrently scheduled with course C112C. S/U or letter grading.

212D. African American Art. (4) Same as Afro-American Studies CM212E. Lecture, three hours. Concurrently scheduled with course C112E. S/U or letter grading.

212E. African American Art. (4) Same as Afro-American Studies CM212E. Lecture, three hours. Introduction to major African American artists whose works provide insightful and critical commentary about major features of American life. May be repeated for credit with consent of adviser. Concurrently scheduled with course CM112D. S/U or letter grading.

212F. Imaging Black Popular Culture. (4) Same as Afro-American Studies CM212F. Lecture, three hours. Critical examination of media ranging from African American painters and sculpture to MTV and advertising, with emphasis on relationship between black visual production and racism, Africanism, political resistance, and notions of blackness. Concurrently scheduled with course CM112F. S/U or letter grading.

213. Advanced Studies in Islamic Art. (4) Seminar, two hours. Art and architecture of Islamic world (Spain to Iran) from the 7th to 17th century. Monuments and theoretical problems associated with Islamic culture and artistic production. May be repeated for credit with consent of adviser.

214. Problems in Islamic Art. (4) Seminar, three hours. Monuments or theoretical problems related to Islamic culture and artistic production. May be repeated for credit with consent of adviser. Concurrently scheduled with course C114C. S/U or letter grading.

216C. Contemporary Arts of Africa. (4) Lecture, three hours. Survey of African visual practices since the mid-20th century, with special emphasis on changing meaning of art object, status of “African” artist, global reception of contemporary African art, and very definitions of “contemporary African art.” Concurrently scheduled with course C116C. Letter grading.

216D. Architecture and Urbanism in Africa. (4) Lecture, three hours. Survey of African built environment at various moments and in different places from about 200 C.E. to the present, with emphasis on cultural, social, and historical contexts of architecture, gender, and space, and contemporary African cities. Concurrently scheduled with course C116D. S/U or letter grading.

217. Primitivism and Art. (4) Lecture, three hours. History of primitivism in visual arts and its institutional base from ancient Greece to the present, with emphasis on relevance to contemporary issues, critiques, and theory. May be repeated for credit with consent of adviser. S/U or letter grading.

218A. Pre-Columbian Art of Mexico. (4) Lecture, three hours. Survey of African visual practices since the mid-20th century, with special emphasis on changing meaning of art object, status of “African” artist, global reception of contemporary African art, and very definitions of “contemporary African art.” Concurrently scheduled with course C118A. Letter grading.

218B. Pre-Columbian Art of the Maya. (4) Lecture, three hours. May be repeated for credit with consent of adviser. Concurrently scheduled with course C118B.
218. Colonial Latin American Art. (4) Lecture, three hours; discussion, one hour. Requisite: course 5SB. Study of art of selected cultures of Colombia, Ecuador, Peru, and Bolivia from circa 4000 B.C. to Conquest, with particular emphasis on history and iconography of art of Peru. May be repeated for credit with consent of adviser. Concurrently scheduled with course C117C. S/U or letter grading.

218D. Aztec Art. (4) Lecture, three hours. Requisite: course 5SB or C117A. Painting, sculpture, architecture, and other arts of Nahualt-speaking peoples of central Mexico in the centuries before the Spanish conquest, with emphasis on their social and historical context and major scholarly debates. May be repeated for credit with consent of adviser. Concurrently scheduled with course C117D. S/U or letter grading.

218E. Colonial Latin American Art. (4) Lecture, three hours. Hybrid visual cultures created in aftermath of this cultural collision in Mexico, former Vice-royalty of New Spain, from the 16th to 18th centuries. Topics include theories of conquest and colonization; role of art and architecture in conquest, conversion, and colonization; indigenous artistic responses and creation of hybrid visual practices in featherwork, manuscript painting, sculpture, and architecture; maps and geography of colonization; urban planning and utopian ideals; Counter-Reformation and politics of representation; saints’ cults and gender ideologies; Aztec and Hispanic Catholic blood sacrifice imagery; processional sculpture and fiestas; cult of Virgin of Guadalupe; and arts and rise of Creole nationalism. Analysis of variety of readings, including indigenous accounts of conquest and Inquisition guidelines for religious imagery. S/U or letter grading.

219A. Oceanic Art. (4) Seminar, three hours. Studies in selected topics in art of Pacific islands. May be repeated for credit with consent of adviser. S/U or letter grading.

219B. Pre-Columbian Art. (4) Seminar, three hours. Studies in selected topics in art of pre-Hispanic Latin America. May be repeated for credit with consent of adviser. S/U or letter grading.

219C. African Art. (4) Seminar, three hours. Studies in selected topics in art of sub-Saharan Africa. May be repeated for credit with consent of adviser. S/U or letter grading.


221. Topics in Classical Art. (4) Lecture, two to three hours. Studies in Parthian art. Site-by-site survey of the Near East (Afghanistan, Iran, Iraq, Syria) during period of Greek and Parthian control. May be repeated for credit with consent of adviser.

223. Classical Art. (4) Seminar, two hours. Studies in Greco-Roman art and archaeology. Studies of specific periods, sites, or artistic media. May be repeated for credit with consent of adviser.

225. Medieval Art. (4) Seminar, two hours. Studies in selected topics in Byzantine and European medieval art. May be repeated for credit with consent of adviser.

226A-226B. Medieval Art and Architecture. (4-4) Seminar, two hours. Studies in selected topics in Byzantine and European medieval art. Seminar extends over two consecutive terms. May be repeated for credit with consent of adviser. In Progress (226A) and letter (226B) grading.

229. Renaissance and Baroque Paleography. (4) Seminar. Preparation: knowledge of Italian, working knowledge of Latin. Workshop approach to documents pertaining to artistic commissions from the 15th to 17th century in Italy to study various aspects of handwriting in official and private deeds, correspondence, treatises, and inscriptions. May be repeated for credit with consent of adviser.

230. Italian Renaissance Art. (4) Seminar, two hours. Preparation: knowledge of Italian. Study of various aspects of Leonardo’s theoretical approach to art in terms of sources and impact on followers. May be repeated for credit with consent of adviser.

235. Northern Renaissance Art. (4) Seminar, two hours. Preparation: knowledge of German. Emphasis on selected topic (e.g., particular artist, trend, or problem). Research papers and oral reports required. May be repeated for credit with consent of adviser.

240. Baroque Art. (4) Seminar, two hours. Emphasis on selected topic (e.g., particular artist, trend, or problem). Research papers and oral reports required. Language requirements depend on area of focus. May be repeated for credit with consent of adviser.

M241A-M241B. Seminars: Modern European History. (4-4) (Same as History M230A-M230B.) Seminar, three hours. Course M241A is requisite to M241B. May be repeated for credit with consent of adviser. In Progress (M241A) and letter (M241B) grading.

242A. History of Korean Painting. (4) Lecture, three hours. Requisite: course 114E. Korean painting history from Three Kingdom period to the 19th century, with special emphasis on Choson dynasty (1392 to 1910). Concurrently scheduled with course C140A. S/U or letter grading.

242B. History of Korean Ceramics. (4) Lecture, three hours. Requisite: course 114E. History of Korean ceramics from Neolithic period to the 19th century, with special emphasis on technological and stylistic developments. Concurrently scheduled with course C140B. S/U or letter grading.

242C. History of Korean Buddhist Art. (4) Lecture, three hours. Requisite: course 114E. History of Korean Buddhist art from Three Kingdom period to Choson dynasty, with special emphasis on Buddhist sculpture, painting, and architecture. Concurrently scheduled with course C140C. S/U or letter grading.

242D. Selected Topics in Korean Art. (4) Lecture, three hours. Requisite: course 114E. Variable topics in Korean art which reflect interests of individual regular and/or visiting faculty members. Concurrently scheduled with course C140D. S/U or letter grading.

243. Selected Topics in Korean Art. (4) Lecture, three hours. Studies of Korean art under different art-historical perspectives, methods, and theories. Individual studies, with emphasis on professional presentation. Group studies may be linked to exhibition projects. May be repeated with consent of instructor. S/U or letter grading.

244. Topics in European Art from 1700 to 1900. (4) Lecture, two to three hours. May be repeated for credit with consent of adviser.

245. European Art from 1700 to 1900. (4) Seminar, two hours. May be repeated for credit with consent of adviser.

247. Modern Art, 1900 to 1950. (4) Lecture, three hours; discussion, one hour. Inquiry into 20th-century modernism from Fauvism to abstract expressionism. Topics include primordial women artists, modernist art; origins of abstraction, collage, photomontage, and ready-made; rise of automatism and chance procedures; art, utopia, and political revolution; antimodernism and fascism; mass culture, machinism; and work of art in age of mechanical reproduction. Concurrently scheduled with course C147. S/U or letter grading.

249A. Maya, 1200 to 1300. (4) Lecture, three hours; discussion, one hour. Introduction to modernism and historical avant-garde of the early 20th century, tracing in detail emergence of Dada avant-garde in its various geographical localities during and after World War I. Visual art, literature, film, and performance addressed, with special attention to invention of series of avant-garde strategies crucial to Dada: ready-made, chance procedures, mechanical drawing, and photomontage. Concurrently scheduled with course C149A. S/U or letter grading.

249B. Surrealism, 1924 to 1939. (4) Lecture, three hours; discussion, one hour. Study of art, literature, and theory of surrealism during period of emergence in Europe, with special attention to evolution of surrealism during period of emergence in Europe, with special attention to evolution of surrealism and historical avant-garde of the early 20th century. Concurrently scheduled with course C149B. S/U or letter grading.

250A. Contemporary Art, 1940s to 1950s. (4) Lecture, three hours. Requisite: course 54. Study of major artistic and cultural trends following World War II in the U.S. and Europe, covering abstract expressionism to pop art. Concurrently scheduled with course C146. S/U or letter grading.


251. Contemporary Art. (4) Seminar, three hours. Selected topics in contemporary art, criticism, and theory. S/U or letter grading.

253. Modern Art. (4) Seminar, two hours. Changing topics in modern art (including illustration and other popular forms) which reflect interests of particular faculty members. Political factors affecting arts of France and Germany at various times. May be repeated for credit with consent of adviser.

254. Latin American Art of the 20th Century. (4) Lecture, three hours. Mainstream modern and contemporary art and architecture of selected Latin American countries, including both modernist and postmodernist forms, considered in context of social and political concerns, both national and international. May be repeated for credit with consent of adviser. Concurrently scheduled with course C110H. S/U or letter grading.

255. American Art. (4) Seminar, two hours. Requisite: course C112A or C112B or C112C, depending on topic. Topics in American art from Colonial period to the present. Discussion of weekly readings, student oral presentations, and papers. May be repeated for credit with consent of adviser.

256. Topics in African American Art. (4) (Same as Afro-American Studies M256.) Seminar, three hours. Requisite: course CM112D or CM112E or CM112F. Topics in African American art from the 18th century to the present. May be repeated for credit with consent of graduate adviser. S/U or letter grading.
C257. Advanced Indian Art. (4) Lecture, three hours. Requisite: course 114A. Study in Indian sculpture and architecture. May be repeated for credit with consent of adviser. Concurrently scheduled with course C115A.

C258. Advanced Chinese Art. (4) Lecture, three hours. Study in Chinese painting and sculpture. May be repeated for credit with consent of adviser. Concurrently scheduled with course C115B.


C260. Indian Art. (4) Lecture, two hours. Advanced studies in secular and religious artistic traditions of India. May be repeated for credit with consent of adviser. S/U or letter grading.

C260B. Chinese Art. (4) Lecture, two hours. Advanced studies in secular and religious artistic traditions of China. May be repeated for credit with consent of adviser. S/U or letter grading.


C261A. Art and Material Culture, Neolithic to 210 B.C. (4) Lecture, three hours. Genesis of Chinese civilization in light of new archaeological finds, including sites and works of art (e.g., ceramics, bronzes, jades). May be repeated for credit with consent of adviser. Concurrently scheduled with course C115D. Extensive research paper required of graduate students. S/U or letter grading.

C261B. Art and Material Culture of Early Imperial China, 210 B.C. to A.D. 906. (4) Lecture, three hours. Palaces and tombs of early imperial dynasties, impact of Buddhist art (cave temples), rise of new media and technologies. May be repeated for credit with consent of adviser. Concurrently scheduled with course C115E. S/U or letter grading.

C261C. Art and Material Culture of Late Imperial China, 906 to 1911. (4) Lecture, three hours. Secular and religious (Buddhist and Taoist) architecture, painting, sculpture, and various luxury industries (lacquer, porcelain, textiles, jade, bronze, furniture, wood and bamboo carving, etc.). May be repeated for credit with consent of adviser. Concurrently scheduled with course C115F. S/U or letter grading.

M262A. Topics in Asian Archaeology. (4) Same as Anthropology M216. Lecture, three hours. Designed for graduate students. Topics may include identification of ethnic groups in archaeology, archaeology of religion, archaeological reflections of commerce and trade and their influence on social development, archaeology of language dispersal, cultural contact and nature of cultural "influence." Letter grading.

265. Fieldwork in Archaeology (2 to 8) Participation in archaeological excavations or other archaeological research under supervision of the staff. May be repeated for credit with consent of adviser.

M270. Art Law. (4) (Same as Law M301.) Knowledge of fine arts, arts management, or international law desirable. Limited enrollment; management and art history students may cross-register with consent of instructors. Legal issues related to the fine arts. Consideration of U.S. domestic law as well as international treaties and foreign law in addressing such controversial issues as the international trade in art, art in public places, and moral rights. Distinguished guest speakers and one field trip.

C271A-C271B-C271C. History of Photography. (4-4-4) Lecture, three hours; discussion, one hour. Concurrently scheduled with courses C171A-C171B-C171C. S/U or letter grading.

272. History and Theory of Photography. (4) Seminar, three hours. Selected topics in photography history, criticism, and theory. May be repeated for credit with consent of adviser. S/U or letter grading.

280A. Art and Empire. (4) Lecture, three hours. Examination of relationship between art and imperial ideologies and introduction to current issues in colonial studies and postcolonial criticism. Concurrently scheduled with course C180A. Letter grading.


375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprentices gain active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit, S/U grading.

495. Teaching Art History. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as a teaching assistant, associate, or fellow. Designed for graduate students. Required of all new teaching assistants during Fall Quarter of their teaching assistant appointment. Workshop/seminar in teaching techniques and pedagogical issues, consisting of readings, discussions, and guest speakers on selected topics. May not be applied toward M.A. or Ph.D. course requirements. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. May be repeated for credit with consent of adviser. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 12) S/U grading.


ARTS AND ARCHITECTURE
School of the Arts and Architecture

UCLA
2200 Broad Art Center
Box 951620
Los Angeles, CA 90095-1620
(310) 206-3564
fax: (310) 825-7917
e-mail: students@arts.ucla.edu
http://www.ar ts.ucla.edu

Scope and Objectives
There is no major in art and architecture; however, the following courses are part of the schoolwide curriculum.

Arts and Architecture

Lower Division Courses

10. Arts Encounters: Exploring Arts Literacy in the 21st Century. (5) Lecture, four hours; discussion, one hour; field trips, three hours; outside study, seven hours. Through series of direct encounters with art and artists across a global range of practices, course equips students with kinds of critical skills that enhance their understanding of, and sharpen their appetite for, a wide range of artistic practices. Attendance at performance/art events outside normal class schedule is mandatory. P/NP or letter grading.

Upper Division Courses

100. Selected Topics in the Arts. (4) Lecture, four hours; discussion and/or laboratory, three hours; outside study, five hours. Selected topics in the arts explored through a variety of approaches which may include projects, readings, discussion, research papers, and oral presentations. Topics to be announced in advance. May be repeated for a maximum of 8 units. P/NP or letter grading.

101. Aesthetics of Multimedia. (4) Lecture, three hours; laboratory, one hour; outside study, eight hours. The arts stand at expressive center of new forms of digital expression described as “multimedia.” Historical roots of this new expression traced over 1,500 years of world culture as preparation for collaborative multimedia student projects. Letter grading.

102SL. ArtsBridge. (4) (Formerly numbered 102.) Seminar, three hours; site and peer school visits; three hours; outside study, six hours. Limited to ArtsBridge Program students. Community learning course with focus on arts education in inner-city settings. Study of core issues in creativity and social justice as students develop, implement, and assess original community learning projects in inner-city schools. Collaboration with partner schools in planning, teaching, and evaluation of arts education programs in dance, visual arts, architecture, design/media arts, and ethnomusicology. Linked to UCLArts’ ArtsBridge Program, which mentors students to partner with community schools through arts. May be repeated for maximum of 8 units. P/NP or letter grading.

192SL. ArtsBridge Undergraduate Practicum. (4) Seminar, three hours; practicum, three hours; outside study, six hours. Enforced requisite: course 102SL.

UCLA School of the Arts and Architecture
Asian American Studies
College of Letters and Science

UCLA
3336 Rolfe Hall
Box 957225
Los Angeles, CA 90095-7225
(310) 267-5592
fax: (310) 267-5590
http://www.asianam.ucla.edu

Min Zhou, Ph.D., Chair
Jinqui Ling, Ph.D., Vice Chair

Professors
King-Kok Cheung, Ph.D.
C. Cindy Fan, Ph.D.
Lanee Ryo Hirabayashi, Ph.D. (George T. and Sakaye I.
Aratani Professor of Japanese American Internment
and Redress)
Marjorie Kagawa-Singer, R.N., Ph.D.
Jerry Kang, J.D.
Snehendu B. Kar, Ph.D.
Robert A. Nakamura, M.F.A. (UCLA Alumni and
Friends of Japanese Ancestry Professor of
Japanese American Studies)
Don T. Nakasone, Ph.D.
Paul M. Ong, Ph.D.
Shu-Mei Shih, Ph.D.
Min Zhou, Ph.D.

Associate Professors
Mitchell J. Chang, Ph.D.
Clara Chu, Ph.D.
Vinay Lal, Ph.D.
Jinqui Ling, Ph.D.
David Wong Louie, M.F.A.
Purinima Mankekar, Ph.D.
Valerie J. Matsumoto, Ph.D.
Ailee Moon, Ph.D.
Kyeoyoung Park, Ph.D.
Michael Salman, Ph.D.
Lois M. Takahashi, Ph.D.
Henry S.N. Yu, Ph.D.

Assistant Professors
Lucy San Pablo Burns, Ph.D.
Keith Lujan Carnacho, Ph.D.
Grace Kyungwon Hwang, Ph.D.
Vinit Mukhiya, Ph.D.
Thuy-Huong Nguyen-Vo, Ph.D.

Lecturers
Esha N. De, Ph.D.
Stewart Kwoh, J.D.
Glen K. Omatsu, M.A.
Duong Pham, Ph.D.
Kent Wong, J.P.

Adjunct Professor
Russell C. Leong, M.F.A.

Scope and Objectives
The Asian American Studies Department promotes the study of Asian Americans and Pacific Islanders in the U.S. from several disciplines. An undergraduate major leading to a B.A. degree is available for those students who wish to pursue their studies about Asian Pacific Americans in more depth, while the graduate program leads to the M.A. degree. Students enrolled in an organized undergraduate major other than Asian American Studies may pursue a minor in the field.

A major goal of the department is to communicate the experiences of Asian Pacific Americans as an ethnic group. Courses examine the important issues and concerns of Asian Pacific Americans, including their history, community, and culture.

Asian American studies is a specialized field of intellectual inquiry in higher education that examines the diverse experiences of Asian-ancestry and Pacific Islander Americans, including their histories, communities, cultures, socioeconomic mobility, and political participations, and their relationships with ancestral homelands and other Asian diasporas.

Interdisciplinary scholarship has from the outset been the cornerstone of the field, but Asian American studies also seeks to interrogate disciplinary boundaries by adopting comparative and cross-disciplinary or multidisciplinary perspectives to study racial and ethnic relations in America, diasporic and transnational communities, U.S.-Asian relations, and globalization.

The department recognizes its vital historical and continuing linkage with the struggle for the civil rights and social justice of people of color and other disadvantaged social groups. Faculty members are committed to offering a curriculum that embraces the historical and contemporary realities of Asian Americans and Pacific Islanders, supporting research that promotes equality, encouraging community services, and making higher education more inclusive and responsive to Asian diversity.

The department equips students with theoretical, methodological, and practical knowledge, as well as analytical and communication skills needed to be successful in American society while creating a nurturing environment for faculty, students, and staff in their interdepartmental and extramural collaborations and activities. It aims to build on UCLA's preeminence and to strengthen its position as the national leader in Asian American studies.

The department also is enhanced by its connection to and interaction with the Asian American Studies Center. Established in 1969, the center has been widely recognized as one of the world's top Asian American studies institutions.

The undergraduate and graduate programs aim to enhance and infuse the UCLA curriculum with an interdisciplinary understanding of the Asian American experience to promote innovative research and cutting-edge scholarship in Asian American studies, provide leadership training to individuals interested in working in Asian American communities, and prepare students for advanced study in the humanities, social sciences, and professional disciplines.

Undergraduate Study
Asian American Studies B.A.

The B.A. program in Asian American Studies provides a general introduction for students who anticipate advanced work at the graduate level or careers in research, public service, and community work related to Asian Pacific Americans. An overall grade-point average of 2.0 or better is required for admission to the major.

Preparation for the Major
Required: Asian American Studies 10 or 10W, and 20.

Transfer Students
Transfer applicants to the Asian American Studies major with 90 or more units must complete as many of the following courses as possible prior to admission to UCLA: two lower division Asian American studies courses or two courses that focus on Asian Americans, and one year of proficiency in an Asian language.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: A total of 13 upper division courses, including one research methods course, two Asian American theme courses, two Asian American or Pacific Islander populations and communities courses, and five Asian American studies elective courses. In addition, three upper division courses (12 to 15 units) must be taken from disciplines outside Asian American studies, including (1) one race, ethnicity, or interethnic relations course, (2) one gender and/or sexuality course, and (3) one non-language course on the history, culture, political, and/or social institutions of Asia. The three additional courses must be selected from the approved list of courses available in the Student Advising Office each term or at http://www.asianam.ucla.edu.

Students must also (1) demonstrate proficiency equivalent to the completion of an elementary one-year course of study in an Asian language prior to graduation or (2) take one of the following writing courses: Asian American Studies 101, English Composition 100W, 129A, or 129D, 131A through 131D, 132A through 132D.

No more than 12 graded units of Asian American Studies 101, 129A through 129D, 131A through 131D, 132A through 132D.

All courses applied toward the major must be taken for a letter grade (courses offered only on a P/NP grading basis are acceptable), and each must be at least 4 units.

Honors Program
Admission
The honors program is open to junior and senior Asian American Studies majors who have (1) 90 or more total units, (2) a grade-point average of 3.5 or better in upper division Asian American studies courses and an overall cumulative GPA of 3.0 or better, and (3) completed two lower division Asian American stud-
Asian American Studies

Minor

The Asian American Studies minor is designed for students who wish to gain understanding of and competence in Asian American studies. To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed two lower division Asian American studies courses, and file a petition with the undergraduate counselors, Asian American Studies Center, 3230 Campbell Hall.

Required Lower Division Courses (10 units):
Asian American Studies 10 or 10W, and 20.

Required Upper Division Courses (20 units):
One Asian American theme course, one Asian American or Pacific Islander populations and communities course, and three Asian American studies elective courses.

No more than 4 graded units of Asian American or Pacific Islander populations and communities course, and three Asian American studies elective courses.

Upper Division Courses

101. Academic Writing in Asian American Studies. (4) Lecture, three hours. Requisites: courses 10 or 10W, and 20, and 104A. Designed for advanced junior/senior Asian American Studies majors and minors. Advanced study of academic writing in specific Asian American studies subfields, with focus on development and analysis of proposals, reports, and academic journal articles (including literary essays and social sciences research papers) in common discourse forms, stylistic patterns, and research practices in given subfield. Themes and focus vary by term. Independent research related to course objective may be pursued with guidance from instructor. Sharing and critiquing of other student works in progress, P/NP or letter grading.

103. Social Science Research Methods. (4) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Introduction to fundamentals of conducting social research on Asian Americans, providing descriptive data and research methods and exercises in evaluating data and importance of research on Asian American issues. P/NP or letter grading.


104B. Internships in Asian Pacific Communities. (4) Formerly numbered 101B. Fieldwork, eight hours minimum. Requisite: course 104A or another Asian American theme course (except 199). Integrates academic and empirical work by providing students challenge of performing public service and community work in Asian Pacific and other multicultural communities, and of bringing their ongoing internship experiences back to classroom. P/NP grading.

105. Historical Research Methods. (4) Seminar, three hours. Requisite: course 10. Introduction to methods used to locate and analyze source materials for research on Asian American history. Historians have used wide range of sources that may include archival materials, oral history, material culture, and more. P/NP or letter grading.

107A. Introductory Video Ethnography and Documentary Workshop. (4) Laboratory, three hours. Introduction to concepts and methods of video documentation and video ethnography of the Asian Pacific American community. Topics include scriptwriting, budgeting, video image and sound control through camcorder functions, basic composition/lighting, sound recording, interviewing techniques, and editing. Students required to do off-campus fieldwork and complete video documentary. P/NP or letter grading.

Upper Division Courses

101. Academic Writing in Asian American Studies. (4) Lecture, three hours. Requisites: courses 10 or 10W, and 20, and 104A. Designed for advanced junior/senior Asian American Studies majors and minors. Advanced study of academic writing in specific Asian American studies subfields, with focus on development and analysis of proposals, reports, and academic journal articles (including literary essays and social sciences research papers) in common discourse forms, stylistic patterns, and research practices in given subfield. Themes and focus vary by term. Independent research related to course objective may be pursued with guidance from instructor. Sharing and critiquing of other student works in progress, P/NP or letter grading.

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Upper Division Courses

101. Academic Writing in Asian American Studies. (4) Lecture, three hours. Requisites: courses 10 or 10W, and 20, and 104A. Designed for advanced junior/senior Asian American Studies majors and minors. Advanced study of academic writing in specific Asian American studies subfields, with focus on development and analysis of proposals, reports, and academic journal articles (including literary essays and social sciences research papers) in common discourse forms, stylistic patterns, and research practices in given subfield. Themes and focus vary by term. Independent research related to course objective may be pursued with guidance from instructor. Sharing and critiquing of other student works in progress, P/NP or letter grading.

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107A. Introductory Video Ethnography and Documentary Workshop. (4) Laboratory, three hours. Introduction to concepts and methods of video documentation and video ethnography of the Asian Pacific American community. Topics include scriptwriting, budgeting, video image and sound control through camcorder functions, basic composition/lighting, sound recording, interviewing techniques, and editing. Students required to do off-campus fieldwork and complete video documentary. P/NP or letter grading.
M117. Asian American Personality and Mental Health. (4) (Same as Psychology M107.) Lecture, three hours, discussion. Psychology 10. Focus on the development and mental health of Asian Americans. Topics include culture, family patterns, achievements, stressors, resources, and immigrant and minority group status. P/NP or letter grading.

118A. Asian American and Pacific Islander Leadership Development Project Part I: Leadership. (4) Lecture, three to four hours. Limited to juniors/seniors. First series on leadership development, with focus on intellectual and practical leadership of Asian American and Islander students. Examination of different approaches and strategies to community building and maintenance. P/NP or letter grading.

118B. Asian American and Pacific Islander Leadership Development Project Part II: Field Studies. (4) Lecture, two hours; fieldwork, three hours. Enforced requisite: course 118A. Limited to juniors/seniors. Second term of two-term series on leadership development, with focus on Asian American, Pacific Islander, and other ethnic communities in Los Angeles. Examination of different approaches and strategies to community building and maintenance. P/NP or letter grading.

119. Asian American and Pacific Islander Labor Issues. (4) Lecture, three hours. Examination of historical and contemporary labor issues in Asian and Pacific Islander American communities, with emphasis on the ways that Asian and Pacific Islander American students can play in supporting labor struggles of low-income immigrants. P/NP or letter grading.

120A. Pacific Islands and Asian American Communities in Hawaii: Past and Present. (4) Lecture, four hours. Through perspectives of history, economy, politics, education, ethnicity, and critical issues in Asian and Pacific Islander communities, study of Hawaii as model for multiculturalism. Selected guest lectu- res by prominent Hawaii residents. Interaction with faculty and students at University of Hawaii. Field trips. Conducted at University of Hawaii, Manoa, in summer or in Los Angeles. P/NP or letter grading.

120B. Pacific Islands and Asian American Communities in Hawaii: Field Studies. (4) Lecture, one hour; discussion, three hours; internship, 10 hours minimum. Requisite or corequisite: course 120A. Participation in academic internships (minimum 50 hours) in social service, cultural, political, educational, and community organizations to gain experiential learning experience in Hawaii's multicultural society. Given in Hawaii or in Los Angeles. P/NP or letter grading.

121. Exploring Asian American Theater. (4) Discussion, four hours. Study of Asian American play; students required to compose one act based on their own experience using lessons learned in class. Exploration of scenes, study and acting exercises. P/NP or letter grading.

M129. Health Issues for Asian Americans and Pacific Islanders: Myth or Model? (4) (Formerly numbered M129A.) (Same as Community Health Sciences M140.) Lecture, three hours; fieldwork, one hour. Introductory overview of mental and physical health issues of Asian Americans and Pacific Islanders; identification of gaps in health status indicators and barriers to both care delivery and research for these populations. Letter grading.

130A. Chinese American Experience. (4) (Formerly numbered 130E.) Lecture, three hours. Not open to freshmen. Survey of immigration history, settlement patterns, and experiences of Chinese Americans. Examination of historical and contemporary sociocultural, economic, and political issues as they affect status of Chinese Americans and their community. P/NP or letter grading.

M130B. Chinese Immigrant Literature and Film. (4) (Formerly numbered M132B.) (Same as Chinese M135 and Comparative Literature M117.) Lecture, three hours; discussion, one hour. Focus on the works of Chinese American authors writing in the international context, organization, and institutions of Chinese America and its interactions with social environment. P/NP or letter grading.


131B. Japanese Americans and Incarceration. (4) Seminar, three to four hours. Requisite: course 10 or 10W. Designed for juniors/seniors. In-depth analysis of key literature about mass incarceration of Japanese Americans during the 1940s. Immediate and long-range effects of internment. Emphasis on research. Original paper based on primary sources held by University of California. Required. Letter grading.

132A. Korean American Experience. (4) (Formerly numbered 132.) Lecture, three hours, three to four hours. Not open to freshmen. Survey of immigration history, settlement patterns, and experiences of Korean Americans. Examination of historical and contemporary sociocultural, economic, and political issues as they affect status of Korean Americans and their community. P/NP or letter grading.

M132B. Korean American Literature. (4) (Formerly numbered M132A.) (Same as Comparative Literature M168.) Seminar, three hours. Comprehensive introduction to Korean American literature, with emphasis on Korean American experience, problems of gender, race, and class, nationalism, generational relationships, and impact of traditional Korean culture on Korean American literature. P/NP or letter grading.


134. Vietnamese American Experience. (4) (Formerly numbered 130C.) Lecture, three hours. Not open to freshmen. Survey of immigration history, settlement patterns, and experiences of Vietnamese Americans. Examination of historical and contemporary sociocultural, economic, and political issues as they affect status of Vietnamese Americans and their community. P/NP or letter grading.

135. Mexican American Experience. (4) (Formerly numbered M110.) (Same as Health Services M110.) Lecture, three hours. Designed for juniors/seniors. Introduction to study of gender, ethnicity, and cultural diversity related to health status, with focus on healthcare delivery in the U.S. Letter grading.

156. Investigative Journalism and Communities of Color. (4) (Same as Afro-American Studies M159P and Anthropology M159P.) Seminar, two hours. Requisite: course 109A. Examination of the role of investigative journalism and its intersection with the concept of community in the U.S. Through perspectives of history, economy, politics, education, ethnicity, and critical issues in Asian and Pacific Islander communities, study of Hawaii as model for multiculturalism. Selected guest lectures by prominent Hawaii residents. Interaction with faculty and students at University of Hawaii. Field trips. Conducted at University of Hawaii, Manoa, in summer or in Los Angeles. P/NP or letter grading.

M164. Women, Violence, Globalization: India, Philippines, Singapore, Vietnam. (4) (Formerly numbered 164.) (Same as Women’s Studies M164A.) Lecture, four hours. Study of various forms of violence done on women not only in and of themselves but in light of larger systems of oppression, with focus on Filipino, Vietnamese, Singaporean, and South Asian women. Letter grading.

M165. Race, Gender, Class. (5) (Same as Comparative Literature M175.) Seminar, three hours. Theoretical and literary readings combined to explore three main aspects of social and cultural experience (race, gender, class) as separate but interconnected spheres affecting both minority and majority populations in the U.S. Examination of these issues from cross-cultural perspectives. P/NP or letter grading.

M166A. Immigrant Rights, Labor, and Higher Education. (4) (Same as Chicana and Chicano Studies M166A and Labor and Workplace Studies M166A.) Seminar, three hours. New immigrant rights movement, with particular attention to labor and higher education. Overview of history of immigrant rights movement and examination of development of coalition efforts between labor movement and immigrant rights movement nationally and locally. Special focus on issues of undocumented students in higher education, challenges facing undocumented immigrant students, and legislative and policy issues that have emerged. Students conduct oral histories of immigrant rights research on immigration and immigrant rights, write poetry and spoken word about immigrant experience, and work to collectively develop student publication on immigrant students in higher education. P/NP or letter grading.

M166B. Research on Immigration Rights, Labor, and Higher Education. (4) (Same as Chicana and Chicano Studies M166B and Labor and Workplace Studies M166B.) Seminar, two hours. Requisite: course 156A. Expansion of research conducted by students in course 156A involving oral histories, research on immigration/labor/higher education, and evaluation of legislation and legal issues impacting undocumented students. Letter grading.

M167A-M167B. Intercultural Dynamics in American Society and Culture. (5-5) (Same as Afro-American Studies M167A-M167B and Chicano and Chicano Studies M167A-M167B.) Seminar, two hours. Not open to freshmen or students with credit for GE Clusters 20A and/or 20B. Examination of nature and meaning of race, racial categories, and racial discourses in the U.S. through various disciplinary perspectives, including sociology, history, literacy criticism, and film studies. Race as social and historical category that shapes contemporary American life. P/NP or letter grading.

M167A. Enforced corequisite: attendance, but not enrollment, in GE Clusters 20A lecture; M167B. Enforced corequisite: attendance, but not enrollment, in GE Clusters 20B lecture.

M168. Student-Initiated Retreat and Outreach Issues in Higher Education. (4) (Formerly numbered M197R.) (Same as Afro-American Studies M118, African American Studies M118, and Chicana and Chicano Studies M118.) Lecture, four hours. Exploration of issues in outreach and retention of students in higher education, especially through student-initiated programs, efforts, activities, and services, with focus on UCLA as case. May be repeated twice for credit. Letter grading.

M169. Constructing Race. (4) (Same as Afro-American Studies M159P and Anthropology M159P.) Lecture, four hours. Examination of race, a socially constructed category, from anthropological perspective. Consideration of development of racial categories over time and in different regions, racial passing, multiracial identity in the U.S., whiteness, race in popular culture, and race and identity. P/NP or letter grading.
171A. Critical Issues in U.S.-China Relations. (4) (Formerly numbered 171E.) Lecture three hours. Not open to freshmen. Critical examination of U.S. involvement in China, Hong Kong, and Taiwan, including study of historical, cultural, political, and socioeconomic factors that shape relations between China, Hong Kong, and Taiwan and the U.S. Examination of impact of relationships in Pacific Rim and Chinese Americans and their communities. P/NP or letter grading.

171B. Critical Issues in U.S.-Japan Relations. (4) (Formerly numbered 171D.) Lecture, three hours. Not open to freshmen. Critical examination of U.S. involvement in Japan, including study of historical, cultural, political, and socioeconomic factors that shape relations between Japan and the U.S. Examination of impact of relationships in Pacific Rim and Japanese Americans and their communities. P/NP or letter grading.

171C. Critical Issues in U.S.-Korea Relations. (4) (Formerly numbered 171B.) Lecture, three hours. Not open to freshmen. Critical examination of U.S. involvement in Korea, including study of historical, cultural, political, and socioeconomic factors that shape relations between Korea and the U.S. Examination of impact of relationships in Pacific Rim and Korean Americans and their communities. P/NP or letter grading.


171E. Critical Issues in U.S.-Vietnam Relations. (4) (Formerly numbered 171C.) Lecture, three hours. Not open to freshmen. Critical examination of U.S. involvement in Vietnam, including study of historical, cultural, political, and socioeconomic factors that shape relations between Vietnam and the U.S. Examination of impact of relationships in Pacific Rim and Vietnamese Americans and their communities. P/NP or letter grading.

M172. Indian Identity in the U.S. and Diaspora. (4) (Same as History M175B.) Lecture, three hours. Designed for juniors/seniors. History of overseas Indian communities; transformations of Hinduism in diaspora; emergence of art forms such as bhangra rap and chutney music; relations between Indians and other racial and ethnic groups; Indian women as embodiment of Indian culture; diacritical identities. P/NP or letter grading.

187A. Special Courses in Research Methodologies. (4) Lecture, three hours; discussion, one hour (when scheduled). Limited to juniors/seniors. Variable topics in multidisciplinary research methodologies in Asian American studies. May be repeated for credit with topic change. P/NP or letter grading.

187B. Special Courses in Asian American Themes. (4) Lecture, three hours; discussion, one hour (when scheduled). Limited to juniors/seniors. Variable topics in selected Asian American themes, including issues in cultural formation, religion, education, social class, economic development, social movement, politics, and public policy. May be repeated for credit with topic change. P/NP or letter grading.

187C. Special Courses in Asian American Populations and Communities. (4) Lecture, three hours; discussion, one hour (when scheduled). Limited to juniors/seniors. Variable topics in historical and contemporary issues pertaining to different Asian-origin subgroups and their respective communities. May be repeated for credit with topic change. P/NP or letter grading.

187D. Special Courses in Comparative Race, Ethnicity, Gender, and Sexuality. (4) Lecture, three hours; discussion, one hour (when scheduled). Limited to juniors/seniors. Variable topics in selected issues on race, ethnicity, gender, and sexuality from comparative perspective. May be repeated for credit with topic change. P/NP or letter grading.

187E. Special Courses in Transnationalism and Diasporas. (4) Lecture, three hours; discussion, one hour (when scheduled). Limited to juniors/seniors. Variable topics in selected comparative and international issues pertaining to transnationalism and diasporas. May be repeated for credit with topic change. P/NP or letter grading.

191A. Topics in Research Methodologies. (4) (Formerly numbered 197A.) Seminar, three to four hours. Limited to juniors/seniors. Variable topics in multidisciplinary research methodologies in Asian American studies. May be repeated for credit with topic change. P/NP or letter grading.

191B. Topics in Asian American Themes. (4) (Formerly numbered 197B.) Seminar, three to four hours. Limited to juniors/seniors. Variable topics in selected Asian American themes, including issues in cultural formation, religion, education, social class, economic development, politics, and public policy. May be repeated for credit with topic change. P/NP or letter grading.

191C. Topics in Asian American Populations and Communities. (4) (Formerly numbered 197C.) Seminar, three to four hours. Limited to juniors/seniors. Variable topics in historical and contemporary issues pertaining to different Asian-origin subgroups and their respective communities. May be repeated for credit with topic change. P/NP or letter grading.

191D. Topics in Comparative Race, Ethnicity, Gender, and Sexuality. (4) (Formerly numbered 197D.) Seminar, three to four hours. Limited to juniors/seniors. Variable topics in selected issues on race, ethnicity, gender, and sexuality from comparative perspective. May be repeated for credit with topic change. P/NP or letter grading.

191E. Topics in Transnationalism and Diasporas. (4) (Formerly numbered 197E.) Seminar, three to four hours. Limited to juniors/seniors. Variable topics in selected comparative and international issues pertaining to transnationalism and diasporas. May be repeated for credit with topic change. P/NP or letter grading.

198A. Honors Research in Asian American Studies. (4) (Formerly numbered 199HA.) Tutorial, three to four hours.Requires: courses 10 or 10W, and one course from 101A through M108, 187A, or 191A. Introduction to research techniques and applications of methodologies in study of Asians and Pacific islanders in the U.S. Development of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

198B-198C. Honors Research in Asian American Studies. (4-4) (Formerly numbered 199HB-199HC-) Tutorial, three hours. Requires: course 198A. Course 198B is requisite to 198C. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. In Progress (198B) and Letter (198C) grading.

199. Directed Research or Senior Project in Asian American Studies. (2 to 4) Tutorial, three hours. Preparation: 3.0 overall grade-point average. Requires: courses 10 or 10W and 20 or comparable knowledge in Asian American studies. Limited to juniors/seniors. Research under guidance of faculty mentor. Culminating research paper or project report required. Individual contract required. May be repeated for a maximum of 8 units. P/NP or letter grading.

Graduate Courses

200A. Critical Issues in Asian American Studies. (4) Designed for graduate students. Examines and seeks to develop a critical appreciation of research literature on Asians in America and to develop alternative interpretations of the Asian American experience. Topics include Asian American history and economic, political and social/psychological issues.

200B. Critical Issues in Asian American Communities. (4) Lecture, three hours. Designed for graduate students. Examines and seeks to develop a critical appreciation of research literature on Asians in America and to develop alternative interpretations of the Asian American experience. Topics include Asian American history and economic, political and social/psychological issues.


200D. Asian American Literature and Culture. (4) Seminar, three hours. Examination of questions arising from Asian American literary and cultural criticism from the mid-1980s to the present, with focus on assumptions, possibilities, and limitations of certain theoretical perspectives and positions that have become important in Asian American critical practice. S/U or letter grading.
203. Asian American Research Methods. (4) Seminar, three hours. Introduction to empirical research methods, stressing uses and relevancy in research with ethnic minority populations. Review of characteristics and logical processes of research and applicability of scientific and scholarly inquiry in advancing knowledge. S/U or letter grading.

M215. Asian American Jurisprudence. (4) (Same as Law M315.) Lecture, three hours. Designed for graduate students. Through judicial opinions, commentary, and historical readings, examination of how American law has shaped demographics, experiences, and possibilities of Asian Americans and also how they shaped American law as well. S/U or letter grading.

M239. Race and Ethnicity as a Concept in Practice and Research. (4) (Same as Community Health Sciences M239.) Discussion, three hours. Integration of cross-cultural findings in healthcare with current American (U.S.) healthcare system paradigms to facilitate designing culturally based public health programs and train culturally competent practitioners. Letter grading.

M260. Topics in Asian American Literature. (4) (Same as English M260A.) Seminar, three hours. Graduate seminar that examines and critically evaluates writings of Asian Americans. May be repeated for credit. S/U or letter grading.

M261. Theorizing the Third World. (4) (Same as Comparative Literature M274.) Seminar, three hours. Investigation of politics of power, gender, and race in complex relationships between the so-called First World and Third World, using both theoretical and textual approaches. S/U or letter grading.


297B. Asian American Migration to the U.S. (4) Seminar, three hours. Emphasis on Asia as main regional source for international migrants. Topics include patterns and theories of international migration and their relevance to the Asian experience, sending and receiving country perspectives, research and policy issues. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, three hours. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. Unit credit may be applied toward full-time equivalence but not toward 11-course requirement for M.A. May be repeated once for credit. S/U grading.

490. Writing Workshop for Graduate Students. (2) Lecture, one hour; discussion, one hour. Practice in writing research papers, grant proposals, abstracts, theses, and article-length research papers. Analyzing rhetorical and stylistic features of essays in various Asian American journals helps students improve both their prose style and editorial abilities. Four units may be applied toward M.A. degree requirements. May be repeated once for credit. S/U grading.

495. Supervised Teaching of Asian American Studies. (4) Seminar, three hours. Preparation: apprentice personnel appointment as teaching assistant in Asian American studies. Designed for graduate students. Required of all new teaching assistants. Special course for teaching assistants designed to deal with problems and techniques for teaching introductory Asian American studies courses. Unit credit may be applied toward full-time equivalence but not toward course requirements for M.A. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. S/U or letter grading.


ASIAN LANGUAGES AND CULTURES

College of Letters and Science

UCLA
290 Royce Hall
Box 951540
Los Angeles, CA 90095-1540

(310) 206-8235

http://www.alc.ucla.edu

Thu Ba Nguyen-Hoai, Ph.D.
Yoko Nagami, M.A.
Yan Shen, M.A.
Nobuko Sugamoto, Ph.D.
Xiaoxin Sun, B.A.
Juliana Wijaya, Ph.D.
Yu-Wen Yao, M.A.
Jae-eun Yoon, M.S.

Adjunct Assistant Professor
Namhee Lee, Ph.D.

Scope and Objectives

The Department of Asian Languages and Cultures offers a wide range of courses in the languages, literatures, religions, and cultural heritage of China, Japan, and Korea, as well as South and Southeast Asia. The department offers training in many specialized fields such as archaeology, film, folklore, history, linguistics, literature, mythology, religious studies, and cultural studies. Courses prepare students for careers in business, government service, international relations, journalism, law, publishing, teaching, and academic professions.

Undergraduate majors earn a Bachelor of Arts degree. The graduate program offers Master of Arts and Ph.D. degrees. At all levels of study, various major fields are possible.

For undergraduates, the department offers majors that combine language study with courses taught in English that examine the rich cultural heritage of China, Japan, and Korea, as well as South and Southeast Asia. The majors also provide opportunities for education abroad in an Asian country. The language courses aim to develop the four skills of speaking, aural comprehension, reading, and writing in a balanced and mutually supportive manner. The lecture and seminar courses aim to develop critical thinking and writing skills through in-depth study of a culture within a broader historical and comparative context.

Undergraduate majors who wish to pursue graduate degrees are encouraged to apply for admission to the honors program.

At the graduate level, the department offers a program leading to an M.A. degree in several fields of Asian culture. The M.A. degree is preparatory to entrance into the Ph.D. program. The Ph.D. program, which is very selective, trains research scholars for academic careers in specialized fields.

Courses for Nonmajors

The department offers many courses in which knowledge of Asian languages is not required. A current list is available in the department office (290 Royce Hall) and at http://www.alc.ucla.edu.

Undergraduate Study

courses in the majors must be taken for a letter grade.

The department also offers two minors — Asian Humanities minor and Asian Languages minor. All courses in the minors must be taken for a letter grade.

Students considering a major or minor in the department should consult the departmental undergraduate adviser as soon as possible in their University career, but in no case later than the point at which they are about to begin taking upper division courses. Students should select courses to fulfill major or minor requirements in consultation with the undergraduate adviser. The approved list of courses for each category of major or minor requirements is available in the department office (290 Royce Hall) and at http://www.alc.ucla.edu.

At least 24 upper division units required for the majors must be completed successfully while in residence at UCLA.

Placement in Language Courses
Students are not placed in Chinese, Japanese, and Korean language courses automatically according to their years of previous study. Students with any prior knowledge or study of an Asian language who wish to take courses in that language at UCLA are required to take the appropriate departmental language placement examination (see the Schedule of Classes or http://www.alc.ucla.edu for more information). The examination determines which course is most appropriate for the student’s current level of proficiency. Students who have obtained college credit for an Asian language courses may not repeat those same courses for credit. Prospective majors who place out of the upper division modern language requirement are expected to substitute an equivalent number of other units to be selected in consultation with the departmental undergraduate adviser.

Language Acquisition Courses
No credit is allowed for completing a less advanced course after successful completion of a more advanced Asian language course with focus on conversation, grammar, and/or composition.

Asian Humanities B.A.
Preparation for the Major
Required: Completion of the intermediate sequence in one Asian language offered by the department (e.g., Chinese 6, Japanese 6, Korean 6, South Asian 41C, Southeast Asian 51C, 61C, 71C, or 81C, or equivalent); one civilization course (e.g., Chinese 6, Japanese 6, Korean, Hindi, Indonesian, Thai, or Vietnamese, or one year of Sanskrit, and one introduction to Buddhism course or one introduction to Asian religions course.

Transfer Students
Transfer applicants to the Asian Humanities major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Chinese, Japanese, Korean, Filipino/Tagalog, Hindi, Indonesian, Thai, or Vietnamese and either one civilization course on Asia or one introduction to Buddhism course or one introduction to Asian religions course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Three upper division language courses in one Asian language offered by the department and eight upper division electives within the department, including at least one course from at least four of the following areas: China, Japan, Korea, South Asia, or Southeast Asia.

Asian Religions B.A.
Preparation for the Major
Required: Completion of the intermediate sequence in one Asian language offered by the department (e.g., Chinese 6, Japanese 6, Korean 6, South Asian 41C, 110C, Southeast Asian 51C, 61C, 71C, or 81C, or equivalent); one introduction to religions course from Asian 60, 60W, 61, South Asian 60, or Southeast Asian 30.

Transfer Students
Transfer applicants to the Asian Religions major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Chinese, Japanese, Korean, Filipino/Tagalog, Hindi, Indonesian, Thai, or Vietnamese, or one year of Sanskrit, and one introduction to Buddhism course or one introduction to Asian religions course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Three upper division language courses in one Asian language offered by the department; six upper division Asian languages courses within the department, including at least one course each concerning religions in China, Japan, Korea, and either South Asia or Southeast Asia; and two electives within the department.

Chinese B.A.
Preparation for the Major
Required: Chinese 6 or equivalent, 50.

Transfer Students
Transfer applicants to the Chinese major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Chinese and one Chinese civilization course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Five upper division Chinese language courses (of which at least two must be in the premodern language or texts), three upper division Chinese literature courses, two upper division electives in Chinese, and one upper division elective within the department.

Japanese B.A.
Preparation for the Major
Required: Japanese 6 or equivalent, and 50 or 60.

Transfer Students
Transfer applicants to the Japanese major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Japanese and one Japanese civilization or images of Japan course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Five upper division Japanese language courses (of which at least two must be in the premodern language or texts), three upper division Japanese literature courses, two upper division electives in Japanese, and one upper division elective within the department.

Korean B.A.
Preparation for the Major
Required: Korean 6 or equivalent, 50.

Transfer Students
Transfer applicants to the Korean major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Korean and one Korean civilization course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Five upper division Korean language courses, three upper division Korean literature courses, two upper division electives in Korean, and one upper division elective within the department.

Study Abroad
Early acquisition of Asian language skills aids in the timely completion of major requirements and enriches appreciation of Asian cultures. Students are encouraged, therefore, to complete up to a year of language study in approved programs of study abroad.
Honors Program

Admission

The honors program is open to departmental majors with a 3.5 grade-point average in upper division courses in the major and a 3.0 overall GPA. Students should apply for admission by Winter Quarter of their junior year and, at the time of admission, must have completed at least two upper division courses in their major. For application forms and further information, contact the departmental undergraduate advisor.

Requirements

Two honors projects, a seminar, and an honors thesis are required. The honors project consists of special research on a topic in an upper division course in their major selected in consultation with the instructor, resulting in a written report to be completed with a grade of B+ or better, in addition to the normal course requirements. All honors students are required to demonstrate the ability to conduct research by writing an honors thesis. In preparation for this project, students must take Asian 191H, in which they write a seminar paper. At least one honors project must be completed prior to enrolling in course 191H. After completing the seminar, they must also take Asian 198 during which they revise their seminar paper into an honors thesis under the direction of a faculty member. Course 198 (4 units minimum) must be taken in addition to courses applied toward major requirements. Highest honors, honors, or no honors are awarded as determined by the faculty thesis director and the departmental honors committee.

To qualify for graduation with departmental honors, students must (1) complete all requirements for the major, (2) have a cumulative grade-point average of 3.5 or better in upper division courses required for the major and an overall GPA of 3.0 or better, (3) complete an honors project in each of two upper division courses within the department, (4) complete an undergraduate seminar within the department, and (5) complete Asian 198.

To qualify for graduation with departmental highest honors, students must (1) complete all requirements for the major, (2) have a cumulative grade-point average of 3.8 or better in upper division courses required for the major and an overall GPA of 3.5 or better, (3) complete an honors project in each of two upper division courses within the department, (4) complete an undergraduate seminar within the department, and (5) complete Asian 198 with a grade of A.

Asian Humanities Minor

The Asian Humanities minor is designed to recognize a serious commitment to the study of Asian cultures. Lower division survey courses in civilizations and religious traditions provide students with a solid foundation in the diverse cultural heritages of Asia. Students may fulfill upper division requirements from a wide variety of courses in all aspects and historical periods of Asian humanities.

To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed 45 units at UCLA, and file a petition with the departmental undergraduate adviser.

Required Lower Division Courses (10 units): Two courses from Asian 60, 60W, 61, Chinese 50, Japanese 50, 60, Korean 50, South Asian 60, Southeast Asian 30.

Required Upper Division Courses (20 units): Five courses in the department concerning Asian culture (e.g., film, folklore, history, linguistics, literature, mythology, religious studies).

No more than 4 units may be applied toward both this minor and a major or minor in another department or program, and at least 16 units must be taken in residence at UCLA.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Asian Languages and Cultures offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Asian Languages and Cultures.

Asian

Lower Division Courses


60. Introduction to Buddhism. (5) (Formerly numbered East Asian Languages and Cultures 60.) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 60W. Knowledge of Asian languages not required. General survey of development of Buddhism in India, with focus on those religious doctrines and meditative practices most essential to various Asian traditions of the religion. Letter grading.

60W. Introduction to Buddhism. (5) (Formerly numbered East Asian Languages and Cultures 60W.) Lecture, three hours; discussion, one hour. Enforced prerequisites: English Composition 3 or 3H. Not open for credit to students with credit for course 60. Knowledge of Asian languages not required. General survey of Buddhist worldview and lifestyle, with focus on those religious doctrines and practices most essential to various Asian traditions of the religion. Particular attention to problems involved in study of religion. Satisfies Writing II requirement. Letter grading.

61. Introduction to Zen Buddhism. (5) (Formerly numbered East Asian Languages and Cultures 61.) Lecture, three hours; discussion, one hour. Knowledge of Asian languages not required. Introduction to Zen traditions and to interplay between Zen and other fundamental cultural and religious concerns in East Asia. Topics include role of Zen within Buddhist thought and practice, artistic and literary arts, society, and daily life. Letter grading.

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All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.
Upper Division Courses

120. Languages and Cultures of East Asia. (4) (Formerly numbered East Asian Languages and Cultures 120.) Lecture, three hours; discussion, one hour. Preparation: Chinese 3 or 50 or Japanese 3 or 50 or Korean 3 or 50. Comparative perspective on three major East Asian languages — Chinese, Japanese, and Korean — to show what they share and how they differ in terms of linguistic features, historical development, and larger cultural settings in which the three languages are used. P/NP or letter grading.

120FL. Readings in East Asian Languages. (2) (Formerly numbered East Asian Languages and Cultures 120FL.) Seminar, two hours. Requisite: Chinese 6 or 6A or 6C or Japanese 6 or Korean 6 or 6A. Forced corequisite: course 120. Additional work in major East Asian languages to enrich and augment work assigned in course 120, including reading, writing, and other exercises in Chinese, Japanese, and Korean. P/NP or letter grading.

C138. Travel Writing in East Asia. (4) (Formerly numbered East Asian Languages and Cultures C138.) Lecture, three hours. Recommended preparation: Chinese 50 or Japanese 50 or 60. Exploration of travel writing about countries of East Asia, primarily China and Japan, with focus on English translations of works by native writers and by foreign visitors through the centuries. Concurrently scheduled with course C238. Letter grading.

151. Buddhist Literature in Translation. (4) (Formerly numbered 161.) Readings, three hours. Recommended preparation: prior course on Buddhism or traditional Asian religions. Knowledge of Asian languages not required. Readings from variety of Buddhist literature of Indic and non-Indic origin, with emphasis on key Buddhist themes and critical issues in cross-cultural interpretations of Asian religious texts. Letter grading.

152. Tibetan Buddhism. (4) Lecture, three hours. Knowledge of Asian languages not required. Survey of thought and practices of Buddhism in Tibet from its beginnings to present day. Letter grading.

162. Buddhist Meditation Traditions. (4) (Formerly numbered East Asian Languages and Cultures 162.) Lecture, three hours. Knowledge of Asian languages not required. Survey of theory and practice of meditation in Buddhism, with emphasis on Tantric and Zen schools. Topics include various typologies of meditation, symbiotic relationship between meditation and soteriology, and processes by which doctrinal innovation prompts changes in meditative practice. Letter grading.

163. Buddhism across Boundaries. (4) (Formerly numbered East Asian Languages and Cultures 163.) Lecture, two hours; discussion, one hour. Recommended preparation: prior course on Buddhism or traditional Asian religions. Knowledge of Asian languages not required. Investigation of various themes in development of Buddhist traditions across historical periods as well as national and cultural boundaries, including issues of praxis, politics, and translation. Letter grading.

Graduate Courses

200. Research Methods in East Asian Linguistics. (4) (Formerly numbered East Asian Languages and Cultures 200.) Seminar, three hours. Research methodology for East Asian languages, with emphasis on compiling bibliographic data and using professional resources for research. Examination of issues in analyzing language examples, theoretical implications of linguistic data, and applications of functional linguistics in order to explain language phenomena. S/U or letter grading.

201. Proseminar: Approaches to Buddhist Studies. (4) (Formerly numbered East Asian Languages and Cultures 201.) Seminar, three hours. Designed for graduate students in Buddhist studies. Introduction to history of field, bibliography, relations with other disciplines, and current issues and research trends. S/U or letter grading.


210. Proseminar: Cultural and Comparative Studies. (4) (Formerly numbered East Asian Languages and Cultures 210.) Seminar, three hours. Designed for graduate students. Introduction to theoretical topics relevant to comparative study of East Asian cultures in the modern period. Readings include Western theoretical works balanced with texts taking congruent approaches to East Asian topics. S/U or letter grading.


220A-220B. Seminars: Topics in Cultural Studies. (4-4) (Formerly numbered East Asian Languages and Cultures 220A-220B.) Seminar, three hours. Complements course 210. Further investigation of methodology and materials of cultural studies in connection with specific topics selected by instructors. May be repeated for credit. In Progress (220A) and letter (220B) grading.

222. Seminar: Corpus Linguistics. (4) (Formerly numbered East Asian Languages and Cultures 222.) Seminar, three hours. Construction and exploitation of large language corpora for studying issues in areas such as lexicology, discourse grammar, language change and variation, language learning, and teaching. Discussion of special issues in working with East Asian language corpora. S/U or letter grading.

230A-230B. Seminars: Theoretical Topics in East Asian Literature. (4-4) (Formerly numbered East Asian Languages and Cultures 230A-230B.) Seminar, three hours. Preparation: reading knowledge of at least one East Asian language. Concepts of literary theory which are brought to fore by reading of literature from or about East Asia. Readings from both Western and Eastern theorists; issues of translation, comparison, and categorization. In Progress (230A) and letter (230B) grading.

C238. Travel Writing in East Asia. (4) (Formerly numbered East Asian Languages and Cultures C238.) Lecture, three hours. Preparation: consent of instructor. Advanced travel writing about countries of East Asia, primarily China and Japan, with focus on English translations of works by native writers and by foreign visitors through the centuries. Concurrently scheduled with course C138. Letter grading.
## Chinese
### Lower Division Courses

1. **Elementary Modern Chinese.** (5) Lecture, two hours; discussion, three hours. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses.

2. **Elementary Modern Chinese for Advanced Beginners.** (5) Lecture, two hours; discussion, three hours. Recommended preparation: ability to speak and understand Mandarin or other Chinese dialects at elementary levels. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Designed for students who already have certain listening and speaking skills in Mandarin or other Chinese dialects at elementary levels. Training in all four basic language skills (speaking, listening, reading, and writing). P/NP or letter grading.

3. **Elementary Modern Chinese.** (5) Lecture, two hours; discussion, three hours. Enforced requisites: course 1A or Chinese placement test. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Continuation of course 1A. P/NP or letter grading.

4. **Elementary Modern Chinese for Advanced Beginners.** (5) Lecture, two hours; discussion, three hours. Enforced requisites: course 2 or Chinese placement test. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Continuation of course 2. P/NP or letter grading.

5. **Elementary Modern Chinese.** (5) Lecture, two hours; discussion, three hours. Enforced requisites: course 2A or Chinese placement test. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Continuation of course 2A. P/NP or letter grading.
4. Intermediate Modern Chinese. (5) Lecture, five hours. Enforced prerequisite: course 3 or Chinese placement test. Not open to students who have learned from whatever source, enough Chinese to qualify for more advanced courses. Designed to strengthen communicative skills of listening, speaking, reading, and writing. Grammar reviews, knowledge of idiomatic expressions, and both traditional and simplified characters. P/NP or letter grading.

5. Intermediate Modern Chinese. (5) Lecture, five hours. Enforced prerequisite: course 4 or Chinese placement test. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Continuing enrollment in all four basic language skills (speaking, listening, reading, and writing). P/NP or letter grading.

6. Upper Division Courses


97. Variable Topics in Chinese Culture. (4) Lecture, three hours. Knowledge of Chinese language or culture not required. Variable topics course covering may be repeated for credit with topic change. P/NP or letter grading.

100A-100B-100C. Advanced Modern Chinese. (4-4-4) Lecture, two hours; discussion, two hours. Enforced prerequisite: course 6 or Chinese placement test. Course 100A or Chinese placement test is enforced prerequisite to 100B; course 100B or Chinese placement test is enforced prerequisite to 100C. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Designed for students who already have certain listening and speaking skills in Mandarin or other Chinese dialects at intermediate levels. Training in all four basic language skills (speaking, listening, reading, and writing). P/NP or letter grading.

101A-101B. Advanced Readings in Modern Chinese. (4-4) Lecture, two hours; discussion, two hours. Enforced prerequisite: course 100C or Chinese placement test. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Continuing enrollment in all four basic language skills (speaking, listening, reading, and writing). P/NP or letter grading.

102. Introduction to Chinese Linguistics. (4-4) Lecture, three hours; discussion, one hour. Knowledge of Chinese not required. Study of various topics in contemporary Chinese literature and culture, including politics and poetics of Chinese postmodernism, nationalism, feminism, mass culture, and media. Letter grading.

150B. Traditional Narrative and Drama. (4) Lecture, three hours. Knowledge of Chinese not required. Readings from narrative and dramatic writings of traditional China, with emphasis on self and society, growth of fictionality, subjectivity, and gender representation. May be taken independently for credit. Letter grading.

151. Chinese Literature in Translation: Modern Literature. (4) Lecture, three hours; discussion, one hour. Enforced prerequisite: English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Knowledge of Chinese not required. Lectures and reading of representative works from 1900 to the present in English translation. Letter grading.

152. Topics in Contemporary Chinese Literature and Culture. (4) Lecture, two hours; discussion, one hour. Knowledge of Chinese not required. Investigation of various topics in contemporary Chinese literature and culture, including politics and poetics of Chinese postmodernism, nationalism, feminism, mass culture, and media. Letter grading.


155. Topics in Chinese Cinema. (4) Lecture, two hours; discussion, one hour; film viewing, four hours. Knowledge of Chinese not required. Critical understanding of films from Hong Kong, Taiwan, and China to be offered. Examination of questions of cultural identity, transnationalism, postmodernity, and intersections between politics and culture in this “Greater China” region. P/NP or letter grading.

156. Variable Topics in Culture and Society in Taiwan. (4) Lecture, three hours. Knowledge of Chinese not required. Examination of relationship between culture (art, literature, and film) and society in Taiwan. May be repeated for credit with topic change. Letter grading.


165. Introduction to Chinese Buddhist Texts. (4) Lecture, three hours. Recommended prerequisite: course 100A or 110B or 110C or 100A or Chinese placement test. Readings in premodern Buddhist texts written in literary Chinese and taken from translated Indian sutras, indigenous exegetical materials, Chinese popular scriptures, and Ch'an writings. Problems in translation from Indo-Eu- ropean languages into Chinese; evolution of Chinese Buddhist terminology. Coverage varies. May be repeated for credit with consent of instructor. Letter grading.


175. Introduction to Chinese Thought. (4) Lecture, three hours. Knowledge of Chinese not required. Survey of Chinese thought, with emphasis on pre and post-Confucian thought, with focus on invention of “Confucian” tradition (including Five Classics) and on defense of that tradition against challenges such as “Mohists,” “Taoists,” and other groups of thinkers. Concurrently scheduled with course C275. Letter grading.

180. Chinese Mythology. (4) Lecture, three hours. Knowledge of Chinese not required. Study of traditional Chinese mythology, with focus on examples preserved in a variety of early texts, later evolu- tions in dramatic and fictional works, and evidence from visual arts. Letter grading.
186. Archaeology in China. (4) Formerly numbered 190.) Lecture, three hours. Knowledge of Chinese not required. Survey of some of the most important, varied, and fascinating topics in Chinese history, with emphasis on the material culture remains of ancient and modern China. graded P/NP.

187. Chinese Etyomology and Calligraphy. (4) Formerly numbered 185.) Lecture, three hours. Recommended requisite: course 3. Coverage of (1) development of Chinese writing system from “Pottery Inscriptions” 6,000 years ago to modern “Simplified Forms” and study of Six Scripts principles that were used to form Chinese characters and (2) aesthetic training of calligraphic art and its appreciation, with focus on ways of recognizing and interpreting “Cursive Style,” common form of calligraphy. Letter grading.

191A. Variable Topics Research Seminars: 20th-Century China and Taiwan. (4) Formerly numbered 197B.) Seminar, three hours. Designed for juniors/seniors. Research seminar on selected topics in modern and contemporary literature and culture from China and Taiwan. Reading, discussion, and development of culminating project. Letter grading.

197. Individual Studies in Chinese. (4) Tutorial, to be arranged. Limited to juniors/seniors and graduate students. Preparation for doing advanced or specialized instruction in Chinese. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangential evidence of mastery of subject matter required. May be repeated for credit. Individual contract required; see undergraduate adviser, P/NP or letter grading.

Graduate Courses

200A. Research Methods in Chinese. (4) Seminar, three hours. Required for course 110C. Lectures and discussion designed to develop basic skills in using traditional Chinese research materials. Topics include classical dictionaries; sinological indices; bibliographical, biographical, and bibliographical sources; encyclopedias; anthologies; rare editions; illustrated matter and calligraphy. S/U grading.

200B. Proseminar: Premodern Chinese Literature. (4) Seminar, three hours. Introduction to major bibliographical and methodological resources in field of premodern Chinese literature, with focus on research tools in the field and on scholarship in English on major literary genres, periods, and authors. S/U or letter grading.

200C. Proseminar: Modern Chinese Literature. (4) Seminar, three hours. Introduction to major bibliographical and methodological resources in field of modern Chinese literature, with focus on research tools and scholarship in English on modern literary trends and genres. S/U or letter grading.


205. Methods and Issues in 20th-Century Chinese Literature and Culture, (4) Seminar, three hours. Methodology course for all incoming graduate students in 20th-century Chinese literature and culture. Discussion of major theoretical and textual issues and methods.

210. Modern Chinese Literary History, (4) Lecture, three hours. Designed for graduate students. Discussion of history of modern Chinese literature, focusing on sources of controversies, major literary genres, and critical approaches to studying the relationship between literature and history.

211A-211B. Seminars: Classical Chinese Poetry. (4-4) Seminar, three hours. Preparation: reading knowledge of Classical Chinese. Topics rotate among major textual traditions and chronological periods. Emphasis on philological, critical, and historical approaches. May be repeated for credit with consent of instructor. In Progress (211A) and letter (211B) grading.

212. Topics in Chinese Poetry. (4) Readings-discussion, three hours. Selected readings from classical poetic tradition, with focus on individual poets, themes, or other critical issues. May be repeated for credit with consent of instructor. Letter grading.

213. Chinese-Language Cinemas. (4) Seminar, three hours; film-viewing laboratory, two hours. Topical focus on Chinese-language cinemas from China, Taiwan, Hong Kong, and other Chinese-speaking communities. Discussion of major theoretical and textual tools in relation to historical contexts of when films were made. May be repeated for credit with consent of instructor. S/U or letter grading.

220A-220B. Western Theory and Chinese Texts. (4-4) Seminar, three hours. Discussions to be framed by Western literary and cultural theory, investigating both challenges and limitations Western theory may pose for Chinese literary and cultural studies. Specific topics vary from year to year. In Progress (220A) and S/U or letter (220B) grading.

224A-224B. Seminars: Selected Topics in Chinese Linguistics. (4-4) Seminar, three hours. Critical reading and discussion of selected topics in Chinese functional linguistics (discourse and grammar, corpus linguistics, language change). May be repeated for credit with consent of instructor. In Progress (224A) and letter (224B) grading.

230A-230B. Seminars: Selected Topics in Modern Chinese Literature and Culture. (4) Seminar, three hours. Preparatory readings in 20th-century Chinese literature, emphasizing fiction. Discussion of individual research projects. May be repeated for credit. In Progress (230A) and letter (230B) grading.

241A-241B. Heaven, Earth, and Monarchy in Ancient China. (4-4) Seminar, three hours. Preparation: working knowledge of classical Chinese. Close reading of chapters from the Han dynasty collection of writings on the forms of music, social interaction, education, marriage, and mourning in the Zhou royal court, with discussion of topics in recent cultural semiotics and anthropology. In Progress (241A) and letter (241B) grading.

242. Chinese Classics and Exegetical Traditions. (4) Seminar, three hours. Preparation: command of literary Chinese. Reading and discussions of selections from one of the traditional Chinese classics (Confucian Five Classics, others), with introduction to exegetical history, secondary scholarship, and research methodology. Topics vary from year to year. May be repeated for credit.


245A-245B. Seminars: Traditional Chinese Narrative and Drama. (4-4) Seminar, three hours. Preparation: reading knowledge of colloquial and literary Chinese. Seminar topics alternate yearly between traditional narrative and drama, with emphasis on generative, hermeneutical, and historical approaches. Topics in narrative selected from genres from Chou through Ch'ing periods. Topics in drama selected from T'ang and Ch'ing periods. May be repeated for credit. In Progress (245A) and letter (245B) grading.

250A. Lyrical Traditions. (4) Lecture, three hours. Enforced requisite: course 110C. Readings of poetic and critical writings from various Chinese, with emphasis on development of subjectivity and modes of address. Concurrently scheduled with course C150A. Graduate students required to read primary materials in original Chinese. S/U or letter grading.

256A-256B. Chinese Literary Criticism. (4-4) Seminar, three hours. Issues in production and interpretation of literary works, as formulated by Chinese critics from classical age onward. Letter grading.


265A-265B. Seminars: Chinese Buddhist Texts. (4) Seminar, three hours. May be repeated for credit with consent of instructor. In Progress (265A) and letter (265B) grading.


290A-290B. Seminars: Selected Topics in Chinese Archaeology. (4-4) Seminar, three hours. Requisite: course 196. Discussion and research on major problems about Chinese archaeology and different interpretations to most important archaeological finds, with emphasis on studies of Xia and Shang cultures and the Zhou Dynasty. May be repeated for credit. In Progress (290A) and letter (290B) grading.

295A-295B. Seminars: Selected Topics in Chinese Cultural History. (4-4) Seminar, three hours. Discussion of research on major problems related to Chinese culture, such as beginnings of the Chinese civilizing and Chinese dynastic history. Other topics include cultural developments of ancient and medieval China. May be repeated for credit. In Progress (295A) and letter (295B) grading.

Japanese

Lower Division Courses

1. Elementary Modern Japanese. (5) Lecture, two hours; discussion, three hours. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Introduction to modern Japanese with attention to conversation, grammar, and written forms. Conversation drill based on material covered in class. P/NP or letter grading.

2. Elementary Modern Japanese. (5) Lecture, two hours; discussion, three hours. Enforced requisite: course 1 or Japanese placement test. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Continuation of course 1. P/NP or letter grading.

3. Elementary Modern Japanese. (5) Lecture, two hours; discussion, three hours. Enforced requisite: course 2 or Japanese placement test. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Continuation of course 2. P/NP or letter grading.

4. Intermediate Modern Japanese. (5) Lecture, five hours. Enforced requisite: course 3 or Japanese placement test. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Designed to strengthen communicative skills of listening, speaking, reading, and writing. Grammar reviews, vocabulary building skills, language learning skills, and social/cultural knowledge. P/NP or letter grading.


7. Intermediate Readings in Modern Japanese. (4) Lecture, three hours. Enforced requisite: courses 3 or Japanese placement test. Not open to students with credit for course 100A or who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Introduction to visual and textual knowledge of Japanese culture, literature, or language not required. Development of Buddhism in Japan in context of Buddhist teachings. Concurrently scheduled with course C260. Letter grading.

8. Elementary Japanese: Intensive. (15) Lecture, five hours; discussion, 15 hours. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Intensive enrollment in overall competency in reading intermediate-level Japanese materials. Introduction in understanding grammar and practical expressions, as well as expansion of Kanji and vocabulary to achieve higher ability in comprehension of written materials in Japanese. Translations from Japanese to English, as well as from English to Japanese. May be used to fulfill any two-year language requirement at UCLA, but course 6 must be taken to progress to 100A. P/NP or letter grading.

10. Intermediate Modern Japanese: Intensive. (19) Lecture, 10 hours; discussion, 10 hours. Enforced requisite: course 3 or Japanese placement test. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Introduction to all four basic language skills — speaking, listening comprehension, reading, and writing. Offered in summer only. Letter grading.


15. Japanese Literature in Translation: Modern. (4) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Knowledge of Japanese not required. Survey of Japanese literature from the 16th century to post-World War II. P/NP or letter grading.

16. Postwar Japanese Culture through Literature. (4) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Knowledge of Japanese not required. Examination of representation of technology in shifting images of gender, subjectivity, and national identity. P/NP or letter grading.


Upper Division Courses

100A-100B-100C. Advanced Modern Japanese. (4-4-4) Lecture, five hours. Enforced requisite: course 8 or Japanese placement test. Course 100A or Japanese placement test is enforced requisite to 100B; course 100B or Japanese placement test is enforced requisite to 100C. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Reading Japanese language with emphasis on sociocultural issues of contemporary Japan. Materials selected from contemporary publications, videos, and audio-tapes. Reading with focus on linguistics features, writing summaries and opinions, oral activities, and project work. P/NP or letter grading.

101A-101B. Advanced Readings in Modern Japanese. (4-4) Lecture, two hours; discussion, 90 minutes. Enforced requisite: course 100C or Japanese placement test. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Advanced readings and discussion for students planning to do advanced coursework or research on Japan. Topics selected from magazines, journals, and books related to humanities and social sciences. Each course may be taken independently for credit. Letter grading.

102A-102B. Advanced Reading and Writing for Japanese. (3) Lecture, three hours. Enforced prerequisite: Japanese placement test. Course 102A or Japanese placement test is enforced requisite to 102B. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. Designed for advanced-level Japanese-heritage learners or nonheritage learners who are fluent in daily spoken Japanese. Emphasis on building vocabulary knowledge of Kanji, reading and writing, and formal aspects of spoken Japanese (polite and honorific/humble forms). Completion of course 102A is enforced requisite to completion of course 100C; completion of course 102B is equivalent to completion of course 101B. P/NP or letter grading.


120. Introduction to Japanese Linguistics. (4) (Same as Linguistics M116.) Lecture, three hours; discussion, one hour. Enforced requisite: course 3 or Japanese placement test. Introduction to Japanese grammar and sociolinguistics through reading, discussion, and problem solving in phonology, syntax, semantics, and discourse pragmatics. Letter grading.


122. Structure of Japanese II. (4) (Same as Linguistics M176B.) Lecture, three hours. Recommended preparation: two or more years of Japanese language study. Survey of Japanese language at three different levels of organization: (1) word level — word class, verbal morphology and semantics; (2) clause/sentence level — grammatical constructions; (3) discourse level — point of view, ellipsis, topicalization. Concurrently scheduled with course CM223. Letter grading.


130A-130B-130C. Readings in Modern Japanese Literature. (4-4-4) Readings/discussion, three hours. Enforced requisite: course 100C or Japanese placement test. Course 130A or Japanese placement test is enforced requisite to 130B; course 130B or Japanese placement test is enforced requisite to 130C. Readings and discussion of works by modern Japanese writers. Letter grading.

140A-140B-140C. Readings in Classical Japanese Literature. (4-4-4) Discussion, three hours; readings, nine hours. Enforced requisite: course 110 or Japanese placement test. Readings and discussion of works of premodern Japanese literature. Each course may be taken independently for credit. Letter grading.

140A. Heian; 140B. Medieval; 140C. Edo.

C149. Introduction to Kambun and Other Literary Styles. (4) Lecture, three hours. Enforced requisite: course 110 or Japanese placement test. Introduction to Kambun, the Japanese literary rendering of premodern Sino-Japanese, and Sorobun, the epistolary style. Concurrently scheduled with course C249. Letter grading.


151. Japanese Literature in Translation: Modern. (4) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Knowledge of Japanese not required. Survey of Japanese literature from the 16th century to post-World War II. P/NP or letter grading.

154. Postwar Japanese Culture through Literature. (4) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Knowledge of Japanese not required. Examination of representation of technology in shifting images of gender, subjectivity, and national identity. P/NP or letter grading.


156. Literature and Technology. (4) (Same as Comparative Literature M178.) Lecture, three hours. Knowledge of Japanese not required. Examination of representation of technology in 20th-century fiction. Discussion of impact of technology on shifting images of gender, subjectivity, and national identity. P/NP or letter grading.


161. Religious Life in Modern Japan. (4) Lecture, three hours; discussion, one hour. Knowledge of Japanese not required. Examination of religious transformations accompanying rapid industrialization, urbanization, militarism, and defeat in the Pacific War, including analyses of Shinto mythology, secular positivism, Buddhist reform movements, new religions, and continuing role of traditional village/religious rites. Letter grading.


C171. Topics in Japanese Studies. (4) Lecture, three hours. Enforced requisite: course 100C or Japanese placement test. Advanced course that explores Japanese culture through in-depth reading of Japanese-language texts and/or visual documents. Topics include literature, religion, folklore, cultural history, language, and art. Enrolled students analyze the interrelationships of these topics in the course. Concurrently scheduled with course C271. P/NP or letter grading.


C200A. Research Methods in Japanese Linguistics. (4) Seminar, three hours. Introduction to different research paradigms for Japanese linguistics, as well as resources associated with these approaches. Discussion of linguistic knowledge in traditional Japanese scholarship (Kokugo-gaku) and coverage of newer approaches from modern Western linguistics. S/U or letter grading.

C200B. Proseminar: Classical Japanese Literature. (4) Seminar, three hours. Introduction to major bibliographical and methodological resources in field of premodern Japanese literature. Focus on research tools in the field and on scholarship in English on history of books in Japan as well as on major literary genres. S/U or letter grading.

C200C. Proseminar: Modern Japanese Literature. (4) Seminar, three hours. Introduction to major bibliographical and methodological resources in field of modern Japanese literature, with focus on research tools and on scholarship in English on contemporary literary trends and genres. S/U or letter grading.


201A-201B. Introduction to Reading Japanese Academic Texts. (4-4) Lecture, three hours. Enforced requisite: course 7 or 100A. Course 201A is requisite to 201B. Designed for graduate students. Introduction to modern Japanese-language academic texts, both prerewriting and postrewriting. Concurrently scheduled with course 201A. Letter grading.


211. No and Kyogen. (4) Lecture, three hours. Preparation: one year of classical Japanese. Readings of selected No and Kyogen texts from Muramachi and Edo periods, as well as readings of critical writings and discussion of theories. May be repeated for credit with consent of instructor.


C223. Structure of Japanese II. (4) Lecture, three hours. Recommended preparation: two or more years of Japanese language study. Survey of Japanese language at three different levels of organization: (1) word level — word class, verbal morphology and semantics; (2) clause/sentence level — grammatical constructions; (3) discourse level — point of view, ellipsis, topicalization. Concurrently scheduled with course CM123. Letter grading.

C224A-224B. Seminars: Selected Topics in Japanese Discourse Linguistics. (4-4) Seminar, three hours. Concurrently scheduled with course C224A. Critical reading and discussion of selected topics in Japanese discourse linguistics. May be repeated for credit with consent of instructor. In Progress (224A) and letter (224B) grading.

C225A-225B. Seminars: Linguistic Analysis of Japanese Narratives. (4-4) Seminar, three hours. Preparation: course CM227. Analysis of selected modern and classical Japanese narratives. Emphasis on exploration of how grammatical features such as tense, aspect, voice, and point of view are utilized to achieve desired literary effects. May be repeated for credit with consent of instructor. In Progress (225A) and letter (225B) grading.

C226. Survey of Functional Linguistics. (4) Lecture, four hours. Survey of recent empirical and theoretical research in several areas of functional linguistics, which has served as backbone for development of modern Japanese discourse linguistics. May be repeated for credit with consent of instructor. S/U or letter grading.


C228. Fundamentals in Discourse Data Analysis. (4) Lecture, three hours. Designed to prepare students to conduct research in natural discourse data, both spoken and written, for linguistic analysis. Discussion of discourse taxonomy, data collection methodologies, data organization, analytical frameworks.

C235A-235B. Seminars: Selected Topics in Modern Japanese Fiction. (4-4) Seminar, three hours. May be repeated for credit with consent of instructor. In Progress (235A) and letter (235B) grading.

C240A-240B. Seminars: Seminar in Japanese Literature. (4-4) Seminar, three hours. May be repeated for credit. In Progress (240A) and letter (240B) grading.

C241A-241B. Seminars: Japanese Classics. (4-4) Seminar, three hours. Prose and poetry from early times to 1868. May be repeated for credit with consent of instructor. In Progress (241A) and letter (241B) grading.


C245A-245B. Seminars: Medieval Japanese Literature. (4-4) Seminar, three hours. Preparation: one year of classical Japanese. Selected readings in travel poetry, travel diaries, and other genres of Japanese travel literature of Heian, Kamakura, Nambokucho, and Muromachi periods. May be repeated for credit with consent of instructor. In Progress (245A) and letter (245B) grading.

C249. Introduction to Kambun and Other Literary Styles. (4) Lecture, three hours. Concurrently scheduled with course 110 or Japanese placement test. Introduction to Kambun, the Japanese literary rendering of premodern Chinese literary styles concerning textual commentaries, doctrinal treatises, hagiographies, temple histories, etc. Coverage varies. May be repeated for credit with consent of instructor. Letter grading.


265A-265B. Seminars: Japanese Buddhist Texts. (4-4) Seminar, three hours. May be repeated for credit with consent of instructor. In Progress (265A) and elective (265B) grading.

270A-270B. Seminars: Japanese Ritual Arts. (4-4) Seminar, three hours. Reading knowledge of Japanese not required. Discussions and readings on ritual (performing) arts of Japan comprising music, dance, storytelling, viewing, purification, divination, disfigurement, mimicry, and competitive as well as acrobatic arts, with special emphasis on religious-magical purposes and symbolic structure of these arts. In Progress (270A) and elective (270B) grading.


M276. Reading Modern Bodies. (4) (Same as Comparative Literature M276.) Lecture, two hours; discussion, three hours. Knowledge of Japanese not required. Designated for graduate students. Exploration of construction of human body through various modern technologies and discourses, including those of disease, diet, race, gender, and sexuality. Examination of texts from various locales, with particular emphasis on Japan. S/U or letter grading.


C282. Japanese Folklore. (4) Lecture, three hours; discussion, one hour. Knowledge of Japanese not required. Lectures/discussions on native religious rituals (festivals) and observances of Japanese, with special emphasis on artistic behavior. Discussion of Shinto, Shinto/Buddhist syncretism, and other non-Buddhist belief systems. Concurrently scheduled with course C182. Letter grading.


297B. Seminar: Modern Japan. (4) (Formerly numbered C297B.) Seminar, three hours. Selected topics on modern Japan. Letter grading.

Korean

Lower Division Courses

1. Elementary Modern Korean. (5) Lecture, two hours; discussion, three hours. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Introduction to standard spoken Korean and Korean writing, with emphasis on conversation. P/NP or letter grading.

2. Elementary Modern Korean. (5) Lecture, two hours; discussion, three hours. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Introduction to standard spoken Korean and Korean writing, with emphasis on conversation. P/NP or letter grading.

3. Elementary Modern Korean. (5) Lecture, two hours; discussion, three hours. Enforced requisite: course 1A or Korean placement test. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Continuation of course 2A. P/NP or letter grading.


5. Intermediate Modern Korean. (5) Lecture, five hours. Enforced requisite: course 3A or Korean placement test. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Continuation of course 4. P/NP or letter grading.

6. Intermediate Modern Korean. (5) Lecture, five hours. Enforced requisite: course 5 or Korean placement test. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Continuation of course 5. P/NP or letter grading.

5A. Intermediate Korean for Korean Speakers. (5) Lecture, five hours. Enforced requisite: course 4A or Korean placement test. Not open to students who attended elementary school in Korea for more than one year or who have learned, from whatever source, enough Korean to qualify for more advanced courses. Designed for Korean-heritage learners. Emphasis on four skills (speaking, grammar, reading, and conversation in modern Korean). P/NP or letter grading.

6A. Intermediate Korean for Korean Speakers. (5) Lecture, five hours. Enforced requisite: course 5A or Korean placement test. Not open to students who attended elementary school in Korea for more than one year or who have learned, from whatever source, enough Korean to qualify for more advanced courses. Designed for Korean-heritage learners. Emphasis on four skills (speaking, grammar, reading, and conversation in modern Korean). Continuation of course 5A. Completion of course 5A is equivalent to completion of course 5. P/NP or letter grading.

8. Elementary Korean: Intensive. (15) Lecture, 10 hours; discussion, 10 hours. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Intensive course equivalent to courses 1, 2, 3, and 6. Introduction to fundamentals of standard Korean, including pronunciation, grammar, and Korean characters, with emphasis on all four basic language skills — speaking, listening, comprehension, reading, and writing. Offered in summer only. Letter grading.

10. Intermediate Modern Korean: Intensive. (15) Lecture, 10 hours; discussion, 10 hours. Enforced requisite: course 3 or Korean placement test. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Intensive course equivalent to courses 5, 6, and 7. Conversation, composition, and readings with structural analysis in modern Korean. Offered in summer only. Letter grading.

50. Korean Civilization. (5) Lecture, three hours; discussion, one hour. Knowledge of Korean not required. General survey of development of Korean culture within context of political, social, and economic history. P/NP or letter grading.

Upper Division Courses

100A-100B-100C. Advanced Modern Korean. (4-4-4) Lecture, five hours. Enforced requisite: course 5 or Korean placement test. Course 100A or Korean placement test is enforced requisite to 100B; course 100B or Korean placement test is enforced requisite to 100C. Not open to students who have learned, from whatever source, enough Korean to qualify for more advanced courses. Continuation of courses 6/6A. Readings of modern prose and poetry, with emphasis on grammar and Sinoc-Korean. P/NP (undergraduates), S/U (graduates), or letter grading.

101A-101B-101C. Advanced Readings in Modern Korean. (4-4-4) Lecture, three hours. Enforced requisite: course 100C or Korean placement test. Course 101A or Korean placement test is enforced requisite to 101B; course 101B or Korean placement test is enforced requisite to 101C. Advanced readings and discussions for students planning to do advanced coursework or research on Korea. Topics selected from magazines, journals, and books related to humanities and social sciences. P/NP (undergraduates), S/U (graduates), or letter grading.
102A-102B-102C. Advanced Korean Conversation. (4-4-4) Lecture, three hours. Enforced requisite: course 100C or Korean placement test. Course 102A or Korean placement test is enforced requisite to 102B; course 102B or Korean placement test is enforced requisite to 102C. Not open to students who attended elementary school in Korea for more than two years if previously learned, from another source, or from Sino-Korean characters. Knowledge of Sino-Korean is recommended. Concurrently scheduled with course C102. Letter grading.

103A-103B-103C. Readings in Sino-Korean Characters. (4-4-4) Lecture, two and one-half hours. Req- uisite: course 100C or Korean placement test. Course 103A or Korean placement test is enforced requisite to 103B; course 103B or Korean placement test is requisite to 103C. Sino-Korean vocabulary and characters necessary for advanced and superior level of knowledge in Korean. Sino-Korean characters are used differently from same Chinese characters used in contemporary Chinese in terms of pronunciation, meaning, and word formation. Professional-level Korean speakers need to be able to read at least 1,800 Sino-Korean characters. Reinforcement of collocation patterns and semantic association of Sino-Korean vocabulary. P/NP or letter grading.

104A-104B-104C. Korean Writing for Advanced Learners. (4-4-4) Lecture, three hours. Enforced requisite: course 100C or Korean placement test. Emphasis on academic writing in Korean, including rhetorical conventions, argument construction and coherence, and formal prose style. Readings include representative examples of diverse genres selected from magazines, journals, and books. Each course may be taken independently for credit. P/NP (undergraduates), S/U (graduates), or letter grading.

105A-C105B-C105C. Reading Korean Academic Texts. (4-4-4) Lecture, three hours. Enforced requisite: course 101C or Korean placement test. Intended to improve reading skills of students who have studied Korean to an advanced level, with coverage in Korean of materials on Korean history, culture, and society. Each course may be taken independently for credit. Concurrently scheduled with courses C205A-C205B-C205C, P/NP or letter grading.

106A-106B-106C. Superior Korean. (5-5-5) Lecture, five hours. Requisite: course 101C or Korean placement test. Course 106A or Korean placement test is requisite to 107B; course 107B or Korean placement test is requisite to 107C. Development of professional and academic proficiency in oral and written Korean to understand many sociolinguistic and cultural nuances as well as a variety of styles and forms pertinent to professional needs, meet demands of professional interactions, and carry out professional-level tasks in student specialization areas. Special attention to vocabulary development on professional level. Development of both interactive and noninteractive listening. Research projects to be assigned according to student interests. P/NP or letter grading.

107A-107B-107C. Professional/Academic Korean. (5-5-5) Lecture, five hours. Requisite: course 101C or Korean placement test. Course 107A or Korean placement test is requisite to 107B; course 107B or Korean placement test is requisite to 107C. Development of professional and academic proficiency in oral and written Korean to understand many sociolinguistic and cultural nuances as well as a variety of styles and forms pertinent to professional needs, meet demands of professional interactions, and carry out professional-level tasks in student specialization areas. Special attention to vocabulary development on professional level. Development of both interactive and noninteractive listening. Research projects to be assigned according to student interests. P/NP or letter grading.


100A-130B. Readings in Modern Korean Literature. (4-4) Lecture, three hours. Enforced requisite: course 100C or Korean placement test, English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Knowledge of Korean not required. Survey of premodern Korean literature from the beginning to the 19th century. P/NP or letter grading.

150. Korean Literature in Translation: Classical. (4) Lecture, three hours. Requisite: English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Readings and discussion of major modern Korean literary texts. Each course may be taken independently for credit. Letter grading.

151. Korean Literature in Translation: Modern. (4) Lecture, three hours. Requisite: English Composition 3 or 3H or one course from Comparative Literature 1A, 1B, 1C, 1D. Knowledge of Korean not required. Survey of premodern Korean literature from the beginning to the 20th century. P/NP or letter grading.


156. Korean Buddhism. (4) Lecture, three hours; discussion, one hour. Knowledge of Korean not required. Introduction and development of Buddhism in Korea, interactions between indigenous Korean culture and Sinic traditions of Buddhism, Korean syntheses of imported Buddhist theological systems and meditative techniques, and independent Son (Zen) schools of Korea. Concurrently scheduled with course C260. Letter grading.

165. Introduction to Korean Buddhist Texts. (4) Lecture, three hours. Recommended requisite: course 100A or Chinese 110C or Korean placement test. Introduction to reading premodern Korean Bud- dhist texts written in Sino-Korean and taken from indigenous doxographic materials and philosophical and religious thought. P/NP or letter grading.

172. Topics in Korean Christianity. (4) Lecture, three hours. Knowledge of Korean not required. Historical development of Christianity in Korea, beliefs and practices, impact of Christianity on modern Kore- an culture and society. Coverage varies. May be repeated for credit with consent of instructor. Letter grading.

177. Introduction to Modern Korean Thought. (4) Lecture, two hours; discussion, one hour. Requisite: course 50. Knowledge of Korean not required. Survey of Korean thought through the 20th century, including religious thought, political thought, femi- nism, nationalism, and economic thinking and prac- tice. P/NP or letter grading.


180A-180B-180C. Cultural History of Korea. (4-4- 4) Lecture, three hours; discussion, one hour. Requi- site: course 50. Knowledge of Korean not required. Ex- amination of evolution of Korean culture and society within context of political and institutional industry. Consideration of both higher and popular culture. P/NP or letter grading.

181. Reading Korean Cultural Landscape. (4) Lecture, three hours; discussion, one hour. Knowledge of Korean not required. Introduction to Korean culture from historical/ geographical perspective. Examination of human cultural imprint on land in religious, linguis- tic, rural, and urban landscapes. Letter grading.

183. Korean Folklore. (4) Lecture, three hours. Sur- vey of traditional and modern Korean folklore through methods — oral literature, performing folk arts, social folk custom, and material culture. P/NP or letter grading.


191A. Variable Topics Research Seminars: Tradi- tional Korea. (4) (Formerly numbered 197A) Sem-inar, three hours. Research seminar on selected top- ics of interpretation in Korean history from earliest times through the mid-19th century. Coverage varies from term to term and includes such topics as state formation, international relations, or “sprouts of capi- talism” thesis. Reading, discussion, and development of culminating project. Letter grading.

191B. Variable Topics Research Seminars: Contem- porary Korea. (4) (Formerly numbered 197B) Seminar, three hours. Requi- site: course 177 or 180C. Research seminar on se- lected topics in modern Korean history. Reading, dis- cussion, and development of culminating project. Letter grading.

197. Individual Studies in Korean. (4) Tutorial, to be arranged. Limited to juniors/seniors and graduate students who desire more advanced or specialized in- struction in Korean. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required; see undergraduate adviser. P/NP or letter grading.

Graduate Courses


Asian Languages and Cultures / 185
203. Variable Topics in Korean Culture. (4) Seminar, three hours. Advanced course that explores Korean culture through reading of Korean-language texts and/or visual documents. Topics include literature, religion, folklore, cultural history, language, and society. May be repeated for credit. S/U or letter grading.

C205A-C205B-C205C. Reading Korean Academic Texts. (4-4-4) Lecture, three hours. Requisite: course 101C or Korean placement test. Intended to improve reading skills for students who have studied Korean to an advanced level, with coverage in Korean of materials on Korean history, culture, and society. Each course may be taken independently for credit. Concurrently scheduled with courses C105A-C105B-C105C. S/U or letter grading.

210. Thought and Society in Korea. (4) Readings/discussion, three hours. Preparation: reading knowledge of Korean. Designed for graduate students. Reading in Korean intellectual history and its social, political, and economic background from the rise of neo-Confucianism in the 14th century to the 20th century.

211. Thought and Society in Modern Korea. (4) Discussion, three hours. Preparation: reading knowledge of Korean. Designed for graduate students. Critical examination of list of books central to understanding of Korean thought and society in modern period. May be repeated as a separate topic with consent of instructor. In Progress (230A) and letter (230B) grading.


230A-230B. Seminars: Literary Translation from Korean. (4-4) Seminar, three hours. Preparation: reading knowledge of Korean. In consultation with instructor, students select works to be translated. Devoted to skill of producing accurate and readable translations, with emphasis on problems and techniques unique to poetry and prose. At end of term, students expected to produce publishable translations. May be repeated once with consent of instructor. In Progress (230A) and letter (230B) grading.


260. Religion in Classical India: Introduction. (4) Lecture, three hours; discussion, one hour. Requisite: course 200 or 198C. Proseminar covering crucial period from coronation of Sunjoy in 1800 to annexation of Korea by Japan in 1910, including major historical scholarship on political, diplomatic, social, economic, intellectual, and cultural history. Letter grading.

275. Introduction to Indic Languages and Cultures. (4-4) Lecture, three hours. Requisite: two years of Japanese or Korean, one introductory linguistics course. Required preparation: two years of Japanese or Korean, one introductory linguistics course. Survey of the world of Indic languages and cultures. May be repeated with critical review of secondary works in Western and Korean literature. Requisite: two years of Indic or Korean literature. Letter grading.

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295A-295B. Seminars: Topics in Traditional Korean Cultural History. (4-4) Seminar, three hours. Preparation: reading knowledge of Korean. Discussion and research on major topics in Korean cultural history, including such topics as Korean capitalism and consumerism, intellectual history, social movements, and the Korean War.

296A-296B. Seminars: Topics in Modern Korean Cultural History. (4-4) Seminar, three hours. Preparation: reading knowledge of Korean. Discussion and research on modern Korean history, including such topics as Korean reactions to the West in 19th century and Choson dynasty, or Korean reactions to the West in 20th century. May be repeated for credit with consent of instructor. In Progress (296A) and letter (296B) grading.

40R. Elementary Hindi Reading and Writing. (5) (Formerly numbered Indic 150.) Lecture, three hours. Preparation: reading, writing, and speaking skills in Hindi/Urdu. In Progress (240A) and letter (240B) grading.

41A-41B-41C. Intermediate Hindi. (5-5-5) (Formerly numbered Indic 110A-110B-110C.) Lecture, two hours; discussion, three hours. Requisite: course 200. Course 245A is enforced requisite to 41B, which is enforced requisite to 41C. Reinforcement of basic Hindi grammar and coverage of more advanced topics. Broadening of skills in conversation and composition; reading of selected texts. P/NP or letter grading.

60. Religion in Classical India: Introduction. (5) (Formerly numbered Indic 60.) Lecture, three hours; discussion, one hour. Introduction to religions of classical India — Vedic, Brahmanical, Hindu, Jain, and Buddhist — paying equal attention to change and continuity, with emphasis on chronological development. P/NP or letter grading.

Upper Division Courses

110A. Elementary Sanskrit. (4) (Formerly numbered Indic 110A.) Lecture, three hours. Preparation: script and grammar, with reading exercises and attention to significance of Sanskrit for the understanding of other Indo-European languages.

110B. Intermediate Sanskrit. (4) (Formerly numbered Indic 110B.) Lecture, three hours. Requisite: course 110A. Advanced aspects of grammar and reading of literary texts.

110C. Advanced Sanskrit. (4) (Formerly numbered Indic 110C.) Lecture, three hours. Requisite: course 111C. Reading of entire Bhagavadgita or comparable amount of other Sanskrit literature.

115. Readings in Sanskrit. (4) (Formerly numbered Indic 115.) Lecture, three hours. Requisite: course 111C. Reading of entire Bhagavadgita or comparable amount of other Sanskrit literature.

150. Classical Indian Literature in Translation. (4) (Formerly numbered Indic 150.) Lecture, three hours. Knowledge of Asian languages not required. Survey of some landmarks of classical Indian literature from second millennium B.C.E. to second millennium C.E., including both poetry and prose, “high” art and more popular genres, and secular and religious texts, examined in their social and institutional contexts. P/NP or letter grading.


175. Introduction to Indian Philosophy. (4) (Formerly numbered Indic 175.) Lecture, three hours. Survey of main trends in Indian philosophy from ancient to modern times.

South Asian Lower Division Courses

40A-40B-40C. Introductory Hindi. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 40A-40B-40C.) Lecture, two hours; discussion, three hours. Course 40A is enforced requisite to 40B, which is enforced requisite to 40C. Coverage of basic Hindi grammar, with equal emphasis on reading, writing, conversation, and comprehension. P/NP or letter grading.
185. Women and Gender in Ancient India. (4) (Formerly numbered Indic 185.) Lecture, three hours. Knowledge of Indic languages not required. Examination of position and function of women in ancient India, primarily through study of key religious and legal texts. Topics include women's life cycle, relation to social institutions, and challenges to these ideals, especially in narrative literature. P/NP or letter grading.

Graduate Courses

M222A-M222B, Vedic. (4-4) (Formerly numbered Indic M222A-M222B.) (Same as Iranian M222A-M222B.) Lecture, three hours. Preparation: knowledge of Sanskrit equivalent to course 110C. Characteristics of Vedic dialects and readings in Rig-Vedic hymns. Only course M222B may be repeated for credit.

230. Selected Readings in Sanskrit Texts. (4) (Formerly numbered Indic 230.) Lecture, three hours. May be repeated for credit with consent of instructor. S/U or letter grading.


236A. Pali; 236B. Prakrits

243. Translation Workshop: Premodern Sanskrit, Pali, and/or Prakrit Texts. (2) (Formerly numbered Indic 243.) Seminar, two hours. Requisite: course 110C. Translation, grammatical analysis, and discussion of selections from premodern Sanskrit, Pali, and/or Prakrit texts. S/U or letter grading.

Southeast Asian Lower Division Courses


30. Religious Traditions in Southeast Asia. (4) (Formerly numbered South and Southeast Asian Languages and Cultures 30.) Lecture, three hours. Introduction to historical development and contemporary practice of religious beliefs in Southeast Asia. Examination of indigenous religious beliefs and major textual or based religions introduced to the region, including Hinduism, Buddhism, Islam, and Christianity. P/NP or letter grading.

50A-50B-50C. Introductory Vietnamese. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 50A-50B-50C.) Lecture, two hours; discussion, three hours. Course 50A is enforced requisite to 50B, which is enforced requisite to 50C. Coverage of basic Vietnamese grammar, with equal emphasis on reading, writing, conversation, and comprehension. P/NP or letter grading.

50D-50E-50F. Introductory Vietnamese for Heri- tage Learners. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 50D-50E-50F.) Lecture, two hours; discussion, three hours. Course 50D or Vietnamese placement test is enforced requisite to 50E; course 50E or Vietnamese placement test is enforced requisite to 50F. Not open to students who have learned Vietnamese from another source, enough Vietnamese to qualify for more advanced courses. Designed for Vietnamese-heritage learners who have some knowledge of Vietnamese and have had no formal instruction in the language. Emphasis on spelling, basic grammar, reading, writing, daily conversation, and polite forms. P/NP or letter grading.

51A-51B-51C. Intermediate Vietnamese. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 51A-51B-51C.) Lecture, two hours; discussion, three hours. Enforced requisite: course 50C. Course 51A is enforced requisite to 51B, which is enforced requisite to 51C. Reinforcement of basic Vietnamese grammar and coverage of more advanced topics. Broadening of skills in conversation and composition; reading of selected texts. P/NP or letter grading.

60A-60B-60C. Introductory Thai. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 60A-60B-60C.) Lecture, two hours; discussion, three hours. Course 60A is enforced requisite to 60B, which is enforced requisite to 60C. Coverage of basic Thai grammar, with equal emphasis on reading, writing, conversation, and comprehension. P/NP or letter grading.

60R. Reading and Writing Thai Scripts. (5) (Formerly numbered South and Southeast Asian Languages and Cultures 60R.) Lecture, five hours. Recommended preparation: speaking and listening skills in Thai and Thai placement test. Training in reading and writing at introductory level. Completion of course 60R is equivalent to completion of one year of college-level Thai. P/NP or letter grading.

61A-61B-61C. Intermediate Thai. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 61A-61B-61C.) Lecture, two hours; discussion, three hours. Enforced requisite: course 60C. Course 61A is enforced requisite to 61B, which is enforced requisite to 61C. Reinforcement of basic Thai grammar and coverage of more advanced topics. Broadening of skills in conversation and composition; reading of selected texts. P/NP or letter grading.

70A-70B-70C. Introductory Filipino/Tagalog. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 70A-70B-70C.) Lecture, two hours; discussion, three hours. Course 70A is enforced requisite to 70B, which is enforced requisite to 70C. Coverage of basic Filipino/Tagalog grammar, with equal emphasis on reading, writing, conversation, and comprehension. P/NP or letter grading.

71A-71B-71C. Intermediate Filipino/Tagalog. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 71A-71B-71C.) Lecture, two hours; discussion, three hours. Enforced requisite: course 70C. Course 71A is enforced requisite to 71B, which is enforced requisite to 71C. Reinforcement of basic Filipino/Tagalog grammar and coverage of more advanced topics. Broadening of skills in conversation and composition; reading of selected texts. P/NP or letter grading.

80A-80B-80C. Introductory Indonesian. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 80A-80B-80C.) Lecture, two hours; discussion, three hours. Course 80A is enforced requisite to 80B, which is enforced requisite to 80C. Not open to students who have learned enough Indonesian to qualify for more advanced courses. Coverage of basic Indonesian grammar, with equal emphasis on reading, writing, listening, and speaking skills. P/NP or letter grading.

81A-81B-81C. Intermediate Indonesian. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 81A-81B-81C.) Lecture, five hours. Enforced requisite: course 80C. Course 81A is enforced requisite to 81B, which is enforced requisite to 81C. Designed to expand language skills acquired in introductory courses and to equip students with greater command of cultural competence in Indonesian. P/NP or letter grading.

90. Modern Literatures in Southeast Asia. (4) (Formerly numbered South and Southeast Asian Languages and Cultures 90.) Lecture, three hours. Knowledge of Southeast Asian languages not required. Exploration of diversity of Southeast Asia in such areas as traditional culture, modernization, politics, and literature through modern literary texts. P/NP or letter grading.

Upper Division Courses

120. Field Methods in Asian Languages and Cultures. (3) (Formerly numbered South and Southeast Asian Languages and Cultures 120.) Discussion, three hours. Recommended preparation: at least one year of one Asian language. Examination and application of methodologies to better understand language and culture acquisition by working directly with a native speaker of an Asian language. One language per term to be selected from languages spoken in Southeast Asia, South Asia, and East Asia. May be repeated for credit. P/NP or letter grading.

130. Topics in Southeast Asian Literature. (4) (Formerly numbered South and Southeast Asian Languages and Cultures M130.) Lecture, three hours. Requisite: one course from Comparative Literature 1A, 1B, 1C, 1D, 2AW, 2BW, 2CW, or English Composition 1A. Knowledge of Southeast Asian languages not required. Advanced exploration of Southeast Asia through in-depth reading of texts from the region. Topics include censorship, politics, language, and literature. P/NP or letter grading.

135. Religion and Society in Southeast Asia. (4) (Formerly numbered South and Southeast Asian Languages and Cultures and M135.) Lecture, three hours; discussion, one hour. Critical issues related to major religious traditions in Southeast Asia, with emphasis on reading and reflecting on recent scholarship regarding complex interactions between religion, state, and society in contemporary Southeast Asia. P/NP or letter grading.

152A-152B-152C. Advanced Vietnamese. (4-4-4) (Formerly numbered South and Southeast Asian Languages and Cultures 152A-152B-152C.) Lecture, three hours. Enforced requisite: course 51C or Vietnamese placement test. Designed to strengthen and build on language skills previously acquired at beginning and intermediate levels. Content-based readings and discussion, with various aspects of Vietnamese, particularly its culture. Readings include both authentic original works and simplified texts. Each course may be taken independently for credit. P/NP or letter grading.

155. Topics in Vietnamese Cinema and/or Litera- ture. (4) (Formerly numbered South and Southeast Asian Languages and Cultures 155.) Lecture, three hours. Knowledge of Vietnamese not required. Critical and historical examination of literary and/or filmic representations connected to social practices such as empire, nation, diaspora, and globalization. Original language course materials available for interested students. P/NP or letter grading.

155FL. Readings in Vietnamese. (2) Seminar, two hours. Requisite: course 50C. Enforced requisite: course 155. Additional work in Vietnamese to aug- ment work assigned in course 155, including reading, writing, and other exercises in Vietnamese. P/NP or letter grading.

Asian Languages and Cultures / 187
156A. Vietnam: History and Civilization to 1858. (4) (Formerly numbered South and Southeast Asian Languages and Cultures 156A.) Lecture, three hours; discussion, one hour. Recommended preparation: at least one Asian history course. Exploration of Vietnamese society and culture from origins to the early 19th century, with emphasis on examination of ways in which interactions between indigenous and Chinese/ Southeast Asian political and cultural forces helped shape religious, literary, and social traditions. P/NP or letter grading.

156B. Vietnam: History and Civilization, 1858 to the Present. (4) (Formerly numbered South and Southeast Asian Languages and Cultures 156B.) Lecture, three hours; discussion, one hour. Recommended preparation: at least one Asian history or civilization course. Exploration of Vietnamese history and civilization during colonial and postcolonial eras, with emphasis on profound changes that swept through Vietnamese society during period of extended political and military conflict. P/NP or letter grading.

157. Gender Issues in Southeast Asia. (4) (Formerly numbered South and Southeast Asian Languages and Cultures 157.) Seminar, three hours. Critical examination of gender issues in one or more Southeast Asian countries as they connect to social historical contexts nationally, regionally, or globally. May be repeated for credit. P/NP or letter grading.

162A-162B-162C. Advanced Thai. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 162A-162B-162C.) Lecture, two hours; discussion, three hours. Requisite: course 61C. Course 162A is requisite to 162B, which is requisite to 162C. Reinforcement of basic grammar and vocabulary acquired at beginning and intermediate levels. Coverage of more advanced topics on various aspects of Thai society. Broadening of skills in conversation and composition. Reading of selected texts and authentic materials. P/NP or letter grading.

170A-170B-170C. Topics in Southeast Asian Studies. (4-4-4) (Formerly numbered South and Southeast Asian Languages and Cultures 170A-170B-170C.) Lecture, three hours. Exploration of Southeast Asian culture through in-depth reading of texts and/or visual documents. Topics include literature, religion, folklore, cultural history, and society. P/NP or letter grading.

172A. Advanced Filipino/Tagalog: Reading and Writing. (4) Lecture, three hours. Enforced requisite: course 71C or Filipino/Tagalog placement test. Designed to move students with intermediate level of proficiency toward greater proficiency and fluency in reading, writing, speaking, and listening in Filipino language. Coverage of skills in effective use of language: description, narration, exposition, and argumentation. How to analyze different elements of writing and reading of pieces from several genres of contemporary Filipino writing. P/NP or letter grading.


182A-182B-182C. Advanced Indonesian. (5-5-5) (Formerly numbered South and Southeast Asian Languages and Cultures 182A-182B-182C.) Lecture, five hours. Requisite: course 81C. Course 182A is requisite to 182B, which is requisite to 182C. Preparation for more advanced study of specialized academic subjects, including but not limited to social sciences and humanities. Students read authentic materials in Indonesian concerning various issues. P/NP or letter grading.

197. Individual Studies in Southeast Asian. (4) (Formerly numbered South and Southeast Asian Languages and Cultures 197.) Tutorial, to be arranged. Limited to juniors/seniors and graduate students who desire more advanced or specialized treatment of one language offered in program beyond introductory and intermediate courses currently offered. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required; see academic coordinator. P/NP or letter grading.

ASTRONOMY
See Physics and Astronomy

ATMOSPHERIC AND OCEANIC SCIENCES
College of Letters and Science

UCLA
7127 Math Sciences
Box 951565
Los Angeles, CA 90095-1565
(310) 825-1217
fax: (310) 206-5219
e-mail: deptinfo@atmos.ucla.edu
http://www.atmos.ucla.edu

James C. McWilliams, Ph.D., Chair
J. David Neelin, Ph.D., Vice Chair

Professors
Kuo-Nan Liou, Ph.D.
Lawrence R. Lyons, Ph.D.
James C. McWilliams, Ph.D. (Louis B. Slichter Professor of Geophysics and Planetary Physics)
Carlos R. Mechoso, Ph.D.
J. David Neelin, Ph.D.
Suzanne E. Paulson, Ph.D.
Bjorn B. Stevens, Ph.D.
Richard M. Thorne, Ph.D.
Richard P. Turco, Ph.D.
Yongkang Xue, Ph.D.

Professors Emeriti
Akio Arakawa, D.Sc.
James G. Eadinger, Ph.D.
Michael Ghil, Ph.D.
George L. Siscoe, Ph.D.
Michio Yanai, D.Sc.

Associate Professors
Robert G. Fovell, Ph.D.
Jochen P. Sutcliff, Ph.D.

Assistant Professors
Burkard G. Baschek, Ph.D.
Kristen L. Corbosiero, Ph.D.
Curtis A. Deutsch, Ph.D.
Alexander D. Hall, Ph.D.

Lecturer
Jeffrey K. Lew, Ph.D.

Adjunct Associate Professor
Nicolás Gruber, Ph.D.

Adjunct Assistant Professor
Annmarie Eldering, Ph.D.

Scope and Objectives
The atmospheric and oceanic sciences present a wide variety of problems of compelling scientific interest and increasing social concern. This is exemplified by efforts to improve air quality, dependencies caused by severe storms and floods, attempts to control or modify weather phenomena, problems of long-range weather forecasts, climate change, and predictions, and expanding scientific frontiers into our outer atmosphere and atmospheres of other planets.

The department offers a broad curriculum in dynamic and synoptic meteorology, atmospheric physics and chemistry, and upper atmosphere and space physics.

The Bachelor of Science degree qualifies students for entry-level technical positions or represents valuable background for training in other professions. Master of Science and Ph.D. degree holders work in universities, research centers, laboratories, and government services and, increasingly, in the rapidly burgeoning private sector.

Undergraduate Study

Atmospheric, Oceanic, and Environmental Sciences B.S.

Preparation for the Major

Required: Two courses from Atmospheric and Oceanic Sciences 1/1L, 2/2L, 3/3L; Chemistry and Biochemistry 14A and 14B, or 20A and 20B; Mathematics 3A, 3B, and 3C, or 31A, 31B, 32A, 32B, 32A, and 33B; Physics 1 or 1AH, 1B or 1BH, 1C or 1CH, 4AL, or 4BL, or 6A, 6B, and 6C; Program in Computing 10A.

Students interested in pursuing graduate studies in atmospheric and oceanic sciences or obtaining employment with the National Weather Service or other government agencies are strongly urged to select the Mathematics 31A through 32B sequence and the Physics 1 sequence.

Transfer Students

Transfer applicants to the Atmospheric, Oceanic, and Environmental Sciences major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one year of calculus, one year of calculus-based physics with laboratory, one general chemistry course with laboratory for majors, and one C++ programming course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Four courses from Atmospheric and Oceanic Sciences 101, 102, 103, 104, M105, three additional upper division atmospheric
sciences courses selected in consultation with the undergraduate advisers, and two upper division courses from a list of chemistry, mathematics, physics, and statistics courses selected in consultation with the undergraduate advisers.

Students preparing for graduate studies in atmospheric chemistry should take Chemistry and Biochemistry 20B, 103, Mathematics 115A, 136, Physics 131, 132; students preparing for graduate studies in upper atmosphere and space physics should take Mathematics 115A, Physics 110A, 110B, M122; students preparing for graduate studies in atmospheric dynamics and physics should take Mathematics 115A, Physics 110A, 110B, M122.

One course may be taken on a Passed/Not Passed basis; all other minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gradnet.ucla.edu/gasa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Atmospheric and Oceanic Sciences offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Atmospheric Sciences.

Atmospheric and Oceanic Sciences

Lower Division Courses

1. Climate Change: From Puzzles to Policy. (4) Lecture, three hours; discussion, one hour. Overview of fundamentals of Earth's climate, including greenhouse effect, water and chemical cycles, ocean acids, and characteristics of atmosphere, oceans, and land masses. Origins and evolution of atmospheres on planets. Climates on planets, conditions necessary for evolution of life, and its resulting effect on planetary environment. P/NP or letter grading.

2. Climate Change and Climate Modeling. (4) Lecture, three hours; discussion, one hour. Nature and causes of weather phenomena, including atmospheric circulation, clouds and storms, lightning and precipitation, fronts and cyclones, and tornadoes and hurricanes. Atmospheric radiation, global warming, and greenhouse effect. P/NP or letter grading.

3. Introduction to Atmospheric Environment Laboratory. (1) Laboratory, one hour. Enforced corequisite: course 2. Investigations and demonstrations supporting material in course 3, including causes of ozone hole and greenhouse warming. P/NP or letter grading.

4. Atmospheric and Oceanic Sciences Minor

The Atmospheric and Oceanic Sciences minor provides a formal vehicle for students specializing in other science fields to pursue interests in the atmospheric and oceanic environment. It is designed to be flexible, recognizing that many topics in this field cross traditional disciplinary boundaries.

To enter the minor, students must have an overall grade-point average of 2.0 or better and must make an appointment with a departmental undergraduate adviser for approval in selecting a coordinated program of courses from within the department and related disciplines. For further information, contact the department at (310) 825-1217.

Required Courses (28 units): Seven 4-unit courses, including (1) three from Atmospheric and Oceanic Sciences 101, 102, 103, 104, C110, C115, M120, 125, M140, 145, C160, C165, C170, 180, CM185 and (2) four additional courses, two of which must be upper division, from any of the above atmospheric and oceanic sciences courses beyond the minimum three required or from Atmospheric and Oceanic Sciences 1, 2, 3, 190 (must be taken twice), Chemistry and Biochemistry 103, 110A, 110B, 113A, C113B, 114, Earth and Space Sciences 15, Ecology and Evolutionary Biology 109, C119, 122, 123, 147, 148, Mathematics 115A, 115B, 132, 135, 136, 146, 170A, 170B, Physics 110A, 110B, 12, M122, 131, 132, Statistics 110A, 110B. Other relevant courses from related disciplines may be substituted with prior approval of the department.

Groups of courses relevant to specific subareas of atmospheric sciences include (1) atmospheric chemistry: Atmospheric and Oceanic Sciences 104, M140, Chemistry and Biochemistry 103, 110A, 110B, C113B, 114; (2) atmospheric chemistry and biology: Atmospheric and Oceanic Sciences 101, 104, Ecology and Evolutionary Biology 109, C119, 122; (3) atmospheric dynamics: Atmospheric and Oceanic Sciences 101, 102, 125, Physics 112, 131, 132; (4) atmospheric dynamics and mathematical modeling: Atmospheric and Oceanic Sciences 101, 125, 180, Mathematics 115B, 132, 135, 136, 142, 146; (5) oceanography and biology: Atmospheric and Oceanic Sciences 101, 103, 104, Ecology and Evolutionary Biology 109, 123, 147, 148; (6) upper atmosphere: Atmospheric and Oceanic Sciences 101, M120, C170, Physics 110A, 110B, M122.

Atmospheric and Oceanic Sciences 101

Climate Change: From Puzzles to Policy. (4) Lecture, three hours; discussion, one hour. Overview of fundamentals of Earth's climate, including greenhouse effect, water and chemical cycles, ocean acids, and characteristics of atmosphere, oceans, and land masses. Origins and evolution of atmospheres on planets. Climates on planets, conditions necessary for evolution of life, and its resulting effect on planetary environment. P/NP or letter grading.

Atmospheric and Oceanic Sciences 102

Climates of Other Worlds. (4) Lecture, three hours; discussion, one hour. Introduction to atmospheres of planets and their satellites in solar system using information obtained during recent planetary exploration program. Elementary description of origin and evolution of atmospheres on planets. Climates of planets, conditions necessary for evolution of life, and its resulting effect on planetary environment. P/NP or letter grading.

Atmospheric and Oceanic Sciences 103

Graduate Degrees

The Department of Atmospheric and Oceanic Sciences offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Atmospheric Sciences.
145. Atmospheric Physics: Radiation, Clouds, and Aerosols. (4) (Formerly numbered C145.) Lecture, three hours; discussion, one hour. Requisite: Physics 1A, 1B, and 1C, or 6A, 6B, and 6C. Theory and application of atmospheric radiation, aerosol, and cloud processes. Topics include radiative transport, cloud and rain formation, aerosol properties, impact of aerosols and clouds on climate. Letter grading.

C160. Remote Sensing. (4) Lecture, three hours. Requisite: Physics 1C or 6B. Theory and techniques of remote sensing; atmospheric spectroscopy; methods of instrument engineering on- and extraterrestrial; passive and active techniques; inversion methods; remote sensing of terrestrial meteorological parameters and trace constituents; remote sensing of surfaces and biosphere; remote sensing of planetary atmospheres. Concurrently scheduled with course C240B. P/NP or letter grading.


CM185. Statistical Methods for Physical Sciences. (4) (Same as Statistics CM185.) Lecture, three hours. Designed for junior/senior departmental majors. Statistical framework for data analysis in atmospheric sciences, astronomy, geology, and chemistry, depending on class composition. Presentation of popular techniques in all fields, with emphasis on application to atmospheric sciences. Concurrently scheduled with course CM213. P/NP or letter grading.

186. Operational Meteorology. (2) (Formerly numbered CM190.) Laboratory, six hours. Requisite: course C110. Limited to junior/senior Atmospheric, Oceanic, and Environmental Sciences majors. Daily contact with weather data and forecasting, satellite and radar data. Introduction to weather forecasting for aviation, air pollution, marine weather, fire weather, and public use. Includes daily weather map discussions and visits to observing, radiosonde, and radar installations. Letter grading.

197. Individual Studies in Atmospheric and Oceanic Sciences. (2 to 4) (Formerly numbered Atmosphere 199.) Tutorial, to be arranged. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

199. Directed Research in Atmospheric and Oceanic Sciences. (1 to 4) Limited to juniors/seniors and required for Mathematics/Aerospace and Environmental Sciences majors. Supervised individual research or investigation under guidance of a faculty member. Culminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses


200B. Introduction to Dynamics of Earth System. (4) Lecture, three hours. Overview of general circulation of atmosphere and ocean; global energy balances; coupled circulations (such as el niño); mesoscale, synoptic, and tropical phenomena; boundary layers, clouds, and convection; biogeochemical cycles; climate variability and change. Letter grading.


M203A. Introduction to Atmospheric Chemistry. (4) (Same as Civil Engineering M262A.) Lecture, three hours. Requisite for undergraduates: Chemistry 20B. Principles of chemical kinetics, thermodynamics, spectroscopy, and photochemistry; chemical composition and history of Earth's atmosphere; biogeochemical cycles of key atmospheric constituents; basic photochemistry of troposphere and stratosphere, upper atmosphere chemical processes; air pollution; chemistry and climate. S/U or letter grading.

M203B. Microphysics of Clouds, Precipitation, and Aerosols. (4) (Formerly numbered C203B.) Lecture, three hours; discussion, one hour. Theoretical foundation combined with application and observation data. Topics include cloud formation and structure; condensation processes; thermodynamic equilibrium; nucleation; aerosol processes — formation, diffusion, sedimentation, condensation; precipitation; and thunderstorms. Letter grading.

205B. Introduction to Solar-Terrestrial Physics. (4) Lecture, three hours; discussion, one hour. Solar, interplanetary, magnetospheric, ionospheric, auroral, geomagnetic phenomenological and theoretical background for studies in space physics. Contextual understanding and literacy in space physics terminology provided. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

205C. Planetary Upper Atmospheres. (4) Lecture, three hours; discussion, one hour. A review of the atmospheres of Earth and other planets and some of their satellites — thermospheric structure and morphology, circulations, and disturbances; ionospheres as collisional and magnetized (un)magnetized plasma; currents, drifts, and instabilities. Examples of upper atmosphere interaction with lower atmosphere and magnetosphere. S/U grading for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department.

Dynamic and Synoptic Meteorology


211. Planetary Wave Dynamics and Teleconnections in Atmosphere/Ocean. (4) Lecture, three hours. Requisite: course 201B. Dynamics of stationary and low-frequency waves in Earth's atmosphere and ocean with applications to remote impacts of climate variability to the climate variability of baroclinic Rossby waves in spatially varying flow. Interactions with storm tracks and mean flow. Teleconnection patterns. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

212A. Numerical Methods in Geophysical Fluid Dynamics. (4) Lecture, three hours. Requisite or corequisite: course C201A. Basic numerical methods for initial-boundary value problems in fluid dynamics, with emphasis on applications to atmospheric and oceanographic processes. Finite-difference and spectral methods, and truncation error. Linear and nonlinear computational instability. Computational modes and computational boundary conditions. Nonlinear shallow-water and primitive-equation models. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.


CM213. Statistical Methods for Physical Sciences. (4) (Same as Statistics CM252L.) Lecture, three hours. Designed for graduate astronomy, atmospheric sciences, chemistry, and geology students. Statistical framework for data analysis in fields of atmospheric sciences, astronomy, geology, and chemistry, depending on class composition. Presentation of popular techniques in all fields, with emphasis on applications to data analysis in fields of atmospheric sciences, chemistry, and geology. Depending on class composition. Presentation of popular techniques in all fields, with emphasis on applications to data analysis in fields of atmospheric sciences, astronomy, geology, and chemistry, depending on class composition.

214. Theoretical Climatic Dynamics. (4) Lecture, three hours. Radiative transfer and energy-balance models (EBMs). Multiple equilibrium climates and their stability. Coupled EBMs of the atmosphere and oceans. Climatic history of our planet. Continuum mechanics of ice sheets and mantle. Oscillatory models of Quaternary glaciations and other transitions from equilibrium to periodic and aperiodic climate behavior. Climatic predictability. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

215. Ocean Circulation. (4) Lecture, three hours. Requisites: courses C200A, C201A. Phenomena, theory, and modeling of oceanic circulations with global to regional scope. Circulation patterns include thermohaline and wind-driven currents. Examination of relations between ocean circulations and smaller-scale motions, atmospheric climate, and biological oceanographic transport. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

216A. Tropical Motions with Moist Processes. (4) Lecture, three hours. Requisite: course 201C. Cumulus convection and the boundary layer in the tropics. Cloud clusters and mesoscale convection systems. Interaction of cumulus convection with large-scale environment. Tropical cyclones. Monsoon meteorology. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.


218. Dynamics of the Atmosphere/Ocean System. (4) Lecture, three hours. Requisites: courses 216A, 217A. Dynamics of the atmosphere and ocean, the general circulation of the atmosphere and ocean, and their interactions. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.


224A. Atmospheric Turbulence. (4) Lecture, three hours. Kinematics of homogeneous and shear flow turbulence. Surface and planetary boundary layers, including heat transfer and turbulent convection. Survey of field and laboratory observations and their interpretation by theory. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

M224B. Atmospheric Diffusion and Air Pollution. (4) (Same as Civil Engineering M224B.) Lecture, three hours. Nature and sources of atmospheric pollution; diffusion from point, line, and area sources; pollution dispersion in urban complexes; meteorological factors and air pollution potential; meteorological aspects of air pollution. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

C227. Advanced Dynamic and Synoptic Meteorology. (6) Laboratory, six hours. Requisite: course 101. Weather map analysis, thermodynamic diagrams, satellite interpretation, severe weather forecasting, isentropic analysis, frontogenesis, quasi-strophic omega equation. Concurrently scheduled with course C110. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

C228. Mesometeorology. (4) Lecture, three hours. Requisite: course 101. Observations of phenomena with length scales ranging from 20 km to 2,000 km. Topics include polar lows, airarm stormstorms, multicell storms, supercell tornadoes, gust fronts, downbursts, microbursts, and foehn; discussions on design of field project. Concurrently scheduled with course C115. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.
229. Mesoscale Modeling. (4) Lecture, three hours. Requisites: courses 201C, 228B. Numerical and analytical modeling of atmospheric motions, from shallow heat sources to large complex systems. Model frameworks, assumptions, parameterizations, and solution techniques. Role of modeling efforts in understanding dynamic structure and behavior of systems. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

**Atmospheric Physics and Chemistry**

230A. Atmospheric Chemistry I. (4) Lecture, three hours. Requisite: course M203A. Photochemistry of troposphere; physical chemistry of surfaces and solutions; precipitation chemistry and acid rain; atmospheric organic chemistry; regional and global biogeochemical cycles; current issues in global change. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

230B. Atmospheric Chemistry II. (4) Lecture, three hours. Requisite: course M203A. Photochemistry of stratosphere and mesosphere; basic ionospheric processes; stratospheric pollution and the ozone layer; physical chemistry of upper atmosphere clouds and aerosols; chemistry of planetary atmospheres; observational techniques and results. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

232. Chemical Transport Modeling. (4) Lecture, three hours. Requisites: courses M203A, 230A, 230B. Equations of tracer transport and chemical kinematics modeling in three dimensions; numerical techniques; coupled simulations of gas-phase and aerosol microphysics and chemistry; computational versus observational results; current problems in tracer modeling. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

234A. Cloud and Precipitation Physics I. (4) Lecture, three hours. Requisite: course C203B. Microstructure of atmospheric clouds; structure of the three phases of water substance, including surface effects; thermodynamic theory for equilibrium between the three phases of water substance, including surface effects; theory of homogeneous and heterogeneous nucleation of water drops and ice crystals. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

234B. Cloud and Precipitation Physics II. (4) Lecture, three hours. Requisite: course 234A. Theory of growth and evaporation of water drops and ice crystals by diffusion of water vapor; hydrometries of rigid bodies in a viscous medium; hydrometries of cloud drops, rain drops, and atmospheric ice particles; growth of cloud drops and atmospheric ice particles by collision. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

M235. Ocean Biogeochemical Dynamics and Climate. (4) (Same as Ecology and Evolutionary Biology M238.) Lecture, three hours. Interaction of ocean biogeochemical cycles with climate system. Biogeochemical processes controlling carbon dioxide and oxygen in oceans and atmosphere over timescales from a few million years to a few years. Anthropogenic perturbation of global carbon cycle and climate. Response of ocean ecosystems to past and future global changes. Use of isotoles to study ocean biogeochemical cycles and climate. Interactions between biogeochemical cycles on land and in ocean. S/U or letter grading.

240A. Radar Meteorology. (4) Lecture, three hours. Radar detection of spherical and nonspherical particles; use of radar in studying size distributions of cloud and precipitation particles, precipitation intensities, and updraft velocities, horizontal wind speed, and turbulence; radar observations of convective clouds, thunderstorms, tornadoes, hurricanes, squalls, and clear air echoes. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

240B. Remote Sensing. (4) Lecture, three hours. Requisites: Physics 1C or 6B, Theory and techniques of remote sensing; atmospheric spectroscopy; methods based on satellite and aircraft platforms; airborne and space-based platforms. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

244A. Methods of Radiative Transfer. (4) Lecture, three hours. Requisite: course C203C. Presentation of computational methods for solar and thermal infrared radiative fluxes and temperatures; radiative transfer in clear, aerosol, and cloudy atmospheres for climate studies. Topics include line-by-line and correlated k-distribution methods for treating gaseous absorption, simplified methods for radiative transfer in Rayleigh and Lorenz and Me atmospheres, and global radiative equilibrium. Use of user-friendly computer code required to perform calculations of radiative fluxes and heating rates in various atmospheric conditions for climate applications. S/U or letter grading.


**Upper Atmosphere and Space Physics**

250A. Solar System Magnetohydrodynamics. (4) Lecture, three hours. Requisite: course C205A. Dynamic interaction of MHD equation with the flow aspects, generalized Ohm’s law, small amplitude waves, discontinuities, shock waves, and instabilities. Applications to stastics and dynamics of solar wind and magnetospheres and to solar wind/magnetosphere/ionosphere coupling. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

250B. Solar System Microscopic Plasma Processes. (4) Lecture, three hours. Requisite: course C205A. Adiabatic charged particle dynamics; incoherent radiation processes; collective effects in a plasma; propagation characteristics of electrostatic and electromagnetic waves; introduction to resonant interaction between charged particles and plasma waves. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

256. Ionospheric Electrodynamics. (4) Lecture, three hours. Ionospheric electrodynamics; concept of ionospheric electric fields; equatorial and high-latitude ionospheres; ionospheric control of magnetospheric phenomena. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

257. Radiation Belt Plasma Physics. (4) Lecture, three hours. Requisite: course 250B. Turbulent plasma instabilities and their relation to satellite observations and magnetospheric structure. Processes responsible for source, loss, and transport of energetic radiation belt particles. S/U (for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.


**Special Studies**

270. Seminar: Atmospheric Sciences. (2 to 4 each) Seminar in research specialty of faculty member teaching course. May be repeated for credit. S/U or letter grading.

271. Seminar: Atmospheric Dynamics. (2) Seminar, one hour. May be repeated for credit. S/U or letter grading.


273. Seminar: Atmospheric Physics. (2) Seminar, one hour. May be repeated for credit. S/U or letter grading.

274. Seminar: Atmospheric Chemistry. (2) Seminar, one hour. May be repeated for credit. S/U or letter grading.

275A-M275B-M275C. Seminars: Space Physics. (2-2-2) (Same as Earth and Space Sciences M286A-M286B-M286C.) Seminar, one hour. Programs of current interest concerning particles and fields in space. May be repeated for credit. S/U grading.

276. Seminar: Mesoscale Processes. (2) Seminar, one hour. Selected topics of current research interest in convection, extratropical cyclones, and fronts. May be repeated for credit. S/U or letter grading.

281. Special Topics in Dynamic Meteorology. (2 to 4) Individual meetings with instructor to be arranged. Content varies from year to year. S/U grading.

283. Special Topics in Atmospheric Physics. (2 to 4) Individual meetings with instructor to be arranged. May be repeated for credit. S/U or letter grading.

284. Special Topics in Atmospheric Chemistry. (2 to 4) Individual meetings with instructor to be arranged. May be repeated for credit. S/U or letter grading.

285. Special Topics in Solar Planetary Relations. (2 to 4) Individual meetings with instructor to be arranged. Selected topics of current research interest in solar wind, magnetospheric, or ionospheric physics.

296A-296L. Advanced Topics in Atmospheric Sciences. (2 each) Discussion, two hours. Advanced study and analysis of current topics in atmospheric sciences. Discussion of current research and literature in research specialty of faculty member teaching course. May be repeated for credit. S/U grading.

296A. Numerical Modeling of the Atmosphere.

296B. Boundary Layers, Clouds, and Climate.
Scope and Objectives
Faculty members in the Department of Bioengineering believe that the interface between biology and the physical sciences represents an exciting area for science in the twenty-first century. Bioengineering has established itself as an independent field and engineering discipline, resulting in the formation of many new bioengineering departments and the redefinition of established programs. Faculty members have embraced this unique opportunity by developing an innovative curriculum, creating state-of-the-art facilities, and performing cutting-edge research.

Instead of treating bioengineering as an application of traditional engineering, it is taught as an applied science discipline in its own right. The bioengineering program is a structured compilation of unique forward-looking courses dedicated to producing graduates who are well-grounded in the fundamental sciences and highly proficient in rigorous analytical engineering tools necessary for lifelong success in the wide range of possible bioengineering careers. The program provides a unique engineering educational experience that responds to the growing needs and demands of bioengineering.

Department Mission
Bioengineering is a diverse multidisciplinary field that has established itself as an independent engineering discipline. The school is developing a small yet innovative Bioengineering Department that is dedicated to producing graduates who are well-grounded in fundamental sciences and the rigorous analytical engineering tools necessary for lifelong success in the many possible bioengineering careers.

Undergraduate Program Objectives
The goal of the bioengineering curriculum is to provide students with the fundamental scientific knowledge and engineering tools necessary for graduate study in engineering or scientific disciplines, continued education in health professional schools, or employment in industry. There are three main objectives: (1) to provide students with rigorous training in engineering and fundamental sciences, (2) to provide knowledge and experience in state-of-the-art research in bioengineering, and (3) to provide problem-solving and team-building skills to succeed in a career in bioengineering.

Undergraduate Study
Bioengineering B.S.
Preparation for the Major
Required: Bioengineering 10; Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30B, 30BL; Computer Science 31; Life Sciences 2 (satisfies HSSEAS GE life sciences requirement), 3, 4; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C, 4AL, 4BL.

The Major
Required: Bioengineering 100, 110, 120, 165, 176, 180, 180L, 181, 181L, 182A, 182B, 182C, Chemistry and Biochemistry 153A; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and two major field elective courses (8 units) from Biomedical Engineering C101, CM102, CM103, CM145, CM150, CM150L, C170, C171, CM180, C181, C185, CM186C.

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Bioengineering

Lower Division Course
10. Introduction to Bioengineering, (2) Lecture, two hours; outside study, four hours. Preparation: high school biology, chemistry, mathematics, physics. Introduction to scientific and technological bases for established and emerging subfields of bioengineering, including biosensors, bioinstrumentation, and biосignal processing, biomechanics, biomaterials, tissue engineering, biotechnology, biological imaging, biomedical optics and lasers, neuroengineering, and biomolecular machines. Letter grading.

Upper Division Courses
100. Bioengineering Fundamentals, (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites or corequisites: Electrical Engineering 1 or Physics 1C, and Mathematics 32B. Fundamental basis for analysis and design of biological and biomedical devices and systems. Classical and statistical thermodynamic analysis of biological systems. Material, energy, charge, and force balances. Introduction to network analysis. Letter grading.

110. Biotransport and Bioreaction Processes, (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites or corequisites: Electrical Engineering 1 or Physics 1C, and Mathematics 32B. Introduction to fluid flow, heat transfer, mass transfer, binding events, and biochemical reactions in systems of interest to bioengineers, including cells, tissues, organs, human body, extracorporeal devices, tissue engineering systems, and bioartificial organs. Introduction to pharmacokinetic analysis. Letter grading.


165. Bioethics and Regulatory Policies in Bioengineering, (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 180. As bridge connecting biomedicine with engineering professionals, bioengineers face ethical challenges of both kind and from those resulting from conflicts between motivation to use most promising technology and motivation to protect patients and research subjects. They also face ethical challenges in jurisprudence, not only in using patent law, but in testifying for court cases that require bioengineering input, and as teachers when they explain their professional activities to others. Introduction to scope of bioengineering profession ethics, with emphasis on medical, research, and engineering ethics due to case reports being plentiful in these areas. Letter grading.


180L. System Integration in Biology, Engineering, and Medicine I Laboratory. (3) Lecture, one hour; laboratory, four hours; clinical visits, three hours; outside study, one hour. Corequisite: course 180. Hands-on experimentation and clinical applications of selected medical therapeutic devices associated with cardiovascular and pulmonary disorders. Letter grading.

181. System Integration in Biology, Engineering, and Medicine II. (4) Lecture, three hours; discussion, two hours; outside study, seven hours. Requisite: course 180L. Corequisite: course 181L. Part II of two-part series. Molecular basis of normal physiology and pathophysiology of selected organ systems; engineering design principles of digestive and urinary systems. Fundamental engineering principles of selected medical therapeutic devices. Letter grading.

181L. System Integration in Biology, Engineering, and Medicine II Laboratory. (3) Lecture, one hour; laboratory, four hours; clinical visits, three hours; outside study, one hour. Corequisite: course 181. Hands-on experimentation and clinical applications of molecular basis of normal physiology and pathophysiology of selected organ systems; engineering design principles of digestive and urinary systems. Letter grading.

182A-182B-182C. Bioengineering Capstone Design I, II, III. (4-4-4) Lecture, two hours; laboratory, six hours; outside study, four hours. Lectures, design seminars, and discussions with faculty advisory panel. Working in teams, students complete a project that allows them to develop innovative solutions to problems of interest. Letter grading, 182A. Requisites: courses 3L (or Physics 4BL), 120. Development, writing, and oral defense of student design proposals. 182B. Requisite: course 182A. Exploring different experimental and computational methods. Ordering of specific materials and hardware that are relevant to student projects. 182C. Requisite: course 182B. Construction of student designs, project updates, presentation of final projects in written and oral format, and team competition.

188. Special Courses in Bioengineering. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Special topics in bioengineering for undergraduate students that are taught on experimental or temporary basis: chemistry, physics, biology, electrical engineering, etc. May be repeated for credit with topic or instructor change. Letter grading.

194. Research Group Seminars: Bioengineering. (4) Seminar, three hours. Limited to bioengineering undergraduate students who are part of research group. Study and analysis of current topics in bioengineering. Discussion of current research literature in research specialty of faculty member teaching course. Student presentation of projects in research specialty. May be repeated for credit. Letter grading.

199. Directed Research in Bioengineering. (2 to 8) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. May be repeated for credit with school approval. Individual contract required; enrollment petitions available in Office of Academic and Student Affairs. Letter grading.

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**BIOLOGICAL CHEMISTRY**

**David Geffen School of Medicine**

UCLA

33-257 Center for the Health Sciences

Los Angeles, CA 90095-1737

(310) 825-6545
fax: (310) 206-5272

http://www.biochem.ucla.edu

Michael Grunstein, Ph.D., Chair

John J. Colicelli, Ph.D., Vice Chair

Harvey R. Hershman, Ph.D., Vice Chair

Gregory S. Payne, Ph.D., Vice Chair

Professors

Utpal Banerjee, Ph.D.

Michael F. Carey, Ph.D.

John J. Colicelli, Ph.D.

Edward M. F. De Robertis, M.D., Ph.D. (Norman F. Sprague Professor of Molecular Oncology)

John Edmond, Ph.D.

Peter A. Edwards, Ph.D.

David S. Eisenberg, D.Phil.

Judith C. Gasson, Ph.D.

Michael Grunstein, Ph.D.

Harvey R. Hershman, Ph.D. (Crump Professor of Medical Engineering)

Bruce D. Howard, M.D.

Reid C. Johnson, Ph.D.

Joseph A. Loo, Ph.D.

Kevin McEntee, Ph.D.

Elizabeth F. Neufeld, Ph.D.

Gregory S. Payne, Ph.D.

Leonard H. Rubin, Ph.D.

Gabriel H. Travis, Ph.D.

Geraldine A. Weinmaster, Ph.D.

Steve Z. Ziskin, Ph.D.

Professors Emeriti

Robert J. DeLange, Ph.D.

Samuel Edidson, Ph.D.

Robert M. Fink, Ph.D.

Armand J. Fulco, Ph.D.

Dohn G. Glitz, Ph.D.

Joseph Rubenstein, Ph.D.

John G. Pierce, Ph.D.

Sidney Roberts, Ph.D.

Emil L. Smith, Ph.D.

Marian E. Swendseid, Ph.D.

Patrick A. Zaffaroni, Ph.D.

Patrice J. Zamenhof, Ph.D.

Associate Professors

Kelsey C. Martin, M.D., Ph.D. (Eleanor I. Leslie Professor of Innovative Brain Research)

Ke Shuai, Ph.D.

Alexander van der Bliek, Ph.D.

Assistant Professors

Alixon Frand, Ph.D.

Feng Guo, Ph.D.

Siavash K. Kurdistani, M.D.

Ralf Landgraf, Ph.D.

Timothy F. Lane, Ph.D.

Katherine Plath, Ph.D.

James A. Wohlschlegel, Ph.D.

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**Scope and Objectives**

The biological chemistry graduate program prepares students for careers as independent research scientists and scholars. Laboratory research is the central element. Biological chemistry has grown to include studies of cellular, molecular, and developmental biology, molecular genetics and genetic engineering, and many aspects of the health sciences. The research activities of the department include these areas as well as the “classic” topics of metabolism, enzymology, and biomolecular structure. Courses and seminar programs are designed to provide students with the necessary background and approach to encourage their continuing growth in these rapidly changing areas of science. Interaction with other graduate programs provides access to scientists in a variety of related disciplines. Through its primary affiliation with the David Geffen School of Medicine, the department is also involved in the basic education of students who will be physicians, dentists, and other health professionals. Many of these students become involved in laboratory research in the department. In part because of this breadth of experience students find careers in many aspects of basic and applied scientific research and education. The department emphasizes study for the Ph.D., but candidates for the M.S. degree may be accepted under special circumstances.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmqrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Biological Chemistry offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Biological Chemistry.
Biological Chemistry

Upper Division Courses

M140. Cell Biology: Cell Cycle. (5) (Same as Molecular, Cell, and Developmental Biology M140) Lecture, four hours; discussion, one hour. Requisites: Chemistry 1A, 1B, and 1BBL, or 20A, 20B, and 20L. Not open to credit for students with credit for Molecular, Cell, and Developmental Biology 165A and 165B. Satisfies premedical requirements. Eukaryotic cellular structures and biogenesis at molecular level. Biochemical and genetic analysis of cell cycle, signal transduction, and their involvement in development and cancer. Protein sorting and transport across cell membranes. Cytoskeletal components and cell-attachment. Letter grading.


CM178. Molecular Genetics. (4) (Same as Human Genetics CM178, Microbiology CM178, and Molecular, Cell, and Developmental Biology CM178.) Lecture, three hours; discussion, one hour (when scheduled). Requisite: course CM153G or Chemistry CM153G. Molecular genetics of four systems: bacteria, yeast, Drosophila, and mouse/humans. Concurrency required with course CM248. Letter grading.

191. Topics in Contemporary Biology. (2) (Formerly numbered 191.) Seminar, two hours. Designed for undergraduate students who are part of research group. Discussion of research methods and current literature in field of or research of faculty members. P/NP grading.

199. Directed Research or Senior Project in Biological Chemistry. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Cullminating paper required. Individual contract required. P/NP or letter grading.

Graduate Courses

204A-201B. Biological Chemistry. (5-5) Lecture, five hours. Preparation: organic chemistry. Open to nonmedical students with consent of instructor. Primarily for first-year medical students and runs throughout School of Medicine’s second semester. General biochemistry with emphasis on mammalian systems. Structure, function, and metabolism of major cellular components. To receive credit, both courses must be taken in same academic year. In Progress (204A) and S/U (201B) grading.

205. Biological Chemistry and Nutrition Laboratory. (1) Laboratory, four hours. Open to nonmedical students with consent of instructor. Experience in illumination and procedures in medically related biochemistry and nutrition, analysis of experimental results. S/U or letter grading.


220A-220B-220C. Research Laboratory Rotations. (2 to 8 each) Students arrange apprenticeships in laboratories of one or more departmental faculty members and engage in a research project under close faculty direction. Allows students to acquire in-depth laboratory experience in specific research areas and facilitates an informed decision on their part in selection of thesis/research advisor. S/U grading.

M223. Membrane Molecular Biology. (4) (Same as Physiology M223) Lecture, three hours; discussion, two hours. Requisite: course CM253A. Advanced course in molecular aspects of membrane physiology and biochemistry covering lipids and physical-chemical properties of biological membranes; membrane biogenesis and targeting of proteins to membranes; pumps, carriers, and channels; receptors and transmembrane signaling. S/U or letter grading.

M234. Genetic Control of Development. (4) (Same as Molecular, Cell, and Developmental Biology M234.) Topics at forefront of molecular developmental biology, including problems in oogenesis and early embryos genesis, pattern formation, axis determination, nervous system development, cellular morphogenesis, and cell-cell and cell-matrix interactions. S/U or letter grading.

M237. Cellular and Molecular Basis of Disease. (4) (Same as Pathology M237) Lecture, two hours; discussion, two hours. Preparation: one course each in molecular biology, cell biology, and biological chemistry. Discussion of key issues in disease mechanisms, with emphasis on experiments leading to understanding of these mechanisms. Identification of important questions still remaining unanswered. S/U or letter grading.


251A-251B-251C. Seminars: Transcriptional Regulation. (2-2-2) Advanced courses on mechanisms of gene transcription in both eukaryotes and prokaryotes intended for students actively working or highly interested in transcription. S/U grading.

252. Macromolecular Structure. (4) (Same as Chemistry CM252 and Human Genetics CM252.) Lecture, three hours; discussion, one hour. Requisites: Chemistry 110A, 153A, 153B, 153C. Chemical and physical properties of proteins and nucleic acids. Structure, cloning, and analysis of DNA; biosynthesis and processing of RNA; biosynthesis, purification, structure, and analysis of proteins; correlation of structure and biological properties. Concurrency scheduled with course CM153G. Letter grading.

M255. Biological Catalysis. (4) (Same as Chemistry CM255, Molecular, Cell, and Developmental Biology CM252, and Pharmacology CM252.) Requisites: Chemistry 110A, 153A, 153B, Life Sciences 3, Molecular, Cell, and Developmental Biology 100 or C139 or M140. Reaction mechanisms in molecular biology; experimental approaches for study of enzymes, including kinetics, isotopic labeling, stereochemistry, chemical modification, and spectroscopy; design of pharmacologically active agents and artificial enzymes. Drug metabolism and interactions addressed on a mechanistic level.

M263. Metabolism and Its Regulation. (4) (Same as Chemistry M263.) Lecture, three hours. Requisites: courses 201A and 201B, or Chemistry 153B, 153C, or 156, and 110A. Thermodynamic and kinetic aspects of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of comparative aspects of metabolism in relation to physiological function.

266A-266B-266C. Seminars: Molecular Embryology. (2-2-2) (Formerly numbered M266A-M266B-M266C.) Seminar, two hours. Advanced course in developmental genetics and biochemistry, with emphasis on early development. Intended mostly for students actively working or highly interested in embryology. S/U grading.


375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprentice positions under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

596. Directed Individual Study and Research. (2 to 12) Hours to be arranged. S/U grading.

597. Preparation for Examination. (2 to 4) Individual study for Ph.D. qualifying examinations or M.S. comprehensive examination. S/U grading.


The Department of Biomathematics welcomes both undergraduate and graduate students in other majors to its courses in modeling, biomedical computing, and statistics. Premedical majors with mathematical/computer interests can receive early guidance toward an M.D./Ph.D. program in Biomathematics. The department also provides statistical and biomathematical training in the medical curriculum and postgraduate medical programs.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and web-sites of the schools, departments, and programs.

Graduate Degrees
The Department of Biomathematics offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Biomathematics and the Master of Science (M.S.) degree in Clinical Research.

Biomathematics

Upper Division Courses

106. Introduction to Cellular Modeling. (4) Lecture, four hours; computer laboratory, two hours. Preparation: some computer programming. Required: Mathematics 32A. Designed for upper division science majors and biomedical graduate students. Introduction to modeling cells and cell systems, including intracellular biochemical networks, applications to cancer research. How to develop one’s own computer models using IMSL mathematics subroutines.

108. Introduction to Modeling in Neurobiology. (4) Lecture, four hours; computer laboratory, two hours. Preparation: some computer programming. Required: Mathematics 32A. Designed for upper division science majors and biomedical graduate students. Survey of wide variety of topics in neurobiological modeling, current neuronal modeling systems. Development of skills to formulate and program one’s own studies using IMSL mathematics subroutines. P/NP or letter grading.


110. Elements of Biomathematics. (4) Lecture, three hours; laboratory, three hours. Preparation: calculus. Analysis of deterministic models. Conditions under which deterministic and probabilistic descriptions of biological phenomena are appropriate. Both approaches are applied to selected examples in physiology and biology.

160. Introductory Biomathematics for Medical and Biological Research. (4) Lecture, four hours; discussion, 90 minutes. Elementary statistics course that focuses on statistical concepts and critiques the literature, with emphasis on clinical research. Output from statistical computer packages discussed in class, but students do not use the computer themselves. Topics include descriptive statistics, t-tests, confidence intervals, linear regression and correlation, analysis of variance, nonparametric statistics, basic experimental design, sample size determination, article interpretation.

170A. Computer-Based Introductory Biomathematics for Medical and Biological Experimenters. (4) Lecture, four hours; discussion, 90 minutes. Intensive elementary statistics course emphasizing design of experiments and analysis of data using statistical packages. Statistical topics similar to course 160 — descriptive statistics, t-tests, confidence intervals, linear regression and correlation, analysis of variance, nonparametric statistics, basic experimental design, sample size determination — but students also shown how to use the computer and run statistical software packages. Practical aspects of data collection and cleaning.

170B. Statistical and Mathematical Modeling in Medical and Biological Research. (4) Lecture, four hours; discussion, 90 minutes. Second course in biomathematical methods. Topics include randomization methods, intermediate experimental design, contingency table analysis, analysis of variance, multiple linear regression, nonlinear regression, methods of classification, model checking, basic mathematical models including compartment models, and statistical computer software. Students have opportunity to design their own experiments and analyze them on the computer, and to analyze previously collected data.

171. Applied Regression Analysis in Medical Sciences. (4) Lecture, three hours; laboratory, one hour. Requisite: course 170A. Proficiency in applied regression analysis, with focus on interpretation of results and performing computation. Primary topics include simple linear regression, multiple regression, regression model selection, analysis of variance, logistic regression, and survival analysis. Letter grade.

190HA-190HB. Honors Research in Biomathematics. (4-4) Limited to juniors/seniors. Individual research in some aspect of biomathematics designed to acquaint students in depth with mathematical models and computer applications in biology. Must be taken for at least two terms and for a total of at least 8 units. Thesis required.

197. Individual Studies in Biomathematics. (2 to 4) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. As signed reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Biomathematics. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Graduate Courses


201. Deterministic Models in Biology. (4) Preparation: knowledge of linear algebra and differential equations. Examination of conditions under which deterministic approaches can be employed and conditions where they may be expected to fail. Topics include compartmental analysis, enzyme kinetics, physiological control systems, and cellular/animal population models.
220. Modeling in Neurobiology for Biologists. (4) Lecture, four hours; laboratory, two hours. Preparation: lower division calculus, some elementary programming experience. Introduction to neuronal modeling, including how to formulate models and study them with existing computer software (e.g., NODUS) or one’s own simple programs that use IMSL subroutines. S/U or letter grading.


209A. Modeling in Neurobiology for Mathematicians. (4) Lecture, four hours; laboratory, one hour. Preparation: lower division calculus, some elementary programming experience. Introduction to neuronal modeling, including how to formulate models and study them with existing computer software (e.g., NODUS) or one’s own simple programs that use IMSL subroutines. S/U or letter grading.

208B. Modeling in Neurobiology for Biologists. (4) Lecture, four hours; laboratory, two hours. Preparation: lower division calculus, some elementary programming experience. Introduction to neuronal modeling, including how to formulate models and study them with existing computer software (e.g., NODUS) or one’s own simple programs that use IMSL subroutines. S/U or letter grading.

M232. Statistical Analysis of Incomplete Data. (4) (Same as Biostatistics M232.) Lecture, three hours; discussion, one hour. Requisites: Biostatistics 100B. Discussion of statistical analysis of incomplete data sets, with material from sample survey, econometric, biometric, psychometric, and general statistical literature. Topics include treatment of missing data in statistical packages, missing data in clinical trials, imputation, weighting, likelihood-based methods, and nonrandom nonresponse models. Emphasis on application of methods to current research, as well as on underlying theory. S/U or letter grading.

M234. Applied Bayesian Inference. (4) (Same as Biostatistics M234.) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisites: Biostatistics 115 (or Statistics 100C), 200A. Bayesian approach to statistical inference, with emphasis on biomedical applications and concepts rather than mathematical theory. Topics include large sample Bayes inference from likelihoods, noninformative and conjugate priors, empirical Bayes, Bayesian approaches to linear and nonlinear regression, model selection, Bayesian hypothesis testing, and numerical methods. S/U or letter grading.

M260A-M260B. Methodology in Clinical Research I, II. (4-4) (Same as Medicine M260A-M260B.) Lecture, four hours. Recommended preparation: M.D., Ph.D., or dental degree. Requisites: Biostatistics 10A, 110B or Statistics 100B. Statistical methods in clinical research, principles and practice of research on humans, combining of data from several studies, statistical aspects of the design and conduct of clinical trials, and evaluation of research. S/U or letter grading.

M260C. Methodology in Clinical Research III. (4) (Same as Medicine M260C.) Discussion, four hours. Recommended preparation: M.D., Ph.D., or dental degree. Requisites: Biostatistics 10A, 110B, or Statistics 100B. Statistical methods in clinical research, principles and practice of research on humans, combining of data from several studies, statistical aspects of the design and conduct of clinical trials, and evaluation of research. S/U or letter grading.

M261. Ethics in Patient-Oriented Research. (2) (Same as Medicine M261.) Lecture, two hours; discussion, two hours. Discussion of current issues in responsible conduct of clinical research, including reporting of research, basis for authorship, issues in genetic research, principles and practice of research on humans, conflicts of interest, Institutional Review Board (IRB), and related topics. S/U or letter grading.

M262. Communication of Science. (2) (Same as Psychology M262.) Lecture, two hours; discussion, one hour. Presentation of various types of scientific writings and their good practice. Details of writing specific articles: methods, results, discussion, Writing of review articles. Grant submission: aims, background, results, design, Role of appendices. Communication with lay public. S/U or letter grading.

M263. Clinical Pharmacology. (2) (Same as Medicine M263 and Psychiatry M263.) Lecture, two hours. Preparation: completion of professional health science degree (M.D., D.D.S., D.N.Sc., or Ph.D.). Overview of principles of clinical pharmacology, especially as they relate to clinical and translational medicine and to addiction in contemporary society, such as targeting, gene therapy, and genomics. Letter grading.
M264. Methodology of Clinical Trials. (4) (Same as Biostatistics M238.) Lecture, three hours; discussion, two hours. Requisites: course M261, Biostatistics 200A. Methodological principles of clinical trials, actual practice and principles of trials. Considerable focus on phase two trials and multiclinical phase three trials. Emphasis on major inferential issues. S/U or letter grading.

296A-296B. Advanced Topics in Clinical Pharmacology. (2-2) Lecture, one hour; discussion, one hour. Review of pharmacokinetics, drug metabolism and transport, assessment of drug effects, drug therapy in special populations, and contemporary drug development. S/U or letter grading.

299. Special Topics in Clinical Research. (2 to 4) Seminar, three hours. Requisites: courses M260A, M260B. Advanced study and analysis of current topics in clinical research. Discussion of current research and literature in research specialty of faculty member teaching course. Content varies from term to term and may include lectures from visiting scientists. May be repeated for credit with consent of instructor. S/U or letter grading.

596. Directed Individual Study or Research in Biostatistics. (2 to 12) Individual study on topics not yet covered by offerings of department. May be repeated for credit with consent of instructor. S/U or letter grading.

597. Preparation for M.S. or Ph.D. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 8) Individual study. S/U grading.


BIOMEDICAL ENGINEERING

Interdepartmental Program

Henry Samueli School of Engineering and Applied Science

UCLA
7523 Boelter Hall
Box 951600
Los Angeles, CA 90095-1600
(310) 794-5945
fax: (310) 794-5956
e-mail: bme@ee.ucla.edu
http://www.bme.ucla.edu

Timothy J. Deming, Ph.D., Chair

Faculty Advisory Committee

Timothy J. Deming, Ph.D. (Biomedical Engineering, Chemistry and Biochemistry)
Bruce S. Dunn, Ph.D. (Materials Science and Engineering)
Chih-Ming Ho, Ph.D. (Mechanical and Aerospace Engineering)
Hooshang Kangarloo, M.D. (Pediatrics, Radiological Sciences)
John D. Laverriere, Ph.D. (Materials Science and Engineering)
Ichiro Nishimura, D.D.S., D.M.Sc., D.M.D. (Dentistry)
James N. Weiss, M.D. (Cardiology)

Scope and Objectives

The Biomedical Engineering Interdepartmental Program trains specially qualified engineers and scientists to work on engineering applications in either medicine or biotechnology. Graduates apply engineering principles to current needs and contribute to future advances in the fields of medicine and biotechnology. Fostering careers in industry or academia, the program offers students the choice of an M.S. or Ph.D. degree in eight distinct fields of biomedical engineering. In addition to selected advanced engineering courses, students are required to take specially designed biomedical engineering courses to ensure a minimal knowledge of the appropriate biological sciences. Students receive practical training via an M.S. or Ph.D. research thesis or dissertation in biomedical engineering. Faculty members have principal appointments in departments across campus and have well-equipped laboratories for graduate student research projects.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmrqntro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Biomedical Engineering Program offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Biomedical Engineering.

Biomedical Engineering

Upper Division Courses

C101. Introduction to Biomedical Engineering. (4) Lecture, three hours; laboratory, three hours; outside study, six hours. Designed for physical sciences, life sciences, and engineering students. Introduction to wide scope of biomedical engineering via treatment of selected important individual topics by small team of specialists. Concurrently scheduled with course C201. Letter grading.

CM102. Basic Human Biology for Biomedical Engineers I. (4) (Same as Physiological Science CM102.) Lecture, three hours; laboratory, two hours. Preparation: human molecular biology, biochemistry, and cell biology. Not open for credit to Physiological Science majors. Broad overview of basic biological activities and organization of human body in system (organ/tissue) to system basis, with particular emphasis on molecular basis. Modeling/simulation of functional aspect of biological system included. Actual demonstration of biomedical instruments, as well as visits to biomedical facilities. Concurrently scheduled with course CM202. Letter grading.

CM140. Introduction to Biomechanics. [4] (Same as Mechanical and Aerospace Engineering CM140.) Lecture, four hours; discussion, two hours; outside study, six hours. Required: Mechanical and Aerospace Engineering 101, 102, 156A. Introduction to mechanical functions of human body; skeletal adaptation to optimize fluid transfer, mobility, and function. Dynamic and kinematic modeling. Fluid mechanics applications. Heat and mass transfer. Power generation. Laboratory simulations and tests. Concurrently scheduled with course CM240. Letter grading.

C141L. Biomechanics Laboratory. [4] Lecture, one hour; laboratory, three hours; outside study, eight hours. Required: course CM140 or Mechanical and Aerospace Engineering 156A. Hands-on laboratory pertaining to biomechanics and analysis of long bone specimens. Students, working in pairs, engage in all aspects of procedures. Fundamentals include design and fabrication of signal processing circuitry for use in data acquisition process, including bridge completion circuits, amplifiers, and passive filters; computerized data acquisition using Lab View and A/D input/output (I/O) board; strain measurements on metallic and bone specimens. Finite element analysis of structure under investigation; comparison of experimental, theoretical, and computational results. Concurrently scheduled with course C241L. Letter grading.

CM145. Molecular Biotechnology for Engineers. [4] (Same as Chemical Engineering CM145.) Lecture, four hours; discussion, one hour; outside study, eight hours. Selected topics in molecular biology that form foundation of biotechnology and biomedical industry today. Topics include recombinant DNA technology, molecular research tools, manipulation of gene expression, directed mutagenesis and protein engineering, DNA-based diagnostics and DNA microarrays, antibody and protein-based diagnostics, genomics and bioinformatics, isolation of human genes, gene therapy, and tissue engineering. Concurrently scheduled with course CM245. Letter grading.

CM150. Introduction to Micromachining and Microelectromechanical Systems (MEMS). [4] (Formerly numbered M150.) (Same as Electrical Engineering CM150 and Mechanical and Aerospace Engineering CM180.) Lecture, four hours; discussion, one hour; outside study, seven hours. Required: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4AL, 4BL. Corequisite: course CM150L. Introduction to micromachining technologies and microelectromechanical systems (MEMS). Methods of micromachining and how these methods can be used to produce variety of MEMS, microsensors, microactuators, and microcontrollers. Designing microfabrication processes capable of achieving desired MEMS device. Concurrently scheduled with course CM250A. Letter grading.

CM150L. Introduction to Micromachining and Microelectromechanical Systems (MEMS) Laboratory. (2) (Formerly numbered M150L.) (Same as Electrical Engineering CM150L and Mechanical and Aerospace Engineering CM180L.) Lecture, one hour; laboratory, four hours; outside study, one hour. Required: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4AL, 4BL. Corequisite: course CM150. Hands-on introduction to microtechnologies and microelectromechanical systems (MEMS) laboratory. Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructured microsensors and microactuators. Students go through process of fabricating MEMS device. Concurrently scheduled with course CM250L. Letter grading.


C170L. Introduction to Techniques in Studying Laser-Tissue Interaction in Laboratory. [4] Lecture, four hours; outside study, two hours. Corequisite: course C170. Introduction to simulation and experimental techniques used in studying laser-tissue interactions. Topics include simulation of light propagation in tissue, measuring absorption spectra of tissue/tissue phantoms, making tissue phantoms, determination of optical properties of different tissues, techniques of temperature distribution measurements. Concurrently scheduled with course C270L. Letter grading.


CM180. Introduction to Biomaterials. [4] (Same as Materials Science CM180.) Lecture, three hours; discussion, two hours; outside study, seven hours. Required: Chemistry 20A, 20B, and 20L, or Materials Science 104. Engineering materials used in medicine and dental repair for replacement and restoration of damaged or natural tissues. Topics include relationships between material properties, suitability to task, surface chemistries, processing and treatment methods, and biocompatibility. Concurrently scheduled with course CM280. Letter grading.


M186A. Introduction to Cybernetics, Biomodeling, and Biomedical Computing. (2) (Formerly numbered M186A.) (Same as Computational and Systems Biology M186A and Computer Science M186A.) Lecture, two hours; required: Mathematics 31A, 31B, Program in Computing 10A. Strongly recommended for students with potential interest in biomedical and bioengineering fields or in Computational and Systems Biology as a major. Introduction and survey of topics in cybernetics, biomodeling, bio-computing, and related biomodeling disciplines. Lectures presented by faculty currently performing research in one of the areas; some sessions include laboratory tours. P/NP grading.

CM186B. Computational Systems Biology: Modeling and Simulation of Biological Systems. [4] (Formerly numbered M186B.) (Same as Computational and Systems Biology M186B and Computer Science CM186B.) Lecture, four hours; laboratory, three hours. Corequisite: Electrical Engineering 102. Dynamic biosystems modeling and computer simulation methods for studying biological/biomedical processes and systems at multiple levels of organization. Control system, multicompartmental, predator-prey, pharmacokinetic (PK), pharmacodynamic (PD), and other structural modeling methods applied to life sciences problems at molecular, cellular (biochemical pathways/networks), organ, and organismic levels. Both theory- and data-driven modeling, with focus on translating biomodeling goals and data into mathematical models and implementing them for simulation and analysis. Basics of numerical simulation algorithms, with modeling software exercises in class and lab guidance.

C187. Applied Tissue Engineering: Clinical and Industrial Perspectives. [4] Lecture, three hours; discussion, two hours; outside study, seven hours. Required: course CM150. Chemistry 20A, 20B, 20L, Life Sciences 1 or 2. Overview of central topics of tissue engineering, with focus on how to build artificial tissues into regulated clinically viable products. Topics include biomaterials selection, cell source, delivery methods, FDA approval processes, and physical/chemical and biological testing. Case studies include skin and artificial skin, bone and cartilage, blood vessels, neurotissue engineering, and liver, kidney, and other organs. Clinical and industrial perspectives of tissue engineering products. Manufacturing constraints, clinical limitations, and regulatory challenges in design and development of tissue-engineering devices. Concurrently scheduled with course CM286C. Letter grading.

188. Special Courses in Biomedical Engineering. [4] (Formerly numbered M188B.) Lecture, four hours; outside study, eight hours. Special topics in biomedical engineering for graduate students that are taught on experimental or temporary basis, such as those taught by resident and visiting faculty members. Letter grading.

Graduate Courses

C201. Introduction to Biomedical Engineering. [4] Lecture, three hours; laboratory, three hours; outside study, six hours. Designed for physical sciences, life sciences, and biomedical engineering students. Introduction to wide scope of biomedical engineering via treatment of selected individual topics by small team of specialists. Concurrently scheduled with course C101. Letter grading.
CM202. Basic Human Biology for Biomedical Engineers I. (4) (Same as Physiology Science CM204.) Lecture, three hours; laboratory, two hours. Preparation: human molecular biology, biochemistry, and cell biology. Not open for credit to Physiological Science majors. Broad overview of basic biological activities and organization of human body in system (organisims) with particular emphasis on molecular basis. Modeling/simulation of functional aspect of biological system included. Actual demonstration of biomedical instruments, as well as visits to biomedical facilities. Concurrently scheduled with course CM102. Letter grading.


M215. Biochemical Reaction Engineering. (4) (Same as Chemical Engineering M215.) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite: Chemical Engineering 101C and 106, or Chemistry 156. Use of previously learned concepts of biophysical chemistry, thermodynamics, transport phenomena, and reaction kinetics to develop tools needed for technical design and economic analysis of biological reactors. Letter grading.

M217. Biomedical Imaging. (4) (Same as Electrical Engineering M217.) Lecture, three hours; laboratory, two hours; outside study, seven hours. Requisite: Electrical Engineering 114D or 211A. Mathematical principles of medical imaging modalities: X-ray, computed tomography, positron-emission tomography, single photon emission computed tomography, magnetic resonance imaging. Topics include basic principles of each imaging system, image reconstruction algorithms, system configurations and their effects on reconstruction algorithms, specialized imaging techniques for specific applications such as flow imaging. Letter grading.

220. Introduction to Medical Informatics. (2) Lecture, two hours; outside study, four hours. Designed for graduate students. Introduction to research topics and issues in medical informatics for students new to field. Definition of this emerging field of study, current research efforts, and future directions in research. Key issues in medical informatics to expose students to different application domains, such as information system architectures, data and process modeling, information extraction and representations, information retrieval and visualization, health services research, telemedicine. Emphasis on current research endeavors and applications. S/U grading.

221. Human Anatomy and Physiology for Medical Informatics. (4) Lecture, four hours; outside study, eight hours. Corequisite: course 222. Designed for graduate students. Introduction to basic human anatomy and physiology, with particular emphasis on visualizing anatomy and physiology from imaging perspective. Topics include chest, cardiac, neurology, gastrointestinal/genitourinary, and musculoskeletal systems. Examination of basic imaging physics (magnetic resonance, computed tomography, ultrasound, computed radiography) to provide context for imaging concepts. Presentation of imaging modalities predominantly used to view human anatomy. Geared toward nonphysicians who require more formal understanding of human anatomy/physiology. Letter grading.

222. Qualitative Rotation Medical Informatics. (2) Lecture, two hours; laboratory, four hours. Corequisite: course 221. Designed for graduate students. Clinical rotation through medical imaging modalities and cases focusing on application of medical practice today in clinical usage of imaging, including computed tomography, magnetic resonance, and other traditional forms of image acquisition. Designed to improve students’ understanding of applications of imaging and to reinforce human anatomy and physiology concepts from other courses. Four hours per week in clinical environments, offering different medical environments to gain appreciation of current practices, imaging, and information systems. Participation in clinical noon conferences to further broaden exposure and understanding of medical problems. S/U grading.

223A-223B-223C. Programming Laboratories for Medical Informatics I, II, III. (4-4-4) Lecture, two hours; laboratory, two hours. Designed for graduate students. Programming laboratories to support coursework in other medical informatics core curriculum courses. Exposure to programming concepts for medical applications, with focus on basic abstraction techniques commonly used in image processing and medical image formation systems and applications. Mathematical models of human speech production and perception mechanisms, speech analysis/synthesis. Techniques include linear prediction, filter-bank models, and homomorphic filtering. Applications to speech synthesis, automatic recognition, and hearing aids. Letter grading.

223A. Integrated with course 226 to reinforce concepts presented with practical experience. Projects focus on understanding medical networking issues and implementation of basic protocols for healthcare environment, with emphasis on use of DICOM. 223B. Requisite: course 223A. Integrated with course 224A and CM225. Facilitating sharing of imaging data for clinical and research purposes. Students work in teams with feedback from medical professionals. Letter grading.

223B. Programming Laboratories for Medical Informatics I, II, III. (4-4-4) Lecture, two hours; laboratory, two hours. Designed for graduate students. Programming laboratories to support coursework in other medical informatics core curriculum courses. Exposure to programming concepts for medical applications, with focus on basic abstraction techniques commonly used in image processing and medical image formation systems and applications. Mathematical models of human speech production and perception mechanisms, speech analysis/synthesis. Techniques include linear prediction, filter-bank models, and homomorphic filtering. Applications to speech synthesis, automatic recognition, and hearing aids. Letter grading.

223C. Integrated with course 226 to reinforce concepts presented with practical experience. Projects focus on medical image manipulation and decision support systems. 223C. Requisite: course 223B. Integrated with course 224B and CM225. Facilitating sharing of imaging data for clinical and research purposes. Students work in teams with feedback from medical professionals. Letter grading.

224A. Physics and Informatics of Medical Imaging. (4) Lecture, two hours; laboratory, eight hours. Requisites: Mathematics 33A, 33B. Designed for graduate students. Introduction to principles of medical imaging and imaging informatics for nonphysicists. Overview of core imaging modalities: computed radiography (CR), computed tomography (CT), magnetic resonance (MR), and ultrasound (US). Emphasis on physics of image formation and image reconstruction. Introduction to key professional data models, basic medical image processing, content-based image retrieval, PACS, and image data management. Current research efforts, with focus on clinical applications and new types of information available. Geared toward nonphysicists to provide basic understanding of issues related to basic medical image acquisition. Letter grading.

224B. Advanced Imaging for Informatics. (4) Lecture, four hours; outside study, eight hours. Requisite: course 224A. Additional modalities and current research in imaging. Topics include nuclear medicine, functional magnetic resonance imaging (fMRI), MR diffusion/perfusion, and optical imaging, with focus on image analysis and visualization tools. Basic physics principles behind these newer imaging concepts, with exposure to seminal works. Current research efforts, with focus on clinical applications and new types of information available. Geared toward nonphysicists to provide basic understanding of issues related to advanced medical imaging and current researc. Health informatics, with focus on basic medical image acquisition and to understand functionality of imaging databases and image models facilitating sharing of imaging data for clinical and research purposes. Letter grading.

M225. Bioseparations and Bioprocess Engineering. (4) (Same as Chemical Engineering CM225.) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: Chemical Engineering 101C and 103, or Chemistry 156. Separation strategies, unit operations, and economic factors used to design processes for isolating and purifying materials like whole cells, enzymes, food additives, or pharmaceuticals that are products of biological reactors. Letter grading.

226. Medical Knowledge Representation. (4) Seminar, four hours; outside study, eight hours. Designed for graduate students. Issues related to medical knowledge representation and its application in healthcare processes. Topics include data structures used for representing knowledge (conceptual graphs, frame-based models), different data models for representing spatio-temporal information, rule-based implementations, current statistical methods for discovery of knowledge (data mining, statistical classifiers, and hierarchical classification), and basic information retrieval. Review of work in constructing ontologies, with focus on problems in implementation and definition. Common medical ontologies, coding schemes, and standardized information models (SNOMED, UMLS, MSb, LOINC). Letter grading.

227. Medical Information Infrastructures and Internet Technologies. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Introduction to networking, communications, and information infrastructures in medical environment. Exposure to basic concepts related to networking at several levels: low-level (TCP/IP, services), medium-level (network topologies), and high-level (distributed computing, Web-based services) implementations. Commonly used medical communication protocols (HLD, DICOM, TCP/IP), medical information systems (HIS, RIS, PACS), Advances in networking, such as wireless, Internet2/igabit networks, peer-to-peer topologies. Introduction to security and encryption in networked environments. Letter grading.

228. Medical Decision Making. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Overview of issues related to medical decision making. Introduction to concept of evidence-based medicine and decision processes related to process of care and outcomes. Basic probability and statistics to understand research results and evaluations, and algorithmic methods for decision-making processes (Bayes theorem, decision trees). Study design, hypothesis testing, and estimation. Focus on technical advances in medical decision support systems and expert systems, with review of classic and current research. Introduction to common statistical and decision-making software packages to familiarize students with current tools. Letter grading.
230. Engineering Principles of Ultrasound. (4) Lecture, four hours; discussion, one hour; outside study, eight hours. Introduction to science and technology of acoustics in biological systems, starting with physical acoustics, acoustic wave (Helmholtz) equation, acoustic propagation and scattering in homogeneous and inhomogeneous media, and acoustical attenuation and absorption. Acoustic impedance, equivalent circuits, and network models. Electroacoustic transducers (piezoelectric and MEMS) structure, characteristics, operation, and application. Active and passive acoustic noise mechanisms. Receiving and processing of acoustic waves in presence of noise. Letter grading.

CM240. Introduction to Biomechanics. (Same as Mechanical and Aerospace Engineering CM2400.) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: Mechanical and Aerospace Engineering 101, 102, 156A. Introduction to mechanical functions of human body; skeletal adaptation to optimization of load transfer, mobility, and function. Dynamics and kinematics. Fluid mechanics applications. Heat and mass transfer. Power generation. Laboratory simulations and tests. Concurrently scheduled with course CM140. Letter grading.

C241L. Biomechanics Laboratory. (4) Lecture, one hour; laboratory, three hours; outside study, eight hours. Requisite: course CM140 or Mechanical and Aerospace Engineering CM2400. Hands-on laboratory pertaining to mechanical testing and analysis of long bone specimens. Students, working in pairs, engage in all aspects of procedures. Fundamentals include design and fabrication of load testing circuits for use in data acquisition process, including bridge completion circuits, amplifiers, and passive filters; computerized data acquisition using Lab View and A/ D input/output; strain measurements on metallic and bone specimens. Finite element analysis of structure under investigation; comparison of experimental, theoretical, and computational results. Concurrently scheduled with course C141L. Letter grading.

CM254. Molecular Biotechnology for Engineers. (4) (Same as Chemical Engineering CM254.) Lecture, three hours; laboratory, one hour; outside study, eight hours. Selected topics in molecular biology that form foundation of biotechnology and biomedical industry today. Topics include recombinant DNA technology, molecular research tools, manipulation of gene expression, directed mutagenesis and protein engineering, DNA-based diagnostics and DNA microarrays, antibody and protein-based diagnostics, genomics and proteomics, isolation of human genes, gene therapy, and tissue engineering. Concurrently scheduled with course CM145. Letter grading.

CM248. Introduction to Biological Imaging. (4) (Same as Biomedical Physics M248 and Pharmacology M248.) Lecture, three hours; laboratory, one hour; outside study, seven hours. Exploration of role of biological imaging in modern biology and medicine, including imaging physics, instrumentation, image processing, and applications of imaging for a range of modalities. Practical experience provided through a series of imaging laboratories. Letter grading.

CM250A. Introduction to Micromachining and Microelectromechanical Systems (MEMS). (4) (Formerly numbered M250A.) (Same as Electrical Engineering CM250A and Mechanical and Aerospace Engineering CM280A.) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4A, 4B, 4L. Corequisite: course CM250L. Introduction to micro-machining technologies and microelectromechanical systems (MEMS). Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students design microfabrication processes capable of achieving desired MEMS device. Concurrently scheduled with course CM150. Letter grading.

CM250B. Microelectromechanical Systems (MEMS) Fabrication. (4) (Same as Electrical Engineering CM250B and Mechanical and Aerospace Engineering CM280B.) Lecture, four hours; discussion, two hours; outside study, eight hours. Enforced requisite: course CM150 or CM250A. Advanced discussion of micromachining processes used to construct MEMS. Coverage of many lithographic, deposition, and etching processes, as well as their combination in process integration. Materials issues such as chemical resistance, corrosion, mechanical properties, and residual/ intrinsic stress. Letter grading.

CM250L. Introduction to Micromachining and Microelectromechanical Systems (MEMS) Laboratory. (2) (Same as Electrical Engineering CM250L and Mechanical and Aerospace Engineering CM280L.) Lecture, one hour; laboratory, four hours; outside study, one hour. Requisites: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4A, 4B.L Corequisite: course CM250A. Hands-on introduction to micromachining technologies and microelectromechanical systems (MEMS) laboratory. Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students go through process of fabricating MEMS device. Concurrently scheduled with course CM150L. Letter grading.


CM252. Microelectromechanical Systems (MEMS) Device Physics and Design. (4) (Formerly numbered M252.) Lecture, four hours; discussion, one hour; outside study, eight hours. Introduction to MEMS design. Design methods, rule design, sensing and actuation mechanisms, microsensors, and microactuators. Designing MEMS to be produced with both foundry and non-foundry processes. Computer-aided design for MEMS. Design project required. Letter grading.


CM259H. Biomechanics of Traumatic Injury. (4) (Same as Environmental Health Sciences M259H.) Lecture, four hours; outside study, eight hours. Designed for graduate students. Introduction to applied biomechanics of accidental injury causation and prevention; discussion of mechanisms of injury that result in bone and soft tissue trauma; discussion of mechanisms of healing for effective rehabilitation after traumatic injury. Letter grading.

CM260. Neuroengineering. (4) (Same as Neuroscience M260.) Lecture, four hours; laboratory, three hours. Requisites: Mathematics 32A, Molecular, Cellular, and Developmental Biology 100, 171. Introduction to principles and technologies of neural recording and stimulation. Neurophysiology; clinical electrophysiology (EEG, evoked potentials, inverse problem, prepolar voltage recording), extracellular microelectrodes and recording (field potentials and single units), chronic recording with extracellular electrodes; electrical biocompatibility, bioimpedance and biocompatible survival; intracellular recording and glass pipettes electrodes, iontophoresis; imaging neural activity (Ca imaging, voltage-sensitive dyes), intrinsic optical imaging; MRI, fMRI. Letter grading.


CM263. Neuroanatomy: Structure and Function of Nervous System. (4) (Formerly numbered M263A-M263B.) (Same as Neuroscience M203.) Lecture, three hours; discussion/laboratory, three hours. Anatomy of central and peripheral nervous system at cellular histological and regional systems level, with emphasis on contemporary experimental approaches to understanding functional organization. Discussion of disconnections of circuitry and neurochemical anatomy of major brain regions. Consideration of representative vertebrate and invertebrate nervous systems. Letter grading.

C270. Energy-Tissue Interactions. (4) Lecture, three hours; outside study, nine hours. Requisites: Electrical Engineering 172, 175, Life Sciences 3, Physics 17. Introduction to therapeutic and diagnostic use of energy delivery devices in medical and dental applications, with emphasis on understanding fundamental mechanisms underlying various types of energy-tissue interactions. Concurrently scheduled with course C170. Letter grading.

C270L. Introduction to Techniques in Studying Laser-Tissue Interaction. (2) Laboratory, four hours; outside study, two hours. Corequisite: course C270. Introduction to computer simulation and experimental techniques used in studying laser-tissue interactions. Topics include computer simulations of light propagation in tissue, measuring absorption spectra of tissue/tissue samples, making, measuring, and interpreting optical properties of different tissues, temperatures of temperature distribution measurements. Concurrently scheduled with course C170L. Letter grading.


CM280. Introduction to Biomaterials. (4) (Same as Materials Science CM280.) Lecture, three hours; discussion, two hours; outside study, seven hours. Requisites: Chemistry 20A, 20L, or Materials Science 104. Introduction to biomaterials used in medicine and dentistry for repair and/or restoration of damaged natural tissues. Topics include relationships between material properties, suitability to task, surface chemistry, processing and treatment methods, and biocompatibility. Concurrently scheduled with course CM180. Letter grading.

282. Biomaterial Interfaces. (4) Lecture; four hours; laboratory; eight hours. Requisite: course CM180 or CM280. F. Nonbiodegradability and biocompatibility of biomaterials depend critically on their surface and interfacial properties. Discussion of morphology and composition of biomaterials and nanoscale, mesoscale, and macroscale techniques for characterizing structure and physical properties of biomaterials, and methods for analyzing and fabricating biomaterials with prescribed structure and properties in vitro and in vivo. Letter grading.

C285. Introduction to Tissue Engineering. (4) Lecture; three hours; outside study; nine hours. Requisites: course CM102 or CM202, Chemistry 20A, 20B, 20L. Tissue engineering applies principles of biology and physics sciences to design and develop biomaterials to regenerate tissues and organs. Guiding principles for proper selection of three basic components for tissue engineering: cells, scaffolds, and molecular signals. Concurrently scheduled with course C185. Letter grading.

CM286B. Computational Systems Biology: Modeling and Simulation of Biomedical Systems. (5) (Same as Computer Science CM286B.) Lecture, four hours; laboratory three hours. Requisites: course CM120 or Computer Engineering 102. Dynamic biosystems modeling and computer simulation methods for studying biological/medical processes and systems at multiple levels of organization, cellular, tissue, organ, and organ systems. Introduction to computer simulation methods and application of computer simulation tools to biomedical problems. Letter grading.

CM286C. Biomedical Research Communication Workshop. (2 to 4) (Formerly numbered CM286L.) (Same as Computer Science CM286C.) Lecture, one hour; discussion, two hours; laboratory, one hour; outside study, eight hours. Requisite: course CM286B. Closely directed, interactive, and real research experience in active quantitative systems biology research laboratory. Direction on how to focus on topics of current interest in scientific community, appropriate to student interests and capabilities. Letter grading.

C287. Applied Tissue Engineering: Clinical and Industrial Perspectives. (4) Lecture; three hours; discussion, two hours; outside study, seven hours. Requisites: course CM202, Chemistry 20A, 20B, 20L, Life Sciences 1 or 2. Overview of central topics of tissue engineering, with focus on how to build artificial tissues into regulated clinically viable products. Topics include biomaterials selection, cell source, delivery methods, FDA approval processes, and chemical and biological testing. Case studies include skin and articular cartilage, bone and cartilage, blood vessels, neocardiogenesis, and liver, kidney, and other organs. Clinical and industrial perspectives of tissue engineering products. Manufacturing constraints, clinical translation, and regulatory challenges in design and development of tissue-engineering devices. Concurrently scheduled with course C187. Letter grading.

295A-295Z Seminars: Research Topics in Biomedical Engineering and Bioengineering. (1 to 4) Seminar, one to four hours. Limited to biomedical engineering graduate students. Advanced study and analysis of current topics in bioengineering. Discussion of current research and literature in research specialty of faculty member teaching course. Student presentation of projects in research specialty. May be repeated for credit. S/U grading.

295A. Nanotechnology Research.

295B. Biomaterials and Tissue Engineering Research.

295C. Minimally Invasive and Laser Research.

295D. Hybrid Device Research.

295E. Molecular Cell Bioengineering Research.

295F. Biopolymer Materials and Chemistry.

M296A, M296B, M296C. Advanced Modeling Methodology for Dynamic Biomedical Systems. (4) (Same as Computer Science M296A and Medicine M270C.) Lecture, four hours; outside study, eight hours. Requisites: Electrical Engineering 141 or 142 or Mathematics 115A or Mechanical and Aerospace Engineering 171A. Development of dynamic systems modeling methodology for physiological, biomedical, pharmacological, and related systems. Control systems, multicompartamental, noncompartmental, and input/output models, linear and nonlinear. Emphasis on model applications, limitations, and relevance in biomedical sciences and other data environments. Problem solving in PC laboratory. Letter grading.

M296B. Optimal Parameter Estimation and Experiment Design for Biomedical Systems. (4) (Same as Computer Science M296B and Medicine M270D.) Lecture, four hours; outside study, eight hours. Requisite: course M296A or Biophysics 220. Estimation methodology and model parameter estimation for fitting dynamic system models to biomedical data. Model discrimination methods. Theory and algorithms for designing optimal experiments for developing and quantifying models, with special focus on optimal sampling schedule design for kinetic models. Exploration of PC software for model building and optimal experimental design via applications in physiology and pharmacology. Letter grading.


M296D. Introduction to Computational Cardiology. (4) (Same as Computer Science M296D.) Lecture, four hours; outside study, eight hours. Requisite: course CM186B. Introduction to mathematical modeling and computer simulation of cardiac electrophysiological process. Ionic models of action potential (AP). Theory of AP propagation in one-dimensional and two-dimensional cardiac tissue. Simulation on sequential and parallel supercomputers, with numerical algorithms, to optimize accuracy and provide computational stability. Letter grading.

298. Special Studies in Biomedical Engineering. (4) Lecture; four hours; outside study, eight hours. Study of selected topics in biomedical engineering taught by resident and visiting faculty members. Letter grading.

299. Seminar: Biomedical Engineering Topics. (2) Seminar, two hours; outside study, four hours. Designed for graduate biomedical engineering students. Seminar by leading academic and industrial biomedical engineers from UCLA, other universities, and biomedical engineering companies such as Baxter, Amgen, Medtronic, and Guidant on development and application of new technological advances in the discipline. Exploration of cutting-edge developments and challenges in wound healing models, stem cell biology, angiogenesis, signal transduction, gene therapy, cDNA microarray technology, bioartificial cultiva- tion, nano- and micro-hybrid devices, scaffold engineering, and bioinformatics. S/U grading.

375. Teaching Apprentice Practicum. (4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

596. Directed Individual or Tutorial Studies. (2 to 8) Tutorial, to be arranged. Limited to graduate biomedical engineering students. Petition forms to request enrollment may be obtained from program office. Supervised investigation of advanced technical problems. S/U grading.

597A. Preparation for M.S. Comprehensive Examination. (2 to 12) Tutorial, to be arranged. Limited to graduate biomedical engineering students. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations. (2 to 16) Tutorial, to be arranged. Limited to graduate biomedical engineering students. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination. (2 to 16) Tutorial, to be arranged. Limited to graduate biomedical engineering students. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research for and Preparation of M.S. Thesis. (2 to 12) Tutorial, to be arranged. Limited to graduate biomedical engineering students. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation. (2 to 16) Tutorial, to be arranged. Limited to graduate biomedical engineering students. Usually taken after students have been advanced to candidacy. S/U grading.

BIOMEDICAL PHYSICS

Interdepartmental Program
David Geffen School of Medicine

UCLA
1V-365 Center for the Health Sciences
Box 951721
Los Angeles, CA 90095-1721
(310) 825-7711
fax: (310) 825-7705
e-mail: biomedphysics@mednet.ucla.edu
http://www.bmp.ucla.edu

Michael McNitt-Gray, Ph.D., Chair

Faculty Advisory Committee
Magnus Dahlin, Ph.D. (Molecular and Medical Pharmacology)
Dieter R. Enzmann, M.D. (Radiological Sciences)
Steve P. Lee, M.D., Ph.D. (Radiation Oncology)
Michael McNitt-Gray, Ph.D. (Radiological Sciences)
Michael E. Phelps, Ph.D. (Molecular and Medical Pharmacology)

Scope and Objectives

The Biomedical Physics M.S./Ph.D. Program is an AAPM-accredited interdepartmental graduate program supported by the Departments of Molecular and Medical Pharmacology, Radiation Oncology, and Radiological Sciences. It offers training in four specialties: biological imaging, medical imaging, therapeutic medical physics, and radiation biology/experimental radiation therapy. Specialized facilities for training and research are available in the departmental clinical laboratories, the UCLA-DOE Labora-
Biomedical Physics / 203

200B. Nuclear Medicine Instrumentation. (4) Lecture, one hour; laboratory, three hours. Requisite: course 200A. Introduction to nuclear medicine instrumentation, including well and parallel hole collimators, probe and well scintillation detectors, scintillation cameras, and single photon and positron emission computed tomography.

201. Medical Radiation Accelerator Design. (4) Lecture, three hours. Requisite: course 216. Overview of physical principles involved in design of current particle accelerators (electron, proton, heavy particles) and analysis of characteristics of current accelerators and facility design.

202A-202B. Applications of Medical Physics to Clinical Problems. (4-4-4) Selected studies in clinical use of radioisotopes.

202A. Nuclear Medicine. (4) Requisite: course 200B.

202B. Diagnostic Radiology. (4) Requisites: courses 200A, 200B.

202C. Radiation Therapy. (4) Requisites: courses 203, 204, 208B, 221.


204. Introductory Radiation Biology. (4) Lecture, three hours; discussion, one hour. Production of X rays, basic interactions between X rays and matter, X-ray system components, physics principles of medical radiography, radiographic image quality, fluoroscopy, image intensifiers, special procedures, X-ray protection. Laboratory experiments illustrate basic theory.

205. Physics of Diagnostic Radiology. (4) Lecture, three hours; discussion, one hour. Production of X rays, basic interactions between X rays and matter, X-ray system components, physics principles of medical radiography, radiographic image quality, fluoroscopy, image intensifiers, special procedures, X-ray protection. Laboratory experiments illustrate basic theory.

206. Advanced Instrumentation. (4) Lecture, three hours; discussion, one hour. Requisite: course 205. Introduction to recent advances in digital diagnostic imaging systems, with topics centered on instrumentation including digital subtraction angiography (DSA) methods of producing two-dimensional images.


208A. Medical Physics Laboratory: Medical Imaging. (4) Discussion, two hours; laboratory, two hours. Requisite: course 205. Hands-on experience performing acceptance testing and quality control checks of imaging equipment such as fluoroscopy, digital subtraction angiography, mammography, ultrasound, magnetic resonance imaging, computed tomography, and computed radiography.

208B. Medical Physics Laboratory: Radiation Therapy. (4) Discussion, two hours; laboratory, four hours. Requisite: course 203. Hands-on experience calibrating treatment planning and radiation therapy equipment.

209. Digital Techniques in Radiological Sciences. (4) Lecture, three hours; discussion, one hour. Preparatory to radiology. One course in another computer language. Basic principles of digital technology used in radiological sciences. Concepts and experience necessary to undertake radiological research in a diverse computing environment. Discussion of relationship between computers and diagnostic equipment with regard to data acquisition, equipment interfacing, and data analysis. C language programmed taught.

210. Principles of Medical Image Processing. (4) Lecture, three hours; discussion, one hour. Requisite: course 209. Study of image representation, computational structures for imaging, linear systems theory, image enhancement and restoration, image compression, segmentation, and morphology. Special topics include visualization techniques, three-dimensional modeling, computer graphics, and neural net applications. Laboratory projects apply concepts developed in class. S/U or letter grading.

211. Medical Ultrasound. (4) Lecture, 90 minutes; laboratory, two hours. Preparation: one calculus course. Production of real-time ultrasound images, transmission modeling and detection. Depth and color flow imaging, biohazards of ultrasound, ultrasound phantom design, and ultrasound tissue characterization techniques. Laboratory included.

212. Biochemical Basis of Positron-Emission Tomography (PET). (4) Lecture, three hours; discussion, one hour. Introduction to biochemical processes and application of radiolabels to study metabolism noninvasively by positron-emission tomography (PET). Validation of kinetic models to derive quantitative information from PET. Introduction to clinical and experimental application of PET.

213. Quantitative Autoradiography. (4) Lecture, three hours; discussion, one hour. Preparation: one introductory calculus course. Application of quantitative autoradiography for estimating brain and heart functions. Topics include 2-deoxyglucose method for metabolic rate; iodotyrosine method for blood flow; amino acid method for protein synthesis; quantitative receptor autoradiography; neuroanatomy and neurophysiology of autoradiogram and PET scan interpretation.

214. Medical Image Processing Systems. (4) Lecture, three hours; discussion, one hour. Requisites: courses 209, 210. Advanced image processing and image analysis techniques applied to medical images. Discussion of approaches to computer-aided diagnosis and image quantitation, as well as application of pattern classification techniques (neural network and discriminant analysis). Examination of problems from several imaging modalities (CT, MR, CR, and mammography).

215. Breast Imaging Physics and Instrumentation. (4) Lecture, three hours; laboratory, two hours. Requisites: courses 205. Special requirements of mammography, design of dedicated mammography X-ray units from generators and tubes through screen/film cassette systems. Stereotactic biopsy units, cost/benefit controversy of screening mammography, digital mammography, computer-aided diagnosis of mammography, breast MRI, and breast ultrasound.


217. Statistics and Data Analysis in Biomedical Physics. (2) Lecture, two hours; laboratory, one hour. Requisites: Mathematics 32B, 33A, 33B, or Statistics 10. Introduction to computer-based statistical concepts, data analysis, and experimental design within biomedical physics research. Standard statistical packages and various statistical computing algorithms on relevant data sets within radiological sciences. Letter grading.

218. Radiologic Functional Anatomy. (2) Lecture, two hours. Introduction to human anatomy, cell biology, and physiology as visualized through microscopy, molecular imaging, radiography, CT, MRI, ultrasonography, PET, and SPECT. Letter grading.


220A-220D. Laboratory Rotations in Biomedical Physics. (2) Laboratory rotations to provide students with introduction to the field. One oral and one written presentation required. S/U grading.

220A. Biophysics. (2-2) Lecture, three hours; laboratory. Preparation: one introductory calculus course. Introduction to the physics of biomedical phenomena. Neurophysiology, bioenergetics, and general principles of biomedical instrument design.


220C. Radiation Biology and Experimental Radiation Therapy.
221. Applied Health Physics. (4) Lecture, three hours; discussion, one hour. Requisite: course 216. Basics of radiation safety as applied to medical applications. Introduction to all regulatory issues pertaining to medical uses of radioactivity. Letter grading.


223. Seminar: Radiation Biology. (4) Seminar, four hours. Exploration of physiologic and molecular mechanisms that impact on response of normal and malignant tissues to ionizing radiation, with particular emphasis on critical and high in-depth analysis of approaches through which such responses can be modified in therapeutic setting. Understanding of rationale for integrating biological information into process of treatment planning and delivery. S/U grading.

227. Human Disease: Current and Future Role of Biomedical Physics. (4) Lecture, three hours; discussion, one hour. Present and future roles of biomedical physics in diagnosis and treatment of human disease, with focus on interdisciplinary nature of this field. Exploration of two diseases in depth with detailed description of roles of physics-based diagnostic imaging and therapeutic options for each disease. Description of current and future technologies, as well as techniques that exploit interaction between diagnostic and therapy. Letter grading.

M230. Computed Tomography: Theory and Applications. (4) Same as Biomechanics M230.) Computed tomography is a three-dimensional imaging technique being widely used in radiology and is becoming an active research area in biomedicine. Basic principles of computed tomography (CT), various reconstruction algorithms, special characteristics of CT, physics in CT, and various biomedical applications.

M248. Introduction to Biological Imaging. (4) (Same as Biomedical Engineering M248 and Pharmacology M248.) Lecture, three hours; laboratory, one hour; outside study, seven hours. Exploration of role of biological imaging in modern biology and medicine, including imaging physics, instrumentation, image processing, and applications of imaging for a range of modalities. Practical experience provided through a series of imaging laboratories. Letter grading.

250A-250B-250C. Seminars: Biomedical Physics. (1-1-1) Joint critical study by students and instructors in fields of knowledge pertaining to biomedical physics. Periodic contributions by visiting scientists. Description of current and future technologies, as well as techniques that exploit interaction between diagnostic and therapy. Letter grading.

M256. Advanced Magnetic Resonance Imaging. (4) (Same as Neuroscience M267 and Psychiatry M266.) Lecture, four hours. Starting with basic principles, presentation of physical basis of magnetic resonance imaging (MRI), with emphasis on developing advanced applications in biomedical imaging, including both structural and functional studies. Instruction more intuitive than mathematical. Letter grading.


269. Seminar in Medical Imaging. (1) Continuous registration required of students in medical imaging specialty. Topics of current interest in medical imaging, with lecturers from the department, other universities, and private industry.

M285. Functional Neuroimaging: Techniques and Applications. (4) (Same as Psychiatry M285.) In-depth examination of activation imaging, including PET and MRI methods, data acquisition and analysis, experimental design, and results obtained thus far in human systems. Strong focus on understanding technologies, how to design activation imaging paradigms, and how to interpret results. Laboratory visits and design and implementation of a functional MRI experiment. S/U or letter grading.

M424. Functional Magnetic Resonance Imaging Journal Club. (2) (Same as Psychiatry M424.) Discussion, 90 minutes. Limited to 10 students. Current topics in functional neuroimaging, with emphasis on novel applications, analysis, and acquisition methods. Presentation and critique of student papers. Overall emphasis on magnetic resonance imaging. Example areas include tractography through diffusion tensor imaging, fMRI event-related experimental designs, parallel receiver MR imaging, integrated electrophysiological and image acquisition. S/U grading.

495. Special Studies in Biomedical Physics. (4) Seminar, two hours; laboratory, four hours. Teaching assistant in graduate laboratory courses under supervision of a faculty member. S/U grading.

596. Research in Biomedical Physics. (4 to 12) Directed individual study or research. Only one 596 course may be applied toward M.S. degree requirements. May be repeated for credit.

597. Preparation for Ph.D. Qualifying Examinations. (4) May not be applied toward M.S. degree requirements. May not be repeated. S/U grading.

598. Research for and Preparation of M.S. Thesis. (4 to 12) Two 596 courses (or 598 and 596 combined) may be applied toward M.S. degree requirements. May be repeated. S/U grading.


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**BIOMEDICAL RESEARCH**

**Interdisciplinary Minor of Letters and Science**

**UCLA**

2362 Life Sciences

Box 160606

Los Angeles, CA 90095-1606

(310) 267-5679

fax: (310) 267-2482

e-mail: iclark@ucla.edu

http://www.biomedresearchminor.ucla.edu

Utpal Banerjee, Ph.D., Chair

Faculty Advisory Committee

Utpal Banerjee, Ph.D. (Biological Chemistry, Molecular, Cell, and Developmental Biology) Michael F. Carey, Ph.D. (Biological Chemistry) Ellen M. Carpenter, Ph.D. (Psychiatry and Biobehavioral Sciences) John J. Colicelli, Ph.D. (Biological Chemistry) Albert J. Courey, Ph.D. (Chemistry and Biochemistry) Frank A. Laski, Ph.D. (Molecular, Cell, and Developmental Biology) Aldons J. Jusis, Ph.D. (Human Genetics, Medicine, Microbiology, Immunology, and Molecular Genetics) Kelsey C. Martin, M.D., Ph.D. (Biological Chemistry, Psychiatry and Biobehavioral Sciences) Jeffery F. Miller, Ph.D. (Microbiology, Immunology, and Molecular Genetics) Stephen T. Smale, Ph.D. (Microbiology, Immunology, and Molecular Genetics) Yi Sun, Ph.D. (Molecular and Medical Pharmacology, Psychiatry and Biobehavioral Sciences)

Hong Wu, M.D., Ph.D. (Molecular and Medical Pharmacology)

**Scope and Objectives**

The Biomedical Research minor is designed to incorporate research into undergraduate science education at UCLA. The minor is open to any UCLA student who meets the admission requirements and has the potential to satisfy the requirements. Students explore the scientific questions and experimental approaches of biomedical research. Faculty members and staff facilitate early placement of students into laboratories on campus for independent research. Students are trained to analyze research literature, present their research in oral and poster formats, and appreciate the ethical, historical, and philosophical issues facing biomedical research.

**Undergraduate Study**

**Biomedical Research Minor**

Admission to the Biomedical Research minor is competitive, and application follows completion of Life Sciences 5HA, 10H, Honors College 70A, or an approved alternative course. Applications must be submitted no later than the first quarter of the junior year. Students must be in good academic standing and demonstrate a genuine interest in research. All degree requirements, including the specific requirements for this minor, must be fulfilled within the unit maximum set forth by the College of Letters and Science.

**Required Lower Division Courses (9 units):**

- Life Sciences 5HB (or an approved alternative course) and Molecular, Cell, and Developmental Biology 60.

**Required Upper Division Courses (24 units):**

1. Sixteen units of approved laboratory research through either course 198 or 199 in students' home departments;
2. One history of science or philosophy of science course selected from History 179A, 179B, 180A, Neurobiology M168, M169, Philosophy 124, 125, 132, or 155; and (3) Life Sciences 193H and 194H, or the required journal club seminars (such as Biological Chemistry 191 and Chemistry and Biochemistry 193A) for students in the Howard Hughes Undergraduate Research Program, MARC, or UC LEADS.

Students are expected to file a senior research thesis after completion of their 16 research units and must participate in at least one conference in which they present their research. Up to 8 units of research may be applied toward departmental requirements for the major. The research project and thesis may be the same as those for departmental honors.

Transfer credit for any required course is subject to approval. Students with a grade of less than B (3.0) in any minor course or a cumulative grade-point average of less than 3.0 are subject to dismissal from the minor.
All minor courses must be taken for a letter grade. Successful completion of the minor is indicated on the transcript and diploma.

### Biostatistics

**School of Public Health**

UCLA  
51-254 Center for the Health Sciences  
Box 951772  
Los Angeles, CA 90095-1772  
(310) 825-5250  
fax: (310) 267-2113  
e-mail: biostat@ucla.edu  
http://www.biostat.ucla.edu

William G. Cumberland, Ph.D., Chair

**Professors**  
Abdelmonem A. Affifi, Ph.D.  
Thomas R. Belin, Ph.D.  
William G. Cumberland, Ph.D.  
Dorota M. Babrowska, Ph.D.  
Robert M. Elashoff, Ph.D.  
Gang Li, Ph.D.  
Janet S. Sinsheimer, Ph.D.  
Robert E. Weiss, Ph.D.  
Wen Kee Wong, Ph.D.

**Professors Emeriti**  
Nancy G. Berman, Ph.D.  
Potter C. Chang, Ph.D.  
Virginia A. Clark, Ph.D.  
Wilford J. Dixon, Ph.D.  
Frederick J. Dorey, Ph.D.  
Olive Jean Dunn, Ph.D.  
Donald Guthrie, Ph.D., in Residence  
Robert L. Jennrich, Ph.D.

**Associate Professor**  
Steve Horvath, Ph.D., Sc.D.

**Assistant Professors**  
W. John Boscardin, Ph.D., in Residence  
David A. Elashoff, Ph.D.  
Christina Ramirez Kitchen, Ph.D., in Residence  
Rajesh Nandy, Ph.D.  
Marc A. Suchard, Ph.D.  
Catherine A. Sugar, Ph.D., in Residence

**Lecturers**  
Jeffrey Gornbein, Dr.P.H.  
Jean L. Mickey, Ph.D., Emerita  
Fei’ Yu, Ph.D.

**Adjunct Professors**  
David W. Gjertson, Ph.D.  
Martin L. Lee, Ph.D.  
James W. Sayre, Dr.P.H.

**Adjunct Assistant Professor**  
Catherine M. Crespi, Ph.D.

### Scope and Objectives

In recent years biostatistics has become one of the most stimulating areas of applied statistics. The field encompasses the methodology and theory of statistics as applied to problems in the life and health sciences. Biostatisticians are trained in the skilled application of statistical methods to the solution of problems encountered in public health and medicine. They collaborate with scientists in nearly every area related to health and have made major contributions to our understanding of AIDS, cancer, genetics, bioinformatics, and immunology, as well as other areas. Further, biostatisticians spend a considerable amount of time developing and evaluating the statistical methodology used in those projects. The Department of Biostatistics offers M.S. and Ph.D. degrees in Biostatistics and, through the School of Public Health, the M.P.H. and Dr.P.H. degrees with a specialization in biostatistics (see Public Health Schoolwide Programs). All students receive a balanced education, blending theory and practice.

A degree in biostatistics prepares students for work in a wide variety of challenging positions in government, industry, and education. Graduates have found careers involving teaching, research, and consulting in such fields as medicine, public health, life sciences, survey research, and computer science. There has always been a strong demand for well-trained biostatisticians; graduates have had little difficulty finding employment well suited to their particular interests.

### Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

### Graduate Degrees

The Department of Biostatistics offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Biostatistics.

### Biostatistics

#### Upper Division Courses

100A. Introduction to Biostatistics. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Preparation: one biological or physical sciences course. Suitable for juniors/seniors. Students who have completed courses in statistics may enroll only with consent of instructor. Not open for credit to students with credit for course 110A. Introduction to methods of demographic analysis. Sampling situations, with special attention to those occurring in biological sciences. Topics include distributions, tests of hypotheses, estimation, types of error, significance and confidence levels, sample size. P/NP or letter grading.

100B. Introduction to Biostatistics. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisites: courses 100A and 100B, or 110A and 110B. Topics include elementary analysis of variance, simple linear regression; topics related to analysis of variance and experimental designs. P/NP or letter grading.

101A. Basic Biostatistics. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Prequisite: Mathematics 31B. Not open for credit to students with credit for course 100A. Basic concepts of statistical analysis applied to biological sciences. Topics include random variables, sampling distributions, parameter estimates, statistical inference. P/NP or letter grading.

110A. Basic Biostatistics. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisite: course 110A. Not open for credit to students with credit for course 100B. Topics include elementary analysis of variance, simple linear regression; topics related to analysis of variance and experimental designs. P/NP or letter grading.

110B. Basic Biostatistics. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisite: course 110A. Not open for credit to students with credit for course 100B. Topics include elementary analysis of variance, simple linear regression; topics related to analysis of variance and experimental designs. P/NP or letter grading.

115. Topics in Estimation. (4) Lecture, three hours; discussion, one hour. Requisites: Statistics 100A, 100B. Small and large sample properties of common estimation techniques arising in biostatistical applications. Letter grading.

197. Individual Studies in Biostatistics. (2 to 4) (Formerly numbered 197.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

### Graduate Courses

200A. Biostatistics. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisites: courses 100A and 100B, or 110A and 110B. Topics in methodology of applied statistics, such as design, analysis of variance, regression. S/U or letter grading.


201. Topics in Applied Regression. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisite: course 200A. Further studies in multiple linear regression, including applied multiple regression models, regression diagnostics and model assessment, factorial and repeated measure analysis of variance models, nonlinear regression, logistic regression, propensity scores, matching versus stratification, Poisson regression, and classification trees. Applications to biomedical and public health scientific problems. Letter grading.

202. Theory of Regression Analysis. (2) Lecture, two hours. Requisites: courses 110A, 110B. Corequisite: course 200A. Additional theoretical topics in regression analysis for students concurrently enrolled in course 200A. Topics include regression applications of matrix algebra, multivariate calculus, and statistical computing. Letter grading.

M206A-M206B-M206C. Statistics in Psychiatric and Biobehavioral Research. (2-2-2) (Same as Psychiatry M206A-M206B-M206C.) Seminar, 90 minutes. Requisite: course 100B. Designed for graduate students. Examples from psychiatric literature used to illustrate statistical ideas and analysis strategies. Topics include experimental designs, sample size calculations, parametric versus nonparametric tests, regression, ANOVA, factor analysis, defining composite variables, causal inference. Computer used to illustrate basic data analysis. S/U or letter grading.

M208. Introduction to Demographic Methods. (4) (Same as Community Health Sciences M208, Economics M208, and Sociology M213A.) Lecture, four hours. Preparation: one introductory statistics course. Introduction to methods of demographic analysis. Topics include demographic rates, standardization, decomposition of differences, life tables, survival analysis, cohort analysis, birth interval analysis, models of population growth, stable populations, population projection, and demographic data sources. Letter grading.
206 / Biostatistics

M209. Statistical Modeling in Epidemiology. (4) (Same as Epidemiology M212.) Lecture, four hours. Preparation: mathematical statistics. (Three terms recommended. Recommended: Epidemiology M204 or M211. Principles of modeling, including meanings of models, a priori model specification, translation of models into explicit population assumptions, model selection, model diagnostics, hierarchical (multilevel) modeling. S/U or letter grading.

M210. Statistical Methods for Categorical Data. (4) (Same as Biomathematics M231.) Lecture, three hours; discussion, one hour. Requisites: course 100B or 110B, Statistics 100B. Statistical techniques for analysis of categorical data; discussion and illustration of their applications and limitations. S/U or letter grading.

M211. Statistical Methods for Epidemiology. (4) (Same as Epidemiology M211 and Statistics M250.) Lecture, four hours. Preparation: two terms of statistics (such as courses 100A, 100B). Requisites: Epidemiology 200B, 200C. Concepts and methods tailored for analysis of epidemiologic data, with emphasis on tabular and graphical techniques. Expansion of topics introduced in Epidemiology 200B and 200C and introduction of new topics, including principles of epidemiologic analysis, trend analysis, smoothing and sensitivity analysis. S/U or letter grading.


213. Statistical Simulation Techniques. (4) Lecture, three hours; discussion, one hour. Requisites: course 110B, Statistics 100B. Techniques for simulating important statistical distributions, with applications in biostatistics. S/U or letter grading.


216. Introduction to Statistical Methods for Biological Assays. (4) Lecture, three hours. Requisite: course 110B. Topics include standard statistical procedures for estimation of relative potency, density of microorganisms, and detection of radioactive materials. Biostatistical methods used for these procedures, and statistical considerations for designing such assays. S/U or letter grading.


M220. Advanced Experimental Statistics. (4) (Same as Physiological Science M200.) Lecture, four hours. Introduction to statistics with focus on computer simulation instead of formulas. Bootstrap and Monte Carlo methods used to analyze physiological data. S/U or letter grading.

230. Statistical Graphics. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisites: courses 110A, 110B. Graphical data analysis emphasizes use of visual displays of quantitative data to gain insight into data structure by exploring patterns and relationships, and to enhance classical numerical analyses, especially assumption validity checking. Principles of graph construction, graphical methods, and perception issues. S/U or letter grading.


M232. Statistical Analysis of Incomplete Data. (4) (Same as Biomathematics M232.) Lecture, three hours; discussion, one hour. Requisite: Statistics 100B. Methods for analyzing data sets with missing data from sample survey, econometric, biometric, psychometric, and general statistical literature. Topics include treatment of missing data in statistical packages, missing data in ANOVA and regression imputation, weighting, likelihood-based methods, and nonrandom nonresponse models. Emphasis on application of practical problems as well as on underlying theory. S/U or letter grading.


M234. Applied Bayesian Inference. (4) (Same as Biomathematics M241.) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisites: courses 115 or Statistics 100C, 200A. Bayesian approach to statistical inference, with emphasis on bioinformatics and biostatistical problems rather than mathematical theory. Topics include large sample Bayes inference from likelihoods, noninformative and conjugate priors, empirical Bayes, Bayesian approaches to linear regression, maximum likelihood and Bayesian hypothesis testing, and numerical methods. S/U or letter grading.


M236. Analysis of Repeated Measures Designs. (4) (Same as Biomathematics M236.) Lecture, three hours; discussion, one hour. Requisites: courses 200A, 200B. Presentation of classical and modern theories for analysis of repeated measures designs, with focus on computation and robustness. S/U or letter grading.

M237. Applied Genetic Modeling. (4) (Same as Biomathematics M207B and Human Genetics M207A.) Lecture, three hours; discussion, one hour. Requisite: course 200A. Multiple allele models, multivariate models, competing risks. S/U or letter grading.


240. Master's Seminar and Research Resources for Graduating Biostatistics M.S. Students. (4) Seminar, three hours. Introduction to resources for finding statistical literature. Discussion of principles of making statistical presentations and how to write statistical reports, including writing abstracts and choice of key words. Discussion of journal article preparation and submission format and refereeing process to help students make progress on their master's reports. Letter grading.


250A-250B. Linear Statistical Models. (4-4) Lecture, three hours; discussion, one hour. Preparation: one upper division three-term theoretical statistics course. Topics include linear algebra applied to linear statistical models, distribution of quadratic forms, Gauss/Markov theorem, fixed and random component models, balanced and unbalanced designs. Letter grading.

251. Multivariate Biostatistics. (4) Lecture, three hours; discussion, one hour. Requisite: course 250A. Multivariate analysis as used in biological and medical situations. Topics include multiple equations, component analysis, factor analysis, discriminant analysis, MANOVA, MANCOVA, longitudinal models with random coefficients. S/U or letter grading.


272. Theoretical Genetic Modeling. (4) (Same as Biomathematics M207A and Human Genetics M207A.) Lecture, three hours; discussion, one hour. Requisites: Mathematics 115A, 131A, Statistics 100B. Mathematical models in statistical genetics. Topics include population genetics, genetic epidemiology, gene mapping, design of genetics experiments, DNA sequence analysis, and molecular phylogeny. S/U or letter grading.


276. Inferential Techniques that Use Simulation. (4) Lecture, three hours; discussion, one hour. Requisites: Statistics 200A, 200B. Recommended: Biostatistics 213. Theory and application of recently developed techniques for statistical inference that use computational simulation. Topics include bootstrapping, multiple imputation, data augmentation, stochastic relaxation, and sampling/importance resampling algorithms. S/U or letter grading.


278. Statistical Analysis of DNA Microarray Data. (4) (Formerly numbered 278.) (Same as Human Genetics M278.) Lecture, three hours. Requisites: course 200C. Instruction in statistical tools used to analyze microarray data. Structure corresponds to analytical protocol an investigator might follow when working with microarray data. S/U or letter grading.


285. Advanced Topics: Recent Developments. (4) Lecture, three hours; discussion, one hour. Advanced topics and developments in biostatistics not covered in Biostatistics M210 through 219 or 270 through 276 or in other courses. Possible topics include time-series analysis, classification procedures, correspondence analysis, etc. S/U or letter grading.


295. Application of Statistical Theories in Biomedical Research. (4) Lecture, three hours; discussion, one hour. Requisite: Statistics 100B. Review of statistical theories essential to biostatistics. Illustration of applications by examples. Topics include delta method, order statistics, asymptotic properties of MLEs, iterative algorithms for MLEs, generalized likelihood ratio tests for categorical data, and transformations. Letter grading.

296. Seminar: Research Topics in Biostatistics. (1 to 4) Seminar, two hours. Advanced study and analysis of current topics in biostatistics. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

400. Field Studies in Biostatistics. (2 or 4) Fieldwork, to be arranged. Field observation and studies in selected community organizations for health promotion or medical care. Students must file field placement and program training documentation on form available from Student Affairs Office. May not be applied toward M.S. minimum course requirement; 4 units may be applied toward 44-unit minimum total required for M.P.H. degree. Letter grading.

402A. Principles of Biostatistical Consulting. (2) Lecture, one hour; discussion, one hour. Requisite: course 100B. Special topics in applied statistics not covered in other courses. S/U or letter grading.

402B. Biostatistical Consulting. (4) Discussion, two hours; laboratory, two hours. Requisite: course 402A. Principles and practices of biostatistical consulting. May be repeated for credit. S/U grading.

403A. Computer Management of Health Data. (4) Lecture, three hours; laboratory, two hours. Preparation: one statistics course. Concepts of health data management, design and maintenance of large databases on various media as well as across networks; computer programming tools and techniques facilitating data entry, data transmission, data retrieval for statistical analyses, tabulation and report generation useful to biostatisticians, health planners, and other health professionals. Letter grading.

M403B. Computer Management and Analysis of Health Data Using SAS. (4) (Same as Epidemiology M403.) Lecture, two hours; laboratory, two hours. Requisites: courses 100A, 100B (100B may be taken concurrently). Practical issues in management and analysis of health data using SAS programming language. Cross-sectional and longitudinal population-based data sets to be used throughout to illustrate management and analysis addressing biomedical and health-related hypotheses. Letter grading.

406. Applied Multivariate Biostatistics. (4) Lecture, three hours; laboratory, one hour. Preparation: at least two upper division research courses. Requisite: course 100B. Use of multiple regression, principal components, factor analysis, discriminant function analysis, logistic regression, and canonical correlation in biomedical data analysis. S/U (only for nondivision majors) or letter grading.

409. Doctoral Statistical Consulting Seminar. (2) Seminar, one hour; laboratory, four hours. Designed for doctoral students. Development of expertise and experience in collaborating with faculty in Schools of Public Health and Medicine. Students meet with investigators and develop design and protocol for data analysis, implement data protocol when data is obtained, and write up the study with lead investigators. S/U grading.

410. Statistical Methods in Clinical Trials. (4) Lecture, three hours; discussion, two hours. Requisites: courses 100A, 100B. Design of studies in animals to assess antitumor response; randomization, historical controls, p-values, size of study, and stratification in human experimentation; various types of controls; prognostic factors, survivorship studies, and design of prognostic studies; organization of clinical trials; administration, comparability, protocols, clinical standards, data collection and management. S/U (optional only for nonmajors) or letter grading.


412. Statistical Methods for Case-Control Studies. (4) Lecture, three hours. Requisite: course 200A. Statistical designs, sampling statistics, and analytic models of case-control studies. Special topics such as exploratory analyses, multiplicity of analyses, cross-validation, small sample performances of variance estimators, measurement error in the covariates, and incomplete data. S/U or letter grading.

413. Introduction to Pharmaceutical Statistics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 100A, 100B. Exploration of various types of statistical techniques used in pharmaceutical and related industries. Topics include bioassay and other assay techniques (e.g., ELISAs and FACs analysis), quality control techniques, and pharmacokinetic and pharmacodynamic modeling. S/U or letter grading.

414. Principles of Sampling. (4) Formerly numbered 404.) Lecture, three hours; discussion, one hour. Requisite: course 100B. Epidemiology 100. Statistical aspects of design and implementation of sample survey. Techniques for analysis of data, including estimates and standard errors. Avoiding improper use of survey data. Letter grading.

419. Special Topics: Applied Statistics. (4) Lecture, three hours; discussion, one hour. Requisite: course 100B. Special topics in applied statistics not covered in other courses in professional series. S/U or letter grading.

420. Database Management Systems. (4) Lecture, three hours; laboratory, two hours. Requisite: course 403A. Database and database models applied to medical and public health studies; design of databases for efficient data retrieval and statistical analysis using package database management and statistical package programs. S/U or letter grading.

495. Teacher Preparation in Biostatistics. (2) Seminar, two hours. Preparation: 18 units of cognate courses in area of specialization. May not be applied toward master’s degree minimum total course requirement. May be repeated for credit. S/U grading.

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. No more than 8 units may be applied toward master’s degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

509. Directed Individual Study or Research. (2 to 12) Tutorial, to be arranged. Limited to graduate students. Individual guided studies under direct faculty supervision. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit. Letter grading.

509. Doctoral Dissertation Research. (2 to 12) Tutorial, to be arranged. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

### CHEMICAL AND BIOMOLECULAR ENGINEERING

**Henry Samueli School of Engineering and Applied Science**

UCLA
5531 Boelter Hall
Box 951592
Los Angeles, CA 90095-1592
(310) 825-2046
fax: (310) 206-4107
http://www.chemeng.ucla.edu

**Professors**

Jane P. Chang, Ph.D. (William Frederick Seyer Professor of Materials Electrochemistry)
Panagiotis Christofides, Ph.D.
Yoram Cohen, Ph.D.
James F. DAVIS, Ph.D.
Robert F. Hicks, Ph.D.
Louis J. Ignarro, Ph.D. (Nobel laureate, Jerome J. Beizer Professor of Medical Research)
James C. Liao, Ph.D.
Yunfeng Lu, Ph.D.
Vasilios I. Manousiouthakis, Ph.D., Chair
Yoram Cohen, Ph.D.
Harold G. Monbouquette, Ph.D.
Selim M. Semkan, Ph.D.

**Professors Emeriti**

Eldon L. Knuth, Ph.D.
Ken Nobe, Ph.D.
William D. Van Vorst, Ph.D.
A.R. Frank Wazzan, Ph.D., Dean Emeritus

**Assistant Professors**

Gerassimos Orkoulas, Ph.D.
Talatana Segura, Ph.D.
Yi Tang, Ph.D.

**Scope and Objectives**

The Department of Chemical and Biomolecular Engineering conducts undergraduate and graduate programs of teaching and research that focus on the areas of cellular/molecular bioengineering, systems engineering, and semicon-
ductor manufacturing and span the general themes of energy/environment and nanotechnology. Aside from the fundamentals of chemical engineering (applied mathematics, thermodynamics, transport phenomena, kinetics, reactor engineering and separations), particular emphasis is on metabolic engineering, protein engineering, systems biology, synthetic biology, bio-nano-technology, biomaterials, air pollution, water production and treatment, combustion, environmental multimedia modeling, pollution prevention, aerosol processes, combinatorial catalysis, molecular simulation, process modeling/simulation/control/optimization/integration/synthesis, membrane science, semiconductor processing, chemical vapor deposition, plasma processing and simulation, electrochemistry corrosion, polymer engineering, and hydrogen production.

Students are trained in the fundamental principles of these fields while learning a sensitivity to society’s needs — a crucial combination in addressing the question of how industry can grow and innovate in an era of economic, environmental, and energy constraints.

The undergraduate curriculum leads to a B.S. in Chemical Engineering, is accredited by ABET and AIChE, and includes the standard curriculum, as well as bioengineering, biomedical engineering, environmental, and semiconductor manufacturing options. The department also offers graduate courses and research leading to M.S. and Ph.D. degrees. Both graduate and undergraduate programs closely relate teaching and research to important industrial problems.

Undergraduate Mission and Program Objectives

The mission of the undergraduate program is to educate future leaders in chemical and biomolecular engineering who effectively combine their broad knowledge of mathematics, physics, chemistry, and biology with their engineering analysis and design skills for the creative solution of problems in chemical and biological technology and for the synthesis of innovative (bio)chemical processes and products. This goal is achieved by producing alumni who demonstrate (1) the ability to draw readily on a rigorous education in mathematics, physics, chemistry, and biology in addition to the fundamentals of chemical engineering to creatively solve problems in chemical and biological technology, (2) an understanding and sensitivity to social, ethical, environmental, and economic issues involving chemical engineering practice and an understanding of the role of chemical engineers in sustainable development, (3) successful participation in multidisciplinary teams assembled to tackle complex multifaceted problems that may require implementation of both experimental and computational approaches and a broad array of analytical tools, and (4) the ability to build on their undergraduate-level scientific knowledge and engineering skills through graduate study in the sciences and engineering and through success as professionals in diverse fields, including business, medicine, and environmental protection, as well as chemical and biomolecular engineering.

Undergraduate Study

Chemical Engineering B.S.

The ABET-accredited chemical engineering curriculum provides a high quality, professionally oriented education in modern chemical engineering. The bioengineering, biomedical engineering, environmental, and semiconductor manufacturing options exist as subsets of courses within the accredited curriculum. Balance is sought between science and engineering practice.

Chemical Engineering Option

Preparation for the Major

Required: Chemical Engineering 10; Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL, 30B; Computer Science 31; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C, 4AL, 4BL.

The Major

Required: Chemical Engineering 100, 101A, 101B, 101C, 102A, 102B, 103, 104A, 104B, 106, 107, 108A, 108B, 109, Chemistry and Biochemistry 113A, 153A; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and two elective courses (8 units) from Chemical Engineering 110, C111, C112, 113, C114, C115, C116, C118, C119, C125, C140.

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Biomedical Option

Preparation for the Major

Required: Chemical Engineering 10; Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL, 30B; Computer Science 31; Life Sciences 2, 3; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C, 4AL.

The Major

Required: Chemical Engineering 100, 101A, 101B, 101C, 102A, 102B, 103, 104A, 104B, 106, 107, 108A, 108B, 109, Chemistry and Biochemistry 113A, 153A; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and one biomedical elective course (4 units) from Chemical Engineering C115, C125, CM145 (another chemical engineering elective may be substituted for one of these with approval of the faculty adviser).

For information on University and general education requirements, see the College and Schools section earlier in this catalog.
ence and Engineering 104, 120, 121, 122, or 150 plus one elective course (4 units) from Electrical Engineering 2, 100, 121B, 123A, or 123B.

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Chemical and Biomolecular Engineering offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Chemical Engineering.

Chemical Engineering
Lower Division Courses
2. Technology and the Environment, (4) Lecture, four hours; outside study, eight hours. Natural and anthropogenic flows of materials at global and regional scales. Case studies of natural cycles include global warming (CO2 cycles), stratospheric ozone depletion (chlorine and ozone cycles), and global nitrogen cycles. Flow of materials in industrial economies compared and contrasted with natural flows; presentation of life-cycle methods for evaluating environmental impact of processes and products. P/NP or letter grading.

10. Introduction to Chemical and Biomolecular Engineering, (1) Lecture, one hour. General introduction to field of chemical and biomolecular engineering. Description of how chemical and biomolecular engineering analysis and design skills are applied for creative solution of current technological problems in production of microelectronic devices, design of chemical plants for minimum environmental impact, application of nanotechnology to chemical sensing, and genetic-level design of recombinant microbes for chemical synthesis. Letter grading.

Upper Division Courses
100. Fundamentals of Chemical and Biomolecular Engineering, (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: Chemistry 20B, 20L, Mathematics 32B (may be taken concurrently). Physics 1A. Introduction to analysis and design of industrial chemical processes. Material and energy balances. Introduction to programming in MATLAB. Letter grading.


101C. Mass Transfer, (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 100, 101B, 102B. Introduction to analysis of mass transfer in systems of interest to chemical engineering and practice. Fundamentals of mass transport, Fick’s law of diffusion, in chemical and biochemical processes. Letter grading.


103. Separation Processes, (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 100, 101B, 102B. Application of principles of heat, mass, and momentum transport to design and operation of separation processes such as distillation, gas absorption, filtration, and reverse osmosis. Letter grading.

104A. Chemical Engineering Laboratory I, (6) Lecture, two hours; laboratory, four hours; outside study, four hours; other, four hours. Requisites: courses 100, 101B, 102B. Measurements of temperature, pressure, flow rate, viscosity, and fluid composition in chemical processes. Methods of data acquisition, equipment selection and fabrication, and laboratory safety. Development of written and oral communication skills. Letter grading.

104AL. Chemical and Biomolecular Engineering Laboratory I, (3) Laboratory, six hours; outside study, three hours. Requisites: courses 100, 101B, 102B. Not open for credit to students with credit for course 104A. Measurements of temperature, pressure, flow rate, viscosity, and fluid composition in chemical processes. Methods of data acquisition, equipment selection and fabrication, and laboratory safety. Development of written and oral communication skills. Letter grading.

104B. Chemical and Biomolecular Engineering Laboratory II, (6) Lecture, two hours; laboratory, eight hours; outside study, four hours; other, four hours. Requisites: courses 101C, 103, 104A. Course consists of four experiments in chemical engineering unit operations, each of two weeks duration. Students present their results both written and orally. Written report includes sections on theory, experimental procedure, scaleup and process design, and error analysis. Letter grading.

104C. Semiconductor Processing, (3) Lecture, four hours; outside study, six hours. Requisites: courses 101C, 104A, Electrical Engineering 2, Materials Science 120. Corequisite: course 104CL. Basic engineering principles of semiconductor unit operations, including fabrication and characterization of semiconductor devices. Investigation of processing steps used to make CMOS devices, including wafer cleaning, oxidation, diffusion, lithography, chemical vapor deposition, plasma etching, and metallization. Letter grading.

104CL. Semiconductor Processing Laboratory, (3) Laboratory, four hours. Requisites: courses 101C, 104A, Electrical Engineering 2, Materials Science 120. Corequisite: course 104C. Series of experiments that emphasize basic engineering principles of semiconductor unit operations, including fabrication and characterization of semiconductor devices. Investigation of processing steps used to make CMOS devices, including wafer cleaning, oxidation, diffusion, lithography, chemical vapor deposition, plasma etching, and metallization. Letter grading.


106. Chemical Reaction Engineering, (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 100, 101C, 102B. Fundamentals of chemical kinetics and catalysis. Introduction to analysis and design of homogeneous and heterogeneous chemical reactions. Letter grading.


108A. Process Economics and Analysis, (4) Lecture, four hours; outside study, eight hours. Requisites: courses 103, 104B, 106. Integration of chemical engineering fundamentals such as transport phenomena, thermodynamics, separation operations, and reaction engineering and simple economic principles for purpose of designing chemical processes and evaluating alternatives. Letter grading.

108B. Chemical Process Computer-Aided Design and Analysis, (4) Lecture, four hours; outside study, eight hours. Requisites: courses 103, 106, 108A, and either Civil Engineering 15 or Mechanical and Aerospace Engineering 20. Introduction to application of some mathematical and computing methods to chemical engineering design problems; use of simulation programs as automated method of performing steady state material and energy balance calculations. Letter grading.
109. Numerical and Mathematical Methods in Chemical and Biological Engineering. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Preparation: basic knowledge of MATLAB programming. Numerical methods for computation of solution of systems or linear or nonlinear algebraic equations, ordinary differential equations, and partial equations. Topics in numerical methods and molecular engineering examples used throughout to illustrate application of these methods. Use of MATLAB as platform (programming environment) to write programs based on numerical methods to solve various problems arising in chemical engineering. Letter grading.

110. Intermediate Engineering Thermodynamics. (4) Lecture, four hours; discussion, one hour; outside study, eight hours. Requisites: courses 102A, 102B (or Materials Science 130). Fundamentals of cryogenics and cryoengineering science pertaining to industrial low-temperature processes. Basic approaches to analysis of cryogenic systems; low-temperature behavior of matter, optimization of cryosystems and other special conditions. Concurrently scheduled with course C211. Letter grading.

C111. Cryogenics and Low-Temperature Processes. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 102A, 102B (or Materials Science 130). Fundamentals of cryogenics and cryoengineering science pertaining to industrial low-temperature processes. Basic approaches to analysis of cryogenic systems; low-temperature behavior of matter, optimization of cryosystems and other special conditions. Concurrently scheduled with course C211. Letter grading.


113. Air Pollution Engineering. (4) Lecture, four hours; preparation, two hours; outside study, six hours. Requisites: courses 101C, 102B. Integrated approach to air pollution, including concentrations of atmospheric pollutants, air pollution standards, air pollution sources and control technology, and relationship of air quality to emission sources. Links air pollution to multimedia environmental assessment. Letter grading.

C114. Electrochemical Processes and Corrosion. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 102A, 102B (or Materials Science 130). Fundamentals of electrochemistry and engineering applications to industrial electrochemical processes and metallic corrosion. Primary emphasis on fundamental approach to analysis of electrochemical and corrosion processes. Specific topics include corrosion of metals and semiconductors, electrochemical metal and semiconductor surface finishing, passivity, electrodeposition, electrochemistry, electrosynthesis and cathodic protection. May be concurrently scheduled with course C214. Letter grading.

C115. Biochemical Reaction Engineering. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 101C and 106, or Chemistry 156. Use of previously learned concepts of biophysical chemistry, thermodynamics, transport phenomena, and reaction kinetics to develop tools needed for technical design and economic analysis of biological reactors. May be concurrently scheduled with course CM215. Letter grading.

C116. Surface and Interface Engineering. (4) Lecture, four hours; discussion, one hour; outside study, eight hours. Requisite: Chemistry 113A. Introduction to surfactants and interfacial phenomena, materials, particularly catalytic surface and thin films for solid-state electronic devices. Topics include classification of crystalline and amorphous materials, analysis of structure and composition of crystals and their surfaces and interfaces. Examination of engineering applications, including catalytic surfaces, interfaces in microelectronics, and solid-state electronic devices. Concurrently scheduled with course C216. Letter grading.

C118. Multimedia Environmental Assessment. (4) Lecture, four hours; preparation, two hours; outside study, six hours. Requisites: courses 101C, 102B. Pollutant (soil, noise, estimation, for design of systems and other special conditions. Concurrently scheduled with course C218. Letter grading.


C121. Membrane Science and Technology. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 101A, 101C, 103. Fundamentals of membrane science and technology, with emphasis on separations at micro, nano- and molecular/angstrom scale with membranes. Relationship between structure/morphology of dense and porous membranes and their separation character, etc. Primer on role of selective membranes and models of membrane transport (flux and selectivity). Examples provided from various fields/applications, including biotechnology, microelectronics, chemical processes, sensors, and biomedical devices. Concurrently scheduled with course C221. Letter grading.

C125. Bioseparations and Bioprocess Engineering. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 101C and 103, or Chemistry 156. Separation strategies, unit operations, and economic factors used to design processes for isolating and purifying materials at whole-cell, enzyme, food additives, or pharmaceuticals that are products of biological reactors. Concurrently scheduled with course CM225. Letter grading.

C135. Advanced Process Control. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Enforced requisite: course 107. Introduction to advanced process control. Topics include (1) Lyapunov stability for autonomous nonlinear systems including converse theorems, (2) input to state stability, interconnected systems, and small gain theorems, (3) design of nonlinear and robust controllers for various classes of nonlinear systems, (4) model predictive control of linear and nonlinear systems, (5) advanced methods for tuning of classical controllers, and (6) introduction to control of distributed parameter systems. Concurrently scheduled with course C235. Letter grading.


CM145. Molecular Biotechnology for Engineers. (4) (Same as Biomedical Engineering CM145.) Lecture, four hours; discussion, one hour; outside study, eight hours. Selected topics in molecular and cellular biology that form foundation of biotechnology and biomedical industry today. Topics include recombinant DNA technology, molecular research tools, manipulation of gene expression, directed mutagenesis and protein engineering, DNA-based diagnostics and DNA microarrays, antibody and protein-based diagnostics, genetic and bioinformatics, isolation of human genes, gene therapy, and tissue engineering. Concurrently scheduled with course CM245. Letter grading.

188. Special Courses in Chemical Engineering. (4) Seminar, four hours; outside study, eight hours. Special topics in chemical engineering. May be repeated twice for credit with permission from the instructor. Letter grading.

194. Research Group Seminars: Chemical Engineering. (4) Seminar, four hours; outside study, eight hours. Designed for graduate students who are part of research group. Discussion of research methods and current literature in group. Letter grading.

199. Directed Research in Chemical Engineering. (2 to 8) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation of selected topic under guidance of faculty mentor. Culminating paper or project required. May be repeated for credit with instructor approval. Individual contract required; enrollment petitions available in Office of Academic and Student Affairs. Letter grading.

Graduate Courses

200. Advanced Engineering Thermodynamics. (4) Lecture, four hours; outside study, eight hours. Requisite: course 102B. Phenomenological and statistical thermodynamics of chemical and physical systems with topics in thermodynamic potential of selected topic under guidance of faculty mentor. Culminating paper or project required. May be repeated for credit with instructor approval. Individual contract required; enrollment petitions available in Office of Academic and Student Affairs. Letter grading.

201. Methods of Molecular Simulation. (4) Lecture, four hours; outside study, eight hours. Requisite: course 200 or Chemistry C223A or Physics 215A. Modern simulation techniques for classical molecular systems. Monte Carlo and molecular dynamics in various fields/applications, including biotechnology, microelectronics, chemical processes, sensors, and biomedical devices. Concurrently scheduled with course CM225. Letter grading.


CM211. Cryogenics and Low-Temperature Processes. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 102A, 102B (or Materials Science 130). Fundamentals of cryogenics and cryoengineering science pertaining to industrial low-temperature processes. Basic approaches to analysis of cryofluids and envelopes needed for operation of cryogenic systems; low-temperature behavior of matter, optimization of cryosystems and other special conditions. Concurrently scheduled with course C111. Letter grading.

C214. Electrochemical Processes and Corrosion. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 102A, 102B (or Materials Science 130). Fundamentals of electrochemistry and engineering applications to industrial electrochemical processes and metallic corrosion. Primary emphasis on fundamental approach to analysis of electrochemical and corrosion processes. Specific topics include corrosion of metals and semiconductors, electrochemical metal and semiconductors, surface finishing, passivity, electrodoposition, electrolyte deposition, batteries and fuel cells, electrolysis and bioelectrochemical processes. May be concurrently scheduled with course C114. Letter grading.

CM215. Biochemical Reaction Engineering. (4) (Same as Biomedical Engineering M215.) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 101C and 106, or Chemistry 156. Use of previously learned concepts of bio-physical chemistry, thermodynamics, transport phenomena, and reaction kinetics to develop tools needed for technical design and economic analysis of biological reactors. May be concurrently scheduled with course C115. Letter grading.

C216. Surface and Interface Engineering. (4) Lecture, four hours; discussion, one hour; outside study, eight hours. Requisite: Chemistry 113A. Introduction to surfaces and interfaces of engineering materials, particularly catalytically surface and thin films for solid-state electronic devices. Topics include classification of crystals and surfaces, analysis of structure and composition of crystals and their surfaces and interfaces. Examination of engineering applications, including catalytic surfaces, interfaces in microelectronics, and solid-state laser. May be concurrently scheduled with course C116. Letter grading.

217. Electrochemical Engineering. (4) Lecture, four hours; outside study, eight hours. Requisite: course C114. Transport phenomena in electrochemical systems; relationships between molecular transport, convection, and electro kinetics, along with applications to industrial electrochemistry, fuel cell design, and modern battery technology. Letter grading.


220. Advanced Mass Transfer. (4) Lecture, four hours; outside study, eight hours. Requisite: course 101C. Advanced treatment of mass transfer, with applications to industrial separation processes, gas cleaning, pulmonary bioengineering, controlled-release systems, and reactor design; molecular and particle constitutive theories of diffusion, interfacial transport, membrane transport, convective mass transfer, concentration boundary layers, turbulent transport. Letter grading.


223. Design for Environment. (4) Lecture, four hours; outside study, eight hours. Requisite: course 101L. Principles of non-Newtonian fluid mechanics. Stress constitutive equations. Rheology of polymeric liquids and dispersed systems. Applications to design and operation of plasma and ion-beam reactors used in etching, deposition, oxidation, and cleaning of materials. Examination of atomic, molecular, and photon phenomena involved in plasma and ion-beam processing of semiconductors, etc. Letter grading.

C235. Advanced Process Control. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Enforced requisite: course 107. Introduction to advanced process control. Topics include (1) Lyapunov stability for autonomous nonlinear systems including converse theorems, (2) input to state stability, interconnected systems, and small gain theorems, (3) design of nonlinear and robust controllers for various classes of nonlinear systems, (4) model predictive control of linear and nonlinear systems, (5) advanced methods for tuning of classical controllers, and (6) introduction to control of distributed parameter systems. Concurrently scheduled with course C135. Letter grading.

236. Chemical Vapor Deposition. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 210, C216. Chemical vapor deposition is widely used to deposit thin films that comprise microelectronic devices. Topics include reactive sputter deposition phenomena, gas and surface chemical kinetics, structure and composition of deposited films, and relationship between process conditions and film properties. Letter grading.


CM245. Molecular Biotechnology for Engineers. (4) (Same as Biomedical Engineering M245.) Lecture, four hours; discussion, one hour; outside study, eight hours. Selected topics in molecular biology that form foundation of biotechnology and biomedical industry today. Topics include recombinant DNA technology, molecular research tools, manipulation of gene expression, directed mutagenesis, and protein engineering. DNA-based diagnostics and DNA microarrays, antibody and protein-based diagnostics, genomics and bioinformatics, isolation of human genes, and genetic disease. Concurrently scheduled with course CM145. Letter grading.


250. Computer-Aided Chemical Process Design. (4) Lecture, four hours; outside study, eight hours. Requisite: course 108B. Application of optimization methods to chemical engineering problems. Computer aids in process engineering; process modeling; systematic flowsheet invention; process synthesis; optimal design and operation of large-scale chemical processing systems. Letter grading.

270. Principles of Reaction and Transport Phenomena. (4) Lecture, four hours; laboratory, eight hours. Fundamental transport phenomena, chemical reaction kinetics, and thermodynamics at molecular level. Topics include Boltzmann equation, microscopic chemical kinetics, transition state theory, and statistical analysis. Examination of engineering applications related to state-of-the-art research areas in chemical engineering. Letter grading.

270R. Advanced Research in Semiconductor Manufacturing. (6) Laboratory, nine hours; outside study, nine hours. Tutorial. Limited to graduate level engineering students in M.S. semiconductor manufacturing option. Supervised research in processing semiconductor materials and devices. Letter grading.

M280A. Linear Dynamic Systems. (4) (Same as Electrical Engineering M240A and Mechanical and Aerospace Engineering M270A.) Lecture, four hours; outside study, eight hours. Requisite: Electrical Engineering 141 or Mechanical and Aerospace Engineering 171A. State-space description of linear time-invariant (LTI) and time-varying (LTV) systems in continuous and discrete time. Linear algebra concepts such as eigenvalues and eigenvectors, singular values, Cayley/Hamilton theorem, Jordan form; solution of state equations; stability, controllability, observability, realizability, and minimality. Stabilization design via state feedback and observers; separation principle. Connections with transfer function techniques. Letter grading.

M280C. Optimal Control. (4) (Same as Electrical Engineering M240C and Mechanical and Aerospace Engineering M270C.) Lecture, four hours; outside study, eight hours. Requisite: Electrical Engineering 240B or Mechanical and Aerospace Engineering 270B. Applications of variational methods, Pontryagin maximum principle, Hamilton Jacobi Bellman equation (dynamic programming) to optimal control of dynamic systems modeled by nonlinear ordinary differential equations. Letter grading.


283C. Analysis and Control of Infinite Dimensional Systems. (4) Lecture, four hours; outside study, eight hours. Requisites: courses M280A, M282A. Designed for graduate students. Introduction to advanced dynamical analysis and controller synthesis methods for nonlinear infinite dimensional systems. Topics include (1) linear operator and stability theory (basic results on Banach and Hilbert spaces, semigroup theory, convergence theory in function spaces), (2) nonlinear model reduction (linear and nonlinear Galerkin method, proper orthogonal decomposition), (3) nonlinear and robust control of nonlinear hyperbolic and parabolic partial differential equations (PDEs), (4) applications to transport-reaction processes. Letter grading.


290. Special Topics. (2 to 4) Seminar, four hours. Requisites for each offering announced in advance by department. Advanced and current study of one or more aspects of chemical engineering, such as chemical process dynamics and control, fuel cells and batteries, membrane transport, advanced chemical engineering analysis, polymers, optimization in chemical process design. May be repeated for credit with topic change. Letter grading.

297. Seminar: Systems, Dynamics, and Control Topics. (2) (Same as Electrical Engineering M248S and Mechanical and Aerospace Engineering M299A.) Seminar, two hours; outside study, six hours. Limited to graduate engineering students. Presentations of research topics by leading academic researchers from fields of systems, dynamics, and control. Students who work in these fields present their papers and results. S/U grading.

298A-298Z. Research Seminars. (2 to 4 each) Seminar, to be arranged. Requisites for each offering announced in advance by department. Lectures, discussions, student presentations, and projects in areas of current interest. May be repeated for credit. S/U grading.

299. Departmental Seminar. (2) Seminar, two hours. Limited to graduate chemical engineering students. Seminars by leading academic and industrial chemical engineers on development or application of recent technological advances in the discipline. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495A. Teaching Assistant Training Seminar. (2) Seminar, four hours; outside study, four hours; one-day intensive training at beginning of Fall Quarter. Limited to graduate chemical engineering students. Required of all new teaching assistants. Special seminar in communicating chemical engineering principles, concepts, and methods; teaching assistant preparation, organization, and presentation of material, including use of grading, advising, and rapport with students. S/U grading.

498B. Teaching with Technology for Teaching Assistants. (2) Seminar, two hours; outside study, four hours. Limited to graduate chemical engineering students. Designed for teaching assistants interested in learning more about effective use of technology and ways to incorporate that technology into their classrooms for benefit of student learning. S/U grading.

596. Directed Individual or Tutorial Studies. (2 to 8) Tutorial, to be arranged. Limited to graduate chemical engineering students. Petition forms to request enrollment may be obtained from assistant dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

597A. Preparation for M.S. Comprehensive Examination. (2 to 12) Tutorial, to be arranged. Limited to graduate chemical engineering students in M.S. semiconductor manufacturing option. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations. (2 to 16) Seminar, to be arranged. Limited to graduate chemical engineering students. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination. (2 to 16) Tutorial, to be arranged. Limited to graduate chemical engineering students. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research and for Preparation of M.S. Thesis. (2 to 12) Tutorial, to be arranged. Limited to graduate chemical engineering students. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research and for Preparation of Ph.D. Dissertation. (2 to 16) Tutorial, to be arranged. Limited to graduate chemical engineering students. Usually taken after students have been advanced to candidacy. S/U grading.
Entering transfer students who have successfully completed a year course (including laboratory) in general college chemistry intended for science and engineering students should enter course 30A. Transfer students should consult the Undergraduate Advising Office in 4009 Young Hall for assistance with the articulation of transfer coursework.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

Chemistry Diagnostic Examination for First-Quarter General Chemistry

The Chemistry Diagnostic Examination is no longer required for enrollment in Chemistry and Biochemistry 14A, 17, 20A, or 20AH.

Students enroll in Chemistry and Biochemistry 14A, 20A, or 20AH, depending on major.

Students who feel they have a weak background in chemistry may enroll in Chemistry and Biochemistry 17, offered on a Passed/Not Passed basis. Course 17 carries no graduation credit but does displace 4 units on the UCLA Study List.

Advanced Placement in Chemistry

Students who have taken the Advanced Placement (AP) Chemistry Test and obtained a score of 4 or 5 receive 8 units of chemistry credit and may petition for chemistry and biochemistry equivalency, or may take course 20A at UCLA. If students received a score of 3 on the AP Chemistry Test, they receive 8 units of chemistry credit but no course equivalency.

Credit Limitations

Students may not take or repeat a chemistry or biochemistry course for credit if it is a requisite for a more advanced course for which they already have credit. This applies in particular to the repetition of courses (e.g., if students wish to repeat Chemistry and Biochemistry 20A, they must do so before completing course 20B).

Undergraduate Majors

The department offers three majors: Chemistry, Biochemistry, and General Chemistry. The Chemistry and Biochemistry majors are designed to prepare students for graduate studies in each field, for entry into professional schools in the health sciences, and for careers in industries and businesses that depend on chemically and biochemically based technology. The General Chemistry major is intended for students who wish to acquire considerable chemical background in preparation for careers outside chemistry.

Courses used to fulfill any of the requirements for any of the departmental majors must be taken for a letter grade. Seminar courses, individual study courses, and research courses (e.g., 194, 199) may not be applied toward the requirements for the majors.

Requirements for the majors are outlined below. For additional information, contact the Undergraduate Advising Office in 4009 Young Hall.

Chemistry B.S.

The B.S. degree program is for students who intend to pursue a career in chemistry.

Chemistry Concentration

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL, 30B, 30BL, 30C, 30CL; Mathematics 31A, 31B, 32A, 32B, 33B; Physics 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 4BL.

The Major

Required: Chemistry and Biochemistry 110A, either 110B or C113B, 113A, 114 (or 114H), either 136 or 144, 153A, 153L, 171, C172, and two other upper division or graduate courses in the department, including at least one additional laboratory course from 136, 144, 154, C174, 184, C185.

Physical Chemistry Concentration

The physical chemistry concentration is designed primarily for students who are interested in attending graduate school in physical chemistry/physics.

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL, 30B, 30BL; Mathematics 31A, 31B, 32A, 32B, 33B; Physics 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 4BL.

The Major

Required: Chemistry and Biochemistry 110A, 110B, 113A, C113B, 114 (or 114H), 153A, 171, C172; one additional upper division chemistry, electrical engineering, or physics laboratory course; and three elective upper division or graduate courses approved by the physical chemistry adviser. Refer to the Undergraduate Advising Office website at http://www.chem.ucla.edu/dept/Upgrad/ for a list of approved electives.

By the junior year, students are strongly encouraged to join a research group within the physical chemistry division to obtain firsthand experience with state-of-the-art physical chemistry research.

Biochemistry B.S.

The B.S. degree program is for students preparing for careers in biochemistry or other fields requiring extensive preparation in both chemistry and biology.

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL, 30B, 30BL, 30C, 30CL; Life Sciences 2, 3, 4; Mathematics 31A, 31B, 32A (33A strongly recommended); Physics 1A, 1B, and 1C (or 1AH, 1BH, and 1CH) and 4BL, or 6A, 6B, and 6C.
The Major
Required: Chemistry and Biochemistry 110A, 153A, 153B, 153C, 153L, 154, 156, 171; one additional upper division or graduate course in chemistry and biochemistry; and four elective upper division or graduate courses (16 units) approved by the undergraduate adviser (Microbiology, Immunology, and Molecular Genetics 101 and 101L highly recommended). Refer to the Undergraduate Advising Office website at http://www.chem.ucla.edu/dept/Ugrad/ for a list of approved electives.

General Chemistry B.S.
The B.S. degree program is for students who wish to acquire considerable chemical background in preparation for careers outside chemistry. The requirements are accordingly quite flexible. The major may be appropriate for some students who plan to enter professional schools, such as those of pharmacy, dentistry, or public health. This major cannot be taken as part of a double major. Students must declare the major before reaching 135 units.

Preparation for the Major
Required: Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL, 30B, 30BL, 30C, 30CL; Mathematics 31A, 31B, 32A, 32B; Physics 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 4BL.

Students must complete the preparation courses with at least a 2.0 grade-point average.

The Major
Required: Chemistry and Biochemistry 110A, 153A, 153L, 171; three additional upper division courses in the department (at least one must be a laboratory course); six additional upper division courses. A 2.0 grade-point average is required in all upper division courses in the department. Acceptance into the major is based on an original written proposal that is coherent in terms of student interests and objectives. The proposal should specify which courses students plan to apply toward the major and requires the approval of the faculty adviser.

Computing Specialization
Majors in Chemistry and Biochemistry may select a specialization in Computing by (1) satisfying all the requirements for a bachelor’s degree in the specified major, (2) completing Program in Computing 10A, 10B, and one course from 10C, 15, 20A, 30, or 60, and (3) completing two computational chemistry courses from Chemistry and Biochemistry C126A, C145, C160A. Courses need to be completed with a combined grade-point average of at least 2.0. Students must petition for admission to the program and are advised to do so after they complete Program in Computing 10B (petitions should be filed in the Undergraduate Office). Students graduate with a bachelor’s degree in their major and a specialization in Computing.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://graduation.ucla.edu/gasaa/library/pgmrgnintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Chemistry and Biochemistry offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Chemistry and Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Biochemistry and Molecular Biology.

Chemistry and Biochemistry
Lower Division Courses
2. Introductory Chemistry. (4) Lecture, two hours; discussion, two hours. Not open to students with credit for course 14A or 20A. Concept of submicroscopic world of chemistry, ranging from protons to proteins in subject matter. P/NP or letter grading.

14A. Atomic and Molecular Structure, Equilibria, Acids, and Bases. (4) Lecture, three hours; discussion, one hour. Preparation: high school chemistry or equivalent background and three and one-half years of high school mathematics. Not open to students with credit for course 20A. Introduction to physical and general chemistry principles; atomic structure based on quantum mechanics; atomic properties; trends in periodic table; chemical bonding (Lewis structures, VSEPR theory, hybridization, and molecular orbital theory); gaseous and aqueous equilibria; properties of inorganic and organic acids, bases, buffers; titrations. P/NP or letter grading.

14B. Thermodynamics, Electrochemistry, Kinetics, and Organic Chemistry. (4) Lecture, three hours; discussion, one hour. Enforced requisite: course 14A, and Mathematics 3A or 31A, with grades of C– or better. Not open to students with credit for course 20A, 20B, or 30A. Phase changes; thermochemistry; first, second, and third laws of thermodynamics; free energy changes; electrochemistry and its role as energy source; chemical kinetics, including catalysis, reaction mechanisms, and enzymes; coordination compounds; general classes and naming of organic molecules; structure, conformations, and relative energies of organic molecules; application of thermodynamics and kinetics to organic and biochemical reactions; use of molecular modeling software to illustrate molecular structures and their relative energies. P/NP or letter grading.

14BL. General and Organic Chemistry Laboratory I. (3) Lecture, one hour; laboratory, three hours. Enforced requisite: course 14A with a grade of C– or better. Enforced corequisite: course 14B. Not open to students with credit for course 20L. Introduction to volumetric, titrimetric, and spectrophotometric analysis. Use and preparation of buffers and pH meters. Synthesis and kinetics techniques using compounds of interest to students in life sciences. P/NP or letter grading.

14C. Structure of Organic Molecules. (4) Lecture, three hours; discussion, one hour. Enforced requisite: course 14B with a grade of C– or better. Not open to students with credit for course 30A. Continuing studies in structure of organic molecules, with emphasis on biological applications. Resonance, stereochemistry, conjugation, and aromaticity; spectroscopy (NMR, IR, and mass spectrometry); introduction to structure on physical and chemical properties; survey of biomolecular structure. P/NP or letter grading.

14CL. General and Organic Chemistry Laboratory II. (4) Lecture, one hour; laboratory, six hours. Enforced requisites: courses 14B and 14BL, with grades of C– or better. Enforced corequisite: course 14C. Synthesis and analysis of compounds; purification by extraction, chromatography, recrystallization, and sublimation; characterization by mass spectroscopy, UV, NMR, and IR spectroscopy, optical activity, electrochemistry, pH titration. P/NP or letter grading.

14D. Organic Reactions and Pharmaceuticals. (4) Lecture, three hours; discussion, one hour. Enforced requisite: course 14C with a grade of C– or better. Organic reactions, nucleophilic and electrophilic substitutions and additions, electrophilic aromatic substitutions, carbonyl reactions, catalysis, molecular basis of drug action, and organic chemistry of pharmaceuticals. P/NP or letter grading.

17. Chemical Principles. (No credit) Lecture, four hours; laboratory, two hours. Honors course displaces 4 units on student’s Study List but yields no credit toward a degree. Introduction to chemical principles: numbers, measurements, chemical calculations, gas laws, solutions, acids, bases, and salts, molecular structure, and nomenclature. Collaborative learning and problem solving; introduction to chemistry laboratory practice. P/NP grading.

20A. Chemical Structure. (4) Lecture, three hours; discussion, one hour. Preparation: high school chemistry or equivalent background and three and one-half years of high school mathematics. Recommended: high school physics. Enforced requisite: successful completion of Chemistry Diagnostic Examination. First term of general chemistry. Survey of chemical processes, quantum chemistry, atomic and molecular structure and bonding, molecular spectroscopy. P/NP or letter grading.

20AH. Chemical Structure (Honors). (4) Lecture, three hours; discussion, one hour. Preparation: high school chemistry or equivalent background, high school physics, and three and one-half years of high school mathematics. Enforced requisite: successful completion of Chemistry Diagnostic Examination. Honors course parallel to course 20A. P/NP or letter grading.

20B. Chemical Energetics and Change. (4) Lecture, three hours; discussion, one hour. Preparation: high school chemistry or equivalent background, high school physics, and three and one-half years of high school mathematics. Enforced requisite: successful completion of Chemistry Diagnostic Examination. Honors course parallel to course 20B. P/NP or letter grading.

20BH. Chemical Energetics and Change (Honors). (4) Lecture, three hours; discussion, one hour. Enforced requisites: course 20A or 20AH, and Mathematics 31A, with grades of C– or better. Second term of general chemistry. Intermolecular forces and organization, phase behavior, chemical thermodynamics, solutions, equilibria, reaction rates and laws. P/NP or letter grading.

20CH. General Chemistry Laboratory. (3) Lecture, one hour; laboratory, three hours. Enforced requisite: course 20A with a grade of B+ or better or 20AH with a grade of B or better. Honors course parallel to course 20B. P/NP or letter grading.

30A. Chemical Dynamics and Reactivity: Introduction to Organic Chemistry. (4) Lecture, three hours; discussion, one hour. Enforced requisite: course 20B with a grade of C– or better. First term of organic chemistry. Mechanisms of organic and inorganic reactions, including redox, elimination, addition, substitution, and radical processes. P/NP or letter grading.
30AH. Chemical Dynamics and Reactivity: Introduction to Organic Chemistry (Honors). (4) Lecture, three hours; discussion, one hour. Enforced prerequisites: course 20B or 20BH, with a grade of B+ or better. Honors course parallel to course 30A. P/NP or letter grading.

30AL. General Chemistry Laboratory II. (4) Lecture, four hours. Enforced prerequisites: courses 20B (or 20BH) and 20L, with grades of C− or better. Enforced corequisite: course 30A or 30AH. Qualitative and quantitative analysis of chemical reactions and compounds, kinetics, separations, and spectroscopy. P/NP or letter grading.


30BL. Organic Chemistry Laboratory I. (3) Lecture, one hour; laboratory, four hours. Enforced prerequisites: courses 30A (or 30AH) and 30AL, with grades of C− or better. Course 30B. Basic experimental techniques in organic synthesis (distillation, reaction, crystallization, and performing reactions and report organic analytical chemistry (melting point, refractive index, infrared, nuclear magnetic resonance, conductivities, IR, NMR, GC). Single and multistep synthesis of known organic molecules on a microscale level. P/NP or letter grading.

30C. Organic Chemistry: Reactivity and Synthesis, Part II. (4) Lecture, three hours; discussion, one hour. Enforced prerequisite: course 30B with a grade of C− or better. Third term of organic chemistry. Organic spectroscopy, including proton and carbon NMR, infrared mass, MS, nuclear magnetic resonance, and學 compounds; functional aromatic chemistry; heterocyclic compounds; and amines. P/NP or letter grading.

30CL. Organic Chemistry Laboratory II. (4) Lecture, two hours; laboratory, six hours. Enforced prerequisites: courses 30B and 30BL, with grades of C− or better. Enforced corequisite: course 30C. Modern techniques in synthetic organic and analytical organic chemistry. Semi-preparative scale, multistep synthesis of organic and organometallic molecules, including asymmetric catalysis. One- and two-dimensional multinuclear NMR techniques, written reports and proposals. P/NP or letter grading.

88A-88Z. Lower Division Seminars. (2-2) Lecture, one hour; laboratory, four hours. Enforced prerequisites: courses 30B or 30AH, and 110A, 153A (or 153AH), 153L. Chemical aspects of air and water pollution, solid waste disposal, energy resources, and pesticide effects. Chemical reactions in the environment and effect of chemical processes on the environment. P/NP or letter grading.

98X. PEERS Collaborative Learning Workshops for Life Sciences Majors. (1) Formerly numbered 5. Laboratory, three hours. Corequisite: associated undergraduate lecture course in chemistry and biochemistry for life sciences majors. Development of intuition and problem-solving skills in collaborative learning environment. May be repeated four times, but only 1 unit may be applied toward graduation. P/NP grading.

98XB. PEERS Collaborative Learning Workshops for Physical Sciences and Engineering Majors. (1) Lecture, three hours. Corequisite: associated undergraduate lecture course in chemistry and biochemistry for physical sciences and engineering majors. Development of intuition and problem-solving skills in collaborative learning environment. May be repeated four times, but only 1 unit may be applied toward graduation. P/NP grading.

Upper Division Courses

103. Environmental Chemistry. (4) Lecture, four hours; discussion, one hour. Requisites: courses 30B, 30BL, 110A, 153A (or 153AH), 153L. Chemical aspects of air and water pollution, solid waste disposal, energy resources, and pesticide effects. Chemical reactions in the environment and effect of chemical processes on the environment. P/NP or letter grading.

104. Environmental Chemistry Laboratory. (4) Lecture, two hours; laboratory, three hours. Requisite: course 20B. Laboratory experience for students who wish to pursue career in environmental science. Essential laboratory procedures to be performed in context of timely environmental issues involving smog formation, acid rain, and ozone depletion. Hands-on experience using scientific instruments and analytical techniques appropriate for environmental assessment. P/NP or letter grading.

110A. Physical Chemistry: Chemical Thermodynamics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 20B, Mathematics 32A or 3C (for life sciences majors), Physics 1A, 1B, and 1C (may be taken concurrently), or 1AH, 1BH, and 1CH (may be taken concurrently), or 6A, 6B, and 6C (may be taken concurrently). Fundamentals of chemical thermodynamics, chemical and phase equilibria, thermodynamics of solutions, electrochemistry. P/NP or letter grading.


113A. Physical Chemistry: Introduction to Quantum Mechanics. (4) Lecture, three hours; discussion, one hour; tutorial, one hour. Requisites: course 20B, Mathematics 32A, 32B, 32B, Physics 1A, 1B, and 1C, or 1AH, 1BH, and 1CH, or 6A, 6B, and 6C, with grades of C− or better. Departure from classical mechanics: Schrödinger vs. Newtonian equations; model systems: particle-in-a-box, harmonic oscillator, rigid rotor, and hydrogen atom; approximate methods: perturbation and variational methods; many-electron atoms, spin, and Pauli principle, chemical bonding. P/NP or letter grading.

C113B. Physical Chemistry: Introduction to Molecular Spectroscopy. (4) Lecture, three hours; discussion, one hour; tutorial, one hour. Requisite: course 113A. Interaction of radiation with matter, microwave spectroscopy, infrared and Raman spectroscopy, vibrations in polyatomic molecules, electronic spectroscopy, magnetic resonance spectroscopy. Concurrently scheduled with course C213B. P/NP or letter grading.

114. Physical Chemistry Laboratory. (5) Lecture, two hours; laboratory, eight hours. Enforced prerequisites: courses 30AL, 110A, and 113A, with grades of B− or better. Enforced corequisite: course 110B or C113B. Includes techniques of physical measurement, error analysis and statistics, special topics. Laboratory techniques and spectroscopy. Fundamental measurements, and chemical dynamics. P/NP or letter grading.

114H. Physical Chemistry Laboratory (Honors). (5) Lecture, two hours; laboratory, eight hours. Enforced prerequisites: courses 30AL, 110A, and 113A, with grades of B− or better. Enforced corequisite: course 110B or C113B. Includes techniques of physical measurement, error analysis and statistics, special topics. Laboratory techniques and spectroscopy. Fundamental measurements, and chemical dynamics. P/NP or letter grading.

C115A-C115B. Quantum Chemistry. (4-4) Lecture, four hours; discussion, one hour. Requisites: course 113A. Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: knowledge of differential equations equivalent to Mathematics 135A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C115A or Physics 135B or Physics 136A, plus course C115B. Students entering course C115A are normally expected to take course C115B the following term. Designed for chemistry students with serious interest in quantum chemistry. Postulates and systematic development of relativistic quantum mechanics: expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques, approximation methods; time-dependent problems; atoms, spectroscopy; magnetic resonance; chemical bonding. May be concurrently scheduled with courses C215A-C215B.

C115C. Advanced Quantum Chemistry: Applications. (4) Lecture, three hours; discussion, one hour. Requisites: courses 113A, C115B. Topics in quantum chemistry selected from molecular structure, collision processes, theory of small-molecule reactions, and theory of electromagnetic radiation. Concurrently scheduled with course C215C. P/NP or letter grading.

M120. Soft Matter Laboratory. (4) (Same as Physics M185G.) Laboratory, four hours. P/NP or letter grading.

121. Special Topics in Physical Chemistry. (4) Lecture, four hours. Requisite: course 110B. Recommended: course 113A. Topics of considerable research interest presented at level suitable for students who have completed junior-year courses in physical chemistry. P/NP or letter grading.

C213A-C213B. Classical and Statistical Thermodynamics. (4-4) Lecture, four hours; discussion, one hour. Requisite: course 110B or 156. Recommended: course 113A. Rigorous presentation of fundamentals of classical thermodynamics. Principles of statistical thermodynamics: probability, partition functions, independent molecules, and the perfect gas. Applications of classical and statistical thermodynamics selected from diatomic and polyatomic gases, solid and fluid states, phase equilibria, electric and magnetic effects, ortho-para hydrogen, chemical equilibria, reaction rates, the imperfect gas, nonelectrolyte and electrolyte solutions, surface phenomena, high polymers, gravimetry. Concurrently scheduled with courses C223A-C223B.
125. Computers in Chemistry. (4) Lecture, three hours. Preparation: working knowledge of Fortran IV or PL/1. Requisites: courses 110A, 110B, 113A. Discussion of computer techniques, including matrix manipulation, solution of differential equations, data acquisition, and instrumental control, and their applications to chemical problems in quantum mechanics, thermodynamics, and quantum chemistry. Concurrently scheduled with course C125A.

C125A. Computational Methods for Chemists. (4) Lecture, four hours; laboratory, four hours. Preparation: programming experience in either BASIC, FORTRAN, C, C++, Java, or Pascal. Requisites: course 110A. Mathematica 3B. Theoretical, numerical, and programming tools for constructing new chemical applications, including simple force fields and resulting statistical mechanics for simple molecules, simple ab initio methods for organic molecules and molecules, and classical dynamics and spectroscopy. Concurrently scheduled with course C226A. P/NP or letter grading.

136. Organic Structural Methods. (5) Lecture, two hours; laboratory, eight hours. Requisites: courses 30C and 30CL, with grades of C– or better. Laboratory course in organic structure determination by chemical and spectroscopic methods; microtechniques. P/NP or letter grading.

C140. Bionanotechnology. (4) Lecture, three hours. Requisites: courses 30C, 110A. Basic physical, chemical, and biological principles in bionanotechnology; materials science strategies for top-down and bottom-up fabrication of ordered biochemically derived molecules, characterization and detection techniques, and biomimetic materials and applications at nanoscale. Concurrently scheduled with course C240. P/NP or letter grading.

C143A. Structure and Mechanism in Organic Chemistry. (4) Lecture, three hours; discussion, one hour. Requisites: courses 30C and 30CL, with grades of C– or better. Mechanisms of organic reactions. Acidity and acid catalysis; free energy relationships; isotope effects. Molecular orbital theory; photophysics; pericyclic reactions. May be concurrently scheduled with course C243A. P/NP or letter grading.

C143B. Mechanism and Structure in Organic Chemistry. (4) Lecture, three hours; discussion, one hour. Requisite: course C143A with a grade of C– or better. Mechanisms of organic reactions; structure and detection of reactive intermediates. May be concurrently scheduled with course C243B.

144. Practical and Theoretical Introductory Organic Synthesis. (2) Lecture, two hours; laboratory, eight hours. Enforced requisites: courses 30C and 30CL, with grades of C– or better. Lectures on modern synthetically oriented reactions, with emphasis on stereochemistry. Laboratory work in the preparation of simple compounds. Microtechniques. P/NP or letter grading.

C145. Theoretical and Computational Organic Chemistry. (4) Lecture, two hours; discussion, one hour; computer laboratory, one hour. Requisites: courses 30C, 113A. Applications of quantum mechanical concepts and methods to understand and predict organic structures and reactivities. Computational modeling methods, including laboratory experience with force-field and quantum mechanical computer calculations. Concurrently scheduled with course C245. P/NP or letter grading.

153A. Biochemistry: Introduction to Structure, Enzymes, and Metabolism. (4) Lecture, four hours; discussion: one hour; laboratory: three hours. Requisites: course 145A, with a grade of C– or better. Recommended: Life Sciences 2, 3. Structure of proteins, carbohydrates, and lipids; enzyme catalysis and principles of metabolism, including glycolysis, citric acid cycle, and oxidative phosphorylation. P/NP or letter grading.

153AH. Biochemistry: Introduction to Structure, Enzymes, and Metabolism (Honors). (4) Lecture, three hours; discussion, one hour; tutorial, one hour. Requisite: course 153A or 153AH. Nuclear magnetic resonance; regulation of transcription: RNA structure and processing; protein synthesis and processing. P/NP or letter grading.

153BH. Biochemistry: DNA, RNA, and Protein Synthesis (Honors). (4) Lecture, three hours; discussion, one hour; tutorial, one hour. Requisites: course 153A or 153AH, Life Sciences 2, 3. Honors course parallel to course 153B. P/NP or letter grading.

C153C. Biochemistry: Biosynthetic and Energy Metabolism and Its Regulation. (4) Lecture, three hours; discussion, two hours. Requisites: courses 153A or 153AH. Metabolism of carbohydrate, fatty acid, and lipid biosynthesis. Control of carbohydrate and lipid biosynthesis and assimilation of inorganic nutrients. Regulation of these processes. P/NP or letter grading.

153CH. Biochemistry: Biosynthetic and Energy Metabolism and Its Regulation (Honors). (4) Lecture, three hours; discussion, two hours. Requisites: courses 153A or 153AH. Honors course parallel to course 153C. P/NP or letter grading.

CM153G. Macromolecular Structure. (4) (Same as Biological Chemistry CM153G and Human Genetics CM153G.) Lecture, three hours; discussion, one hour. Requisites: courses 110A, 153A, 153B, 153C, 156. Chemical and physical properties of proteins and nucleic acids. Structure, cloning, and analysis of DNA; biosynthesis and processing of RNA; biosynthesis, purification, structure, and analysis of proteins; correlation of structure and biological properties. Concurrently scheduled with course CM253. P/NP or letter grading.

153L. Biochemical Methods I. (4) Lecture, two hours; laboratory, four hours. Enforced requisites: courses 14CL and 14D, or 30B and 30BL, and 153A or 153B (may be taken concurrently). Enzymes of glycogen metabolism, with grades of C– or better. Integrated term-long project involving characterization of an enzyme purified from meat obtained at local butcher. Techniques include ammonium sulfate fractionation, chromatography, protein and enzyme assays, polyacrylamide gel electrophoresis, gel exclusion chromatography, and enzyme kinetic analysis. P/NP or letter grading.

154. Biochemical Methods II. (5) Lecture, two hours; laboratory, eight hours. Enforced requisites: courses 153A or 153AH, 153B or 153BH, and 153L, with grades of C– or better. Recommended: course 156. Two to three major laboratory projects using biochemical laboratory techniques to investigate contemporary problems in biochemistry. Topics include transcription, activation of DNA-protein interactions, bioenergetic basis of platelet activation, and initiation of blood clotting cascade. Experiments entail characterization of function of proteins, nucleic acids, and lipids involved in these processes. P/NP or letter grading.

CM155. Biological Catalysis. (4) (Same as Molecular Cell, and Developmental Biology CM160.) Requisites: courses 110A, 153A, 153B, Life Sciences 3, Molecular Cell, and Developmental Biology 100 or 153L. Required: course 14D or 30B, with a grade of C– or better. Recommended: Life Sciences 2, 3. Structure of proteins, carbohydrates, and lipids; enzyme catalysis and principles of metabolism, including glycolysis, citric acid cycle, and oxidative phosphorylation. P/NP or letter grading.

156. Physical Biochemistry. (4) Lecture, four hours; discussion, one hour. Requisites: courses 110A, 153A. Biochemical kinetics; solution thermodynamics of biocatalytic systems; multiple equilibria; hydrodynamics; energy levels, spectroscopy, and bonding; topics from structural, statistical, and electrochemical methods of biochemistry.


C159B. Mechanisms in Regulation of Transcription II. (2) (Formerly numbered CM159B.) Second five weeks. Lecture, four hours. Requisite: course C159A. Eukaryotic general transcriptional apparatus; sequence-specific promoter recognition; mechanisms of transcriptional activation and repression, including role of chromatin structure; transcription factors as targets of signal transduction pathways; transcription factors in embryogenesis. Concurrently scheduled with course C259B. P/NP or letter grading.

C160A. Introduction to Bioinformatics and Genomics. (4) (formerly numbered C160.) Lecture, three hours; discussion, one hour. Recommended: prerequisite: Statistics 100A or 110A. Genomics and bioinformatics results and methodologies, with emphasis on concepts behind rapid development of these fields. Focus on how to think genomically via case studies, showing how gene sequences map to computational problems and their solutions. Concurrently scheduled with course CM260A. P/NP or letter grading.


C161A. Plant Biochemistry. (4) Lecture, three hours; discussion, one hour. Requisite: course 153C. Introduction to distinctive features of plant biochemistry. Topics include photosynthesis, nitrogen metabolism, plant cell wall metabolism, and secondary metabolism in relation to stress. Concurrently scheduled with course C261A.

C165. Metabolic Control by Protein Modification. (2) First five weeks. Lecture, three hours; discussion, one hour. Requisites: courses 153A, 153B, 153C. Biochemical basis of controlling metabolic pathways by posttranslational modification of proteins, including phosphorylation and methylation reactions. Concurrently scheduled with course C265.

171. Intermediate Inorganic Chemistry. (4) Lecture, three hours; discussion, one hour. Requisite: course 113A, Chemistry 113A, or 113B. May be repeated for credit. Topics include bonding of inorganic molecules and solids, structure/reactivity relationships, vibrational spectra of complexes, electronic structure and ligand-field theory, mechanisms of inorganic reactions, bonding and spectroscopy of organometallic compounds, transition metals in catalysis and biology. Concurrently scheduled with course C273. P/NP or letter grading.

C174. Inorganic and Metalorganic Laboratory Methods. (5) Lecture, two hours; laboratory, eight hours. Enforced requisites: courses 30CL and C172, with grades of C- or better. Topics include air-sensitive materials, Schlenk techniques, chromatographic and ion exchange separation methods, and other inorganic techniques. May be concurrently scheduled with course C274. P/NP or letter grading.

C175. Inorganic Reaction Mechanisms. (4) Lecture, three hours. Requisites: courses 110A, 110B, 113A, C172. Survey of inorganic reactions; mechanistic principles; electronic structure of metal ions; transition-metal coordination chemistry; inner- and outer-sphere and chelate complexes; substitution, isomerization, and reorganization reactions; stereochemistry; oxidation/reduction, free/radical, polymerization, and photochemical reactions of inorganic species. May be concurrently scheduled with course C275. P/NP or letter grading.

C176. Group Theory and Applications to Inorganic Chemistry. (4) Lecture, three hours; discussion, one hour. Requisites: courses 113A, C172. Group theoretical methods; molecular orbital theory; ligand-field theory; electronic spectroscopy; vibrational spectroscopy. May be concurrently scheduled with course C276A. P/NP or letter grading.

C179. Biological Inorganic Chemistry. (4) Lecture, three hours; discussion, one hour. Requisites: courses 30B, 110A. Role of metal ions in biology. Topics include interactions of metal ions with proteins, nucleic acids, and other biological molecules; mechanisms of metal ion transport and uptake; introduction to metalloenzymes; metalloproteins in electron transfer, respiration, and photosynthesis; metals in medicine. Concurrently scheduled with course C279. P/NP or letter grading.

C180. Solid-State Chemistry. (4) Lecture, three hours; discussion, one hour. Requisites: course C172. Study of new materials and methods for their preparation and characterization, with emphasis on band theory and its relationship to chemical, optical, transport, and magnetic properties, leading to a deeper understanding of these materials. Concurrently scheduled with course C280. P/NP or letter grading.

C181. Polymer Chemistry. (4) Lecture, three hours; discussion, one hour. Requisites: courses 30B, 110A. Synthesis of organic and inorganic macromolecules, thermodynamic and statistical mechanical descriptions of unique properties of polymers, polymer characterization methods, and special topics such as conductive and biomedical polymers and polymeric agents in synthesis. Concurrently scheduled with course C281. P/NP or letter grading.

184. Chemical Instrumentation. (5) Lecture, two hours, laboratory, six hours. Enforced requisites: courses 30CL and 110A, with grades of C- or better. Theory and practice of instrumental techniques of chemical and structural analysis, including atomic absorption spectroscopy, gas chromatography, mass spectrometry, nuclear magnetic resonance, polarography, X-ray fluorescence, and other modern methods. P/NP or letter grading.


193A. Journal Club Seminars: UC LEADS and MARC. (2) Seminar, three hours. Designed for junior- and senior-level research training programs such as UC LEADS and MARC or those who have strong commitment to pursue graduate studies in natural sciences, engineering, or mathematics. Weekly meetings on research papers selected from current literature. Letter grading.

193B. Journal Club Seminars: Chemistry and Biochemistry. (2) Seminar, three hours. Limited to undergraduates. Discussion of readings selected from current literature in particular field. P/NP grading.

194. Research Group Seminar. (1) Seminar, three hours. Designed for graduate biochemistry and molecular biology students. How to develop curricula vitae, put together grant proposals, and publish research proposals. Letter grading.

196A. Research Apprenticeship in Chemistry and Biochemistry. (2 to 4) Formerly numbered 199A.) Tutorial, three hours per week per unit. Limited to juniors/seniors. Entry-level research apprenticeship for upper division students under guidance of faculty mentor. Consult department for additional information regarding requirements, enrollment petitions, and written proposal deadlines. May be repeated for a maximum of 8 units. Individual contract required. P/NP grading.

196B. Research Apprenticeship in Chemistry and Biochemistry. (2 to 4) Formerly numbered 199B.) Tutorial, three hours per week per unit. Enforced requisite: course 196A (8 units). Limited to juniors/seniors. Research apprenticeship for upper division students under guidance of faculty mentor. Consult department for additional information regarding requirements, enrollment petitions, and written proposal deadlines. May be taken for a maximum of 4 units. Individual contract required. P/NP or letter grading.

199. Directed Research in Chemistry and Biochemistry. (2) Seminar, three hours per week per unit. Enforced requisite: course 196A. Introduction to principles and practice of organic and inorganic mass spectrometry. Topics include EI, CI, IPCMS, GC/MS, LC/MS, ESI, MALDI, MS/MS protein identification, and proteomics. Concurrently scheduled with course C193A. S/U grading.

201C. Chemical Instrumentation Seminar. (1) Lecture, one hour. Instruction in safe handling and manipulation of scientific glassware. Introduction to basic glassblowing techniques such as grinding, annealing, and polishing of glass. Proper cutting of glass and repairing of cracks. S/U grading.

213B. Physical Chemistry: Molecular Spectroscopy. (4) Lecture, three hours; discussion, one hour; tutorial, one hour. Requisite: course 113A. Interactions of radiation with matter, microwave spectroscopy, infrared and Raman spectroscopy, vibrations in polyatomic molecules, electronic spectroscopy, magnetic resonance spectroscopy. Concurrently scheduled with course C113B. Independent study project required of graduate students. S/U or letter grading.

C215A-C215B. Quantum Chemistry: Methods. (4-4) Lecture, four hours; discussion, one hour. Requisites: course 113A, Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: knowledge of differential equations equivalent to Mathematics 135A or Physics 131 and of analytic mechanics equivalent to Physics 195A. Course C215A or Physics 11B is requisite to C215B. Students entering course C215A are normally expected to take course C215B the following term. Designed for chemistry students with serious interest in quantum chemistry. Emphasizes methods of ab initio development of nonrelativistic quantum mechanics; expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques; approximation methods; time-dependent problems; spectroscopy; magnetic resonance; chemical bond. May be concurrently scheduled with courses C115A-C115B.
221. Chemical Physics Seminar. (2) Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

221A-219Z. Seminars: Research in Physical Chemistry, (2 each) Seminar, three hours. Advanced study and analysis of current topics in physical chemistry. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

221A. Current Research in Physical Chemistry. (2) Seminar, three hours. Advanced study and analysis of current topics in physical chemistry. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

221B. Physical Chemistry Student Seminar. (2) Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

221C. Molecular Spectra, Diffraction, and Structure. (4) Lecture, three hours; discussion, one hour. Requisites: course C215B, Physics 131. Selected topics from electronic spectra of atoms and molecules; vibrational, rotational, and Raman spectra; magnetic resonance spectra; X-ray, neutron, and electron diffraction; coherence effects. S/U or letter grading.

221D. Molecular Spectra, Diffraction, and Structure. (4) Lecture, three hours; discussion, one hour. Requisites: course C215B, Physics 131. Selected topics from electronic spectra of atoms and molecules; vibrational, rotational, and Raman spectra; magnetic resonance spectra; X-ray, neutron, and electron diffraction; coherence effects. S/U or letter grading.

221E. Dynamics of Molecule-Molecule and Molecule-Surface Reactions. (3) Lecture, three hours; discussion, one hour. Requisites: courses C221B, C143A. Molecular dynamics: probability, ensembles, partition functions, and classical and quantum mechanical concepts and methods to understand and predict elementary reactions. Modern experimental techniques and molecular-level theory of reaction dynamics. Examples of well-studied elementary reactions. S/U or letter grading.

221F. Computational Methods for Chemists. (4) Lecture, four hours; laboratory, four hours. Preparation: programming experience in either BASIC, Fortran, C, or Pascal. Requisites: courses C110A, Mathematics 33B. Theoretical, numerical, and programming tools for constructing new chemical applications, including simple force fields and resulting statistical mechanics for simple molecules, simple ab initio methods for organic molecules and nanotubes, and classical dynamics and spectroscopy. Concurrently scheduled with course C126A. S/U or letter grading.

221G. Chemical Physics Seminar. (2) Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U or letter grading.

222. Introduction to Physical Chemistry Research. (2) Seminar, two hours; discussion, one hour. Requisite: course C215B. Seminar for entering graduate physical chemistry students. S/U grading.

222A. Structural Molecular Biology. (4) Same as Molecular Cell, and Developmental Biology M222AB. Lecture, three hours; discussion, one hour. Requisite: Mathematics 10C, Physics 13C, 5C. Selected topics from principles of biological structure; structures of globular proteins and RNA; structures of fivemolecular systems, nucleic acids, and polysaccharides; harmonic analysis and Fourier transforms; principles of electron, neutron, and X-ray diffraction; optical and computer filtering; three-dimensional reconstruction. S/U or letter grading.

222B. Structural Molecular Biology Laboratory. (2) Same as Molecular Cell, and Developmental Biology M222B. Laboratory, 10 hours. Corequisite: course M222A. Methods in structural molecular biology, including experiments utilizing single crystal X-ray diffraction, low angle X-ray diffraction, electron diffraction, optical diffraction, optical filtering, three-dimensional reconstruction from electron micrographs, and model building. S/U or letter grading.

222C. Stereochemistry and Conformational Analysis. (4) Lecture, four hours; discussion, one hour. Requisites: courses C143A, 110A. Basic physical, chemical, and biological principles in biotechnology; materials and strategies for top-down and bottom-up fabrication of ordered biologically derived molecules, characterization and detection techniques, and biomimetic materials and applications at nanoscale. Concurrently scheduled with course C140. S/U or letter grading.

222D. Special Topics in Organic Chemistry. (2 to 4 each) Requisite or corequisite: course C224A. Each course encompasses a recognized specialty in organic chemistry, generally taught by a staff member whose research interests embrace that specialty. S/U or letter grading.


224C. Theoretical and Computational Organic Chemistry. (4) Lecture, two hours; discussion, one hour; computer laboratory, one hour. Requisites: courses 30C, 110A. Applications of quantum mechanical methods and concepts to understand and predict organic structures and reactivities. Computational modeling methods, including laboratory experience with force-field and quantum mechanical computer calculations. Concurrently scheduled with course C145. S/U or letter grading.


224E. Theoretical and Physical Organic Chemistry. (4) Synthesis Methods and Synthesis of Natural Products.


225C. Spectroscopic Methods of Organic Chemistry. (4) Lecture, three hours. Requisite or corequisite: course C224A. Problem solving using proton and carbon 13 nuclear magnetic resonance, infrared spectroscopy, and mass spectrometry; new techniques in NMR, IR, and MS, with emphasis on Fourier transform NMR.

225D. Bionanotechnology. (4) Lecture, three hours. Requisites: courses 30C, 110A. Basic physical, chemical, and biological principles in bionanotechnology; materials and strategies for top-down and bottom-up fabrication of ordered biologically derived molecules, characterization and detection techniques, and biomimetic materials and applications at nanoscale. Concurrently scheduled with course C140. S/U or letter grading.


225F. Theoretical and Physical Organic Chemistry. (4) Synthesis Methods and Synthesis of Natural Products.


225I. Spectroscopic Methods of Organic Chemistry. (4) Lecture, three hours. Requisite or corequisite: course C224A. Problem solving using proton and carbon 13 nuclear magnetic resonance, infrared spectroscopy, and mass spectrometry; new techniques in NMR, IR, and MS, with emphasis on Fourier transform NMR.

225J. Bionanotechnology. (4) Lecture, three hours. Requisites: courses 30C, 110A. Basic physical, chemical, and biological principles in bionanotechnology; materials and strategies for top-down and bottom-up fabrication of ordered biologically derived molecules, characterization and detection techniques, and biomimetic materials and applications at nanoscale. Concurrently scheduled with course C140. S/U or letter grading.

249B. Problems in Advanced Organic Chemistry. (2) Designed primarily for first- and second-year graduate students as a foundation for cumulative examinations. Problems in organic reaction mechanisms, synthesis, structure determination, stereochemistry, spectroscopy, electronic theory, photochemistry, and organometallic chemistry, with emphasis on current literature. May be repeated for credit. S/U grading.

251A-251Z. Advanced Topics in Biochemistry. (2 each) Each course encompasses a recognized specialty in biochemistry, generally taught by a staff member whose research interests embrace that specialty.

M252. Seminar: Advanced Methods in Computational Biology. (2) (Same as Human Genetics M252.) Seminar; one hour; discussion, one hour. Designed for advanced graduate students. Examination of computational methodology in bioinformatics and computational biology through presentation of current research literature. How to select and apply methods from computational and mathematical disciplines to problems in bioinformatics and computational biology; development of novel methodologies. S/U or letter grading.

CM253. Macromolecular Structure. (4) (Same as Biological Chemistry CM253 and Human Genetics CM253.) Lecture, three hours; discussion, one hour. Requisites: courses 110A, 153A, 153B, 153C, 156. Chemical and physical properties of proteins and nucleic acids; structure of macromolecules; current courses and analysis of DNA; biosynthesis and processing of RNA; biosynthesis, purification, structure, and analysis of proteins; correlation of structure and biological properties. Concurrently scheduled with course CM153G. Letter grading.

CM255. Biological Catalysis. (4) (Same as Biological Chemistry CM255, Molecular, Cell, and Developmental Biology CM255, and Pharmacology M255.) Requisites: courses 110A, 153A, 153B, 153C, 156. Reactivation mechanisms in molecular biology; experimental approaches for study of enzymes, including kinetics, isotopic labeling, stereochemistry, chemical modification; and spectroscopy; design of pharmacologically active agents and artificial enzymes. Drug metabolism and interactions addressed on a mechanistic level. Concurrently scheduled with course CM155. Graduate students required to write research paper and present oral report on it.

256A-256Z. Seminars: Research in Biochemistry. (2 each) Designed, three hours. Advanced study and analysis of current topics in biochemistry. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

256A. Biochemistry of Plasma Proteins.

256B. Biochemistry of Cell Membrane Function.

256C. Biochemistry and Molecular Genetics of Fungi.

256D. Transcriptional Control Mechanisms in Drosophila Embryogenesis.

256F. Current Topics in Prokaryotic Development.

256G. Nucleic Acid Structure Determination by NMR.

256H. Basic Mechanisms of Promoter Activation.

256J. Contractile Proteins in Muscle Contraction and Cell Motility.

256K. Biochemistry and Molecular Biology of Chlamydomonas.

256L. Literature of Structural Biology.

256M. Mechanism and Regulation of Transcription Termination in Eukaryotic Organisms.

256N. Advanced Topics in Structural Biology.

256O. Membrane Biophysics.

256P. Analysis of Protein Structure.

256Q. Biochemistry and Function of Ubiquitin in Yeast and Higher Eukaryotes.

256R. Biomolecular Nuclear Magnetic Resonance Spectroscopy and Protein Structure.

256S. Proteome Bioinformatics.

256T. RNA Processing and RNA Genetics.

256U. Mitochondrial Biogenesis and Link to Disease.

256V. Proteomics and Mass Spectrometry.

257. Physical Chemistry of Biological Macromolecules. (4) Lecture, one hour; discussion, one hour; laboratory, four hours. Requisites: course 153A. Theory of thermodynamics, and optical techniques used to study structure and function of biological macromolecules. S/U or letter grading.

258. Advanced Topics in Biochemistry and Molecular Biology. (2) Lecture, three hours; discussion, two hours. Critical assessment of experimental design and methods in biochemistry and molecular biology. In-depth analysis of literature in one or more areas of current research. May be repeated for credit. S/U or letter grading.


C259B. Mechanisms in Regulation of Transcription II. (2) (Formerly numbered CM259B.) Second five weeks. Lecture, four hours. Requisites: course CM253 or M267. Non-ribosomal apparatus; sequence-specific promoter recognition; mechanisms of transcriptional activation and repression, including role of chromatin structure; transcription factors as targets for molecular biological and bioinformatics approaches, and transcription factors in embryogenesis. Concurrently scheduled with course CM159B. S/U or letter grading.

CM260A. Introduction to Bioinformatics and Genomics. (4) (Formerly numbered CM260.) (Same as Human Genetics CM260.) Lecture, three hours; discussion, one hour. Recommended requisites: Statistics 100A or 110A. Genomics and bioinformatics results and methodologies, with emphasis on concepts behind rapid development of these fields. Focus on how to think genomically via case studies showing how genomics questions map to computational problems and their solutions. Concurrently scheduled with course C160A. S/U or letter grading.


C261A. Plant Biochemistry. (4) Lecture, three hours; discussion, one hour. Requisite: course 153C. Introduction to distinctive features of plant biochemistry. Topics include photosynthesis, nitrogen metabolism, plant cell wall metabolism, and secondary metabolism in relation to stress. Concurrently scheduled with course C161A.

262. Biochemistry and Molecular Biology of Protein Translocation Systems. (3) Lecture, two hours; discussion, two hours. Requisites: courses CM253 or CM259A through 269D. Protein translocation into nucleus, mitochondrion, peroxisome, chloroplast, endoplasmic reticulum, and protein export in bacteria. Letter grading.

M263. Metabolism and Its Regulation. (4) (Same as Biological Chemistry M263.) Lecture, three hours. Requisites: course 110A, and one course from 153B, 155C, or 156, or Biological Chemistry 201A and 201B. Physical and kinetic chemistry of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of comparative aspects of metabolism in relation to physiological function.

C265. Metabolic Control by Protein Modification. (2) First five weeks. Lecture, three hours; discussion, one hour. Requisites: courses 153A, 153B, 153C. Biochemical basis of regulated catalysis. Protein pathways by posttranslational modification of proteins, including phosphorylation and methylation reactions. Concurrently scheduled with course CM150D.


268. Biochemistry Research Seminar. (2) Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students on topics of current biochemical research interest. May be repeated for credit. S/U or letter grading.


271A-271Z. Advanced Topics in Inorganic Chemistry. (2 to 4 each) Each course encompasses a recognized specialty in inorganic chemistry, generally taught by a staff member whose research interests embrace that specialty.
272A-272Z. Seminars: Research in Inorganic Chemistry. (2 each) Seminar, three hours. Advanced study and discussion of recent topics in inorganic chemistry. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

272A. Chemistry of Materials.

272B. Metallorganic, Inorganic Biometallorganic Chemistry.

272C. Inorganic Spectroscopy.

272D. Bioinorganic Chemistry and Biology of Transition Metals and Oxygen.

272E. Organometallic Synthesis and Chemical Vapor Deposition.

272G. Issues in Chemical Education.

272J. Organic Chemistry.

C273. Advanced Inorganic Chemistry. (4) Lecture, three hours; discussion, one hour. Requisite: course 171 with a grade of C– or better. Systematic approach to modern inorganic chemistry, structure and bonding of inorganic molecules and solids, structure/reactivity relationships, vibrational spectra of complexes, electronic structure and ligand-field theory, mechanisms of inorganic reactions, bonding and spectroscopy of inorganic complexes, transition metals in catalysis and biology. Concurrently scheduled with course C172. S/U or letter grading.

C274. Inorganic and Metallorganic Laboratory Methods. (5) Lecture, two hours; laboratory, eight hours. Enforced requisites: courses 30CL and C172 with grades of C– or better. Synthesis of inorganic compounds, including air-sensitive materials; Schlenk techniques; chromatographic and ion exchange methods, spectroscopic characterization and literature applications. Concurrently scheduled with course C174. S/U or letter grading.

C275. Inorganic Reaction Mechanisms. (4) Lecture, three hours. Requisites: courses 110A, 110B, 113A, C172. Survey of inorganic reactions; mechanistic principles; electronic structure of metal ions; transition-metal coordination chemistry; inner- and outer-sphere and chelate complexes; substitution, isomerization, and racemization reactions; stereochemistry; oxidation/reduction, free/radical, polymerization, and photochemical reactions of inorganic species. May be concurrently scheduled with course C175. S/U or letter grading.

C276A. Group Theory and Applications to Inorganic Chemistry. (4) Lecture, three hours; discussion, one hour. Requisites: courses 113A, C172. Group theoretical methods; molecular orbital theory; ligand-field theory; electronic spectroscopy; vibrational spectroscopy. May be concurrently scheduled with course C176. S/U or letter grading.

C276B. Physical Methods in Inorganic Chemistry. (4) Lecture, three hours. Requisite: course C276A. Theory and applications of spectroscopic techniques, including magnetic resonance and vibrational and surface science methods, to inorganic compounds and materials. S/U or letter grading.

C277. Crystal Structure Analysis. (4) Lecture, three hours. Theory and practice of modern crystallography, with emphasis on practical experience in structure determination. Topics include crystallographic symmetry, scattering theory, data collection, Fourier analysis, heavy atom techniques, direct methods, isomorphous replacement, crystallographic refinement, error analysis, and common pitfalls. S/U or letter grading.

C278. Inorganic Chemistry Student Seminar. (2) Seminars presented by staff, outside speakers, post-doctoral fellows, and graduate students. May be repeated for credit. S/U or letter grading.

C279. Biological Inorganic Chemistry. (4) Formerly numbered 279.) Lecture, three hours. Requisites: courses 153A (or 153AH), 171. Role of metal ions in biological systems; topics include metalloenzymes; metalloproteins in electron transport, respiration, and photosynthesis; metal ions in medicine. Concurrently scheduled with course C179. S/U or letter grading.


C281. Polymer Chemistry. (4) Lecture, three hours; discussion, one hour. Requisites: courses 30B, 110A. Synthesis of organic and inorganic macromolecules, thermodynamic and statistical mechanical descriptions of unique properties of polymers, polymer characterization methods, and special topics such as conductive and biomedical polymers and polymeric agents in synthesis. Concurrently scheduled with course C181. S/U or letter grading.

282. Introduction to Inorganic Chemistry Research. (2) Lecture, 90 minutes. Discussion of current research in inorganic chemistry, designed primarily for entering graduate inorganic chemistry students. S/U grading.


M370A. Integrated Science Instruction Methods. (4) Same as Earth and Space Sciences M370A and Physics M370A.) Lecture, two hours; discussion, one hour; laboratory, one hour. Preparation; one introductory lower division year (including laboratory) each of chemistry, life sciences, and physics and at least two Earth science courses, preferably one with field experience. Classroom management, lesson design, assessment, history of science education. S/U or letter grading.

M370B. Integrated Science Instruction Methods. (4) Same as Earth and Space Sciences M370B and Physics M370B.) Lecture, two hours; discussion, one hour; laboratory, one hour. Preparation: course M370A or Earth and Space Sciences M370A or Physics M370A. Application of learning theory to science instruction and classroom management, including use of technology, collaborative learning, laboratory safety, ethical issues, field experiences, and professional development. S/U or letter grading.

400. Safety in Chemical and Biochemical Research. (2) Survey of safe laboratory practices for experimental research in organic, inorganic, and physical chemistry and biochemistry. Topics include laser safety, cryogenic hazards, low- and high-pressure experimentation, gas and carcinogen handling, chemical spills, fire extinguishing, and chemical disposal. S/U grading.

495. Teaching College Chemistry. (2) Seminar, two hours; discussion, two hours; 20 hours training during week prior to Fall Quarter. Course for teaching assistants designed to deal with problems and techniques of teaching college chemistry. S/U grading.

596. Directed Individual Study or Research. (2 to 16) To be arranged with faculty member who directs the study or research. May be repeated for credit. S/U grading.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 4) S/U grading.

598. Research for and Preparation of M.S. Thesis. (2 to 16) Each faculty member supervises research of M.S. students and holds research group meetings, seminars, and discussions with the students.

599. Research for and Preparation of Ph.D. Dissertation. (2 to 16) Each faculty member supervises research of Ph.D. students and holds research group meetings, seminars, and discussions with the students.

CHEMISTRY/MATERIALS SCIENCE

Interdepartmental Program

College of Letters and Science

UCLA

4009 Young Hall
Box 951569
Los Angeles, CA 90095-1569
(310) 206-4038
e-mail: ugrad@chem.ucla.edu
http://www.seas.ucla.edu/chem-mat/

Sarah H. Tolbert, Ph.D., Chair
Vidvuds Ozolins, Ph.D., Vice Chair

Faculty Advisory Committee

Bruce S. Dunn, Ph.D. (Materials Science and Engineering)
Robin L. Garrell, Ph.D. (Chemistry and Biochemistry)
Mark S. Goorsky, Ph.D. (Materials Science and Engineering)
Richard B. Kaner, Ph.D. (Chemistry and Biochemistry)
Vidvuds Ozolins, Ph.D. (Materials Science and Engineering)
Sarah H. Tolbert, Ph.D. (Chemistry and Biochemistry)
Jeffrey Z. Tsao, Ph.D. (Materials Science and Engineering)

Scope and Objectives

The Chemistry/Materials Science major is designed for students who are interested in chemistry with an emphasis on material properties and provides students the opportunity to gain expertise in both chemistry and the science and engineering in materials such as semiconductors, photonic materials, polymers, biomaterials, ceramics, and nano-scale structures. Students explore the reactivity of such materials in different environments and
gain understanding of how chemical compositions affect properties. The major provides appropriate preparation for graduate studies in many fields emphasizing interdisciplinary research involving chemistry, engineering, and applied science.

Undergraduate Study
Chemistry/Materials Science B.S.

Preparation for the Major

Transfer Students
Transfer applicants to the Chemistry/Materials Science major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general chemistry with laboratory for majors, one organic chemistry course, one and one half years of calculus, and one year of calculus-based physics with laboratory.

Transfer applicants to the organic materials concentration must complete a full year of organic chemistry with laboratory in addition to the other courses listed above.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Chemistry and Biochemistry 110A, 113A, 171, C172 or C180 or C181, C185, 4 units from 110B, C113B, C172, C174, C175, C176, C180, C181; Materials Science and Engineering 104, 110, 110L, 120, 121 or 150 or 160, 131, 8 units from 111, 121, 122, 132, 150, 160, 162, CM180; 7 laboratory units from Chemistry and Biochemistry 114, 184, Materials Science and Engineering 121L, 131L, 161L.

The following courses may be applied only once toward the major: Chemistry and Biochemistry C172, C180, C181, Materials Science and Engineering 121L, 131L, 161L.

Organic Materials Concentration
Preparation for the Major

The Major
Required: Chemistry and Biochemistry 110A, 113A, 136, 171, C185, 4 units from 110B, C113B, C143A, 144, C172, C174, C175, C176, C180, C181; Materials Science and Engineering 104, 110, 110L, 120, 150, 4 units from 111, 121, 122, 131, 132, 160, 162, CM180; 7 laboratory units from Chemistry and Biochemistry 114, 184, Materials Science and Engineering 121L, 131L, 161L.

For further information, contact Wendy Fuji-nami, Chemistry and Biochemistry, 4009 Young Hall, (310) 825-1859.

CHICANA AND CHICANO STUDIES
AND
CÉSAR É. CHÁVEZ CENTER FOR INTERDISCIPLINARY INSTRUCTION
College of Letters and Science
UCLA
7349 Bunche Hall
Box 951559
Los Angeles, CA 90095-1559
(310) 206-7695
fax: (310) 825-2449
e-mail: chavez-info@chavez.ucla.edu
http://www.chavez.ucla.edu

Eric Avila, Ph.D., Acting Chair

Professors
Judith F. Baca, M.A.
Alicia Gaspar de Alba, Ph.D.
Kris D. Gutierrez, Ph.D.
Steven R. Lopez, Ph.D.
Reynaldo F. Macias, Ph.D.
Daniel G. Solórzano, Jr. Ph.D.
Edward Telles, Ph.D.
José Luis Valenzuela, B.A.

Associate Professors
Mayeli S. Blackwell, Ph.D.
David M. Hernández, Ph.D.
Otto Santa Ana, Ph.D.
Abel Valenzuela, Jr., Ph.D.

Assistant Professors
Eric Avila, Ph.D.
Leonardo F. Estrada, Ph.D.
Raúl A. Hinojosa-Ojeda, Ph.D.
Maria Cristina Pons, Ph.D.
Otto Santa Ana, Ph.D.

Scope and Objectives
The Chicana and Chicano studies field is the systematic and interdisciplinary analysis and exploration of Mexican-origin communities in the U.S. It also examines other Latina/Latino and indigenous populations in the Americas and ways they influence Chicanas and Chicanos and their communities.

The strength of the undergraduate major in Chicana and Chicano Studies is the cross-disciplinary approach to teaching and the critical skills approach to learning. Interdisciplinarity is an academic objective, achieved through the strengths and expertise of the department's faculty members whose disciplines span the arts, cultural studies, history, Latin American literature, sociolinguistics, education, and urban planning.

The department's location in Los Angeles places it in a unique position to draw from this large and diverse city. Los Angeles is home to the largest community of Mexican-origin people in the nation and the second largest in the world, as well as home to several other Latino groups. California is home to 40 percent of the foreign-born population in the nation, and this is concentrated in the southern part of the state. Being in Los Angeles allows students to focus study on the social experiences, historical realities, cultural practices, linguistic attributes, and literary and artistic productions of these communities.

The interdisciplinary curriculum is an effective environment for teaching fundamental academic skills such as critical thinking and writing, as well as for exposing students to the wide range of theories, methodologies, technologies, and pedagogies that intersect the discipline. The curriculum is bilingual, learner-centered, writing-intensive, and academically rigorous.

Undergraduate Study
Chicana and Chicano Studies B.A.

The B.A. program in Chicana and Chicano Studies is committed to the practice of different forms of scholarship and pedagogy and to the promotion of critical thinking about such issues as gender, sexuality, social action, language, race, ethnicity, class, assimilation/acculturation paradigms, and indigenous traditions. The literary and visual arts often function as vehicles for social change and creative empowerment, and so they constitute one focus of the curriculum, which aims to strike a balance among the social sciences, humanities, arts, and the professions. The major prepares students for graduate education in academic and professional fields and for a variety of positions that involve community and social service in the U.S. and abroad.

Preparation for the Major
Required: Chicana and Chicano Studies 10A, 10B, Spanish 5 or equivalent.

Transfer Students
Transfer applicants to the Chicana and Chicano Studies major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one interdisciplinary Chicana/Chicano history and culture course, one interdisciplinary Chicana/Chicano social structure and contemporary conditions course, and five quarter terms of Spanish.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: A total of 15 upper division courses, including Chicana and Chicano Studies 100SL, 101; nine courses from the approved list of Chicana and Chicano Studies courses (available in the department office each term); and three related study courses and one ad-
Honors Program
The Chicana and Chicano Studies honors program provides the opportunity for motivated and dedicated students to undertake a year-long research or creative project with the guidance and supervision of a faculty member. The program is open to all juniors and seniors who have (1) a 3.5 grade-point average in the major, (2) a cumulative GPA of 3.0 or better, and (3) completed 90 or more total units, including Chicana and Chicano Studies 10A, 10B, 101, and one course from 89, 89HC, 189, or 189HC.

The application for admission must be submitted in Spring Quarter of the year prior to admission to the program, with the advice and consent of a faculty sponsor. The proposal, research, data collection, analysis, and writing of the thesis (or the creative equivalent to this process) take place in Chicana and Chicano Studies 198A, 198B, and 198C, which may not be applied toward the major requirements. An honors thesis of at least 30 pages or a significant creative project is required.

Students who are currently undertaking the optional multidisciplinary senior thesis and who are eligible for the honors program may opt to switch to the honors program (provided it does not delay their progress toward the degree) with the approval of the department.

Optional Multidisciplinary Senior Thesis
Chicana and Chicano Studies majors have the option during their senior year to enroll in two 199 courses with the intention of producing an undergraduate thesis. The first term includes thesis conceptualization and formulation, along with preliminary data collection for the thesis. The second term entails completion of the data collection, analysis of the data, and writing of the thesis. Enrollment in the two 199 courses is with the advice and consent of a faculty member.

Chicana and Chicano Studies Minor
The Chicana and Chicano Studies minor complements study in another traditional field. Students participating in the minor are required to complete both a departmental major in another discipline and the Chicana and Chicano Studies minor.

To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed 45 units, and file a petition with the student adviser in 7351 Bunche Hall.

Required Lower Division Courses (10 units): Chicana and Chicano Studies 10A, 10B.

Required Upper Division Courses (20 units minimum): Chicana and Chicano Studies 101 and four elective courses (20 units minimum) selected from the approved list (available in the department office each term).

No more than one upper division course may be applied toward both this minor and a major or minor in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Chicana and Chicano Studies

Lower Division Courses
10A. Introduction to Chicana/Chicano Studies: History and Culture. (5) Lecture, three hours; discussion, one hour. Interdisciplinary survey of diverse historical experiences, cultural factors, and ethnic/cultural paradigms, including indigenousness, gender, sexuality, language, and borders, that help shape Chicana/Chicano identity. Emphasis on critical reading and writing skills. Letter grading.

10B. Introduction to Chicana/Chicano Studies: Social Structure and Contemporary Conditions. (5) Lecture, three hours; discussion, one hour. Multidisciplinary examination of representation, ideologies, and material conditions of Chicanas/Chicanos, including colonialism, race, labor, immigration, poverty, assimilation, and patriarchy. Emphasis on critical reading and writing skills. Letter grading.

88. Sophomore Seminars: Chicana and Chicano Studies. (2) Seminar, two hours. Limited to lower division students. Readings and discussions designed to introduce students to current research in Chicana/Chicano studies. Culminating project may be required. May not be applied toward departmental major or minor requirements. P/NP or letter grading.

97. Variable Topics in Chicana and Chicano Studies. (2) Seminar, two hours. Limited to 20 students. Introductory course on Chicana/Chicano studies through readings and assignments. P/NP or letter grading.

98. Professional Schools Seminars. (2) Seminar, two hours. Designed for students interested in professional (nonacademic) settings.

Upper Division Courses
100SL. Bachelor Service Learning. (4) (Formerly numbered 198S.) Seminar, two hours, field placement, eight hours. Limited to juniors/seniors. Service learning placement in community-based organization, labor union, or service-oriented nonprofit organization. Study of role that these organizations play in improvement and change of Chicana/Chicano communities. Students meet on regular basis with instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. Letter grading.

101. Theoretical Concepts in Chicana and Chicano Studies. (4) Lecture, four hours; discussion, one hour. Required for course 10A or 10B. Survey of different theoretical approaches to field of Chicana and Chicano studies. Letter grading.

M102. Mexican Americans and Schools. (4) (Same as Education M102.) Seminar, four hours. Theoretical and empirical overview of Chicana/Chicano educational issues in the U.S., with special emphasis on disentangling effects of race, gender, class, and immigrant status on Chicana/Chicano educational attainment and achievement. Examination of how historical, social, political, and economic forces impact Chicana/Chicano educational experience. P/NP or letter grading.

M103C. Origins and Evolution of Chicano Theater. (5) (Same as Theater M103C.) Lecture, three hours. Designed for juniors/seniors. Exploration of development of Chicano theater from its beginning in legends and rituals of ancient Mexico to work of Luis Valdez (late 1960s). P/NP or letter grading.

M103D. Contemporary Chicano Theater: Beginning of Chicano Theater Movement. (5) (Same as Theater M103D.) Lecture, three hours. Analysis and discussion of historical and political events from 1965 to 1980, as well as theatrical traditions which led to emergence of Chicano theater. Letter grading.

M103G. Contemporary Chicano Theater: Chicano Theater since 1980. (5) (Formerly numbered M103H.) (Same as Theater M103G.) Lecture, three hours. Required for course M103D. Analysis and discussion of Chicano theater since 1980, including discussion of Chicana playwrights, magic realism, Chicano comedy, and Chicano performance art. Letter grading.

M105A. Early Chicana/Chicano Literature. (5) (Same as English M105A.) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: English Composition 3 or 3H. Survey of Chicana/Chicano literature from the 16th century through Zoot Suit Riots (1943), including both oral and written forms of literary expression (corridos, folktales, essays, memoirs, novels, and poetry) by such authors as Cabeza de Vaca, Juan Seguin, America Paredes, and Maria Ruiz Amparo Burton. P/NP or letter grading.

M105B. Recent Chicana/Chicano Literature. (5) (Same as English M105B.) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: English Composition 3 or 3H. Survey of Chicana/Chicano literature since 1943, beginning with reactions to Zoot Suit Riots and continuing through Chicana/Chicana Movimiento to contemporary literature. Drama, novels, memoirs, essays, and poetry by such authors as Luis Valdez, Cheech Marin, Sandra Cisneros, Rodolfo Anaya, Rolando Hinojosa, Oscear Zeta Acosta, and Ana Castillo. P/NP or letter grading.

M106. Health in Chicano/Latino Population. (4) (Same as Public Health M106.) Lecture, four hours; discussion, one hour. Designed for juniors/seniors. Examination of Chicano/Latino health status through life expectancy, causes of death, reportable diseases, services utilization, provider supply, and risk behaviors within demographic/immigration changes. Bilingual review of health effects in the U.S. and Mexico. Letter grading.
M108A. Music of Latin America: Mexico, Central America, and the Caribbean Isles. (4) (Same as Ethnomusicology M108A.) Lecture, four hours; discussion, one hour. An overview of musical traditions of Latin America from the mid-19th century to the present day. P/NP or letter grading.

M110. Chicana/Chicano Community. (4) Lecture, four hours. Examination of Chicana/Chicano community in the mid-19th century and development of Chicana/Chicano folklore to the present day. P/NP or letter grading.


M116. Chicano/Latino Music in the U.S. (4) Lecture, four hours; discussion, one hour. Historical and analytical examination of Chicano music in the context of the commercial music industry. P/NP or letter grading.


M111. Issues in Latina/Latino Poverty. (4) (Same as Urban Planning M140.) Lecture, three hours. Examination of nature and extent of urban and rural poverty confronting Latina/Latino population in the U.S. Special emphasis on policies of government and nonprofit organizations and social planning and economic development strategies. Attention also to literature on the underclass. Letter grading.


M114. Chicanos in Film/Video. (6) Lecture, five hours; discussion, one hour. Historical and theoretical analysis of films that subvert or “signify” on these Hollywood films, the Western, and the gang films — which are major genres that account for films “about” or “with” Mexican Americans produced between 1908 and 1960. Examination of recent Chicano-produced films that subvert or “signify” on these Hollywood genres, including Zoot Suit, The Ballad of Gregorio Cortez, and Born in East L.A. Consideration of short films, more experimental work that critiques the Hollywood image of Chicano/Chicana. Letter grading.

M115. Musical Aesthetics in Los Angeles. (4) (Same as Ethnomusicology M115.) Lecture, three hours. Envisioning aesthetics from classical perspective of art as intuition, examination on a cross-cultural basis of music and society within the vast multicultural metropolis of Los Angeles, with focus on various musical networks and specific experiences of the Chicanos, African American, Native American, Asian, rock culture, Western art music tradition, and the commercial music industry. Letter grading.

M116. Chicanos/Latinos in the U.S. (4) (Same as Ethnomusicology M116.) Lecture, four hours; discussion, one hour. Historical and analytical examination of musical expression of Latinos with an emphasis on present geographical boundaries of the U.S. Letter grading.

M117. Student-Initiated Retention and Outreach Issues in Higher Education. (4) (Formerly numbered M117R.) (Same as Afro-American Studies M118, American Indian Studies M118, and Asian American Studies M168.) Lecture, four hours. Exploration of issues in outreach and retention of students in higher education, especially through student-initiated programs, efforts, activities, and services, with focus on UCLA as a case study. May be repeated twice for credit. Letter grading.


M120. Immigration and the Chicano Community. (4) Lecture, three hours. Discussion on relationship between international immigration and development of the Chicano/Latino community. Examination of U.S. immigration policy and relationship between Mexican-origin population and other Latin American immigrants. Letter grading.

M121. Issues in Latina/Latino Poverty. (4) (Same as Urban Planning M140.) Lecture, three hours. Examination of nature and extent of urban and rural poverty confronting Latina/Latino population in the U.S. Special emphasis on policies of government and nonprofit organizations and social planning and economic development strategies. Attention also to literature on the underclass. Letter grading.


M123. Applied Research Methods in Latina/Latino Communities. (4) Lecture, three hours. Through four readings, articles, and a survey of the field, students will be introduced to several applied research methods that are highly effective in producing sound and methodologically rigorous studies on poor and/or Latina/Latino communities. Students will then be encouraged to use these methods for critical analysis and policy recommendations for future research. Letter grading.

M124. From Latin America to the U.S.: Immigration and Latino Identity. (4) (Same as Honors College M143.) Lecture, three hours. Overview of immigration in the 20th century, examining social, political, and economic contexts out of which different waves of Latin American immigration to the U.S. has occurred. Letter grading.

M125. U.S./Mexico Relations. (4) (Formerly numbered M197B.) (Same as English M139.) Lecture, four hours. Discussion of socioeconomic, demographic, and political forces that shape low-income communities and analyses of planning intervention strategies. Emphasis on community and economic development and environmental equity. Letter grading.


M128. Race, Gender, and U.S. Labor. (4) Lecture, four hours. Discussion of labor organizing and labor movements in the U.S. and North America. Discussion of race, class, and gender issues raised within the movement, and various strategies for social change and economic equity pursued through organized labor and other means. Letter grading.

M129. Topics in Chicana/Chicana Literature. (5) (Formerly numbered M197B.) (Same as English M179B.) Seminar, four hours. Required reading knowledge of Spanish (level 4). Analysis of Chicana literature, focusing on Chicana Chicano writers and their Latin American roots. Analysis of narrative literary production of Chicana/Chicana writers and their Latin American counterparts in English and Spanish, with particular focus on how each group deals with gender, ethnic, and class identities. Letter grading.

M130. Chicana and Latin American Women's Narrative. (4) Lecture, four hours. Preparation: reading knowledge of Spanish (level 4). Analyses, comparisons, and discussion of narrative literary production of U.S. Chicana writers and their Latin American counterparts in English and Spanish, with particular focus on how each group deals with gender, ethnic, and class identities. Letter grading.

M132. Border Consciousness. (4) Lecture, three hours. Investigation through history, popular culture, and mass media of bilingual and bicultural realities produced by geographical and cultural space between Mexico and the U.S. Special attention to border consciousness as site of conflict and resistance. Letter grading.


M134. Exhibiting Cultures. (4) Lecture, three hours. Analysis, through a cultural studies perspective, of exhibitions that have occupied space in mainstream museums across the U.S. since the mid-1980s. Examination of how these shows both serve and subvert a multicultural agenda in the art world and how political identities are packaged and produced in process of exhibition-making. Field trips to local museums.

M135. Bilingual Writing Workshop. (4) (Formerly numbered M190.) (Same as Women's Studies M135C.) Seminar, four hours. Writing sample required on first day of class; access to course Web page mandatory; need not be bilingual to enroll. Technical instruction, analysis, and theoretical discussion of bilingual creative expression, with focus on specific genre (i.e., autobiography, poetry, fiction). Emphasis on memory, identity, gender, and sexuality. Letter grading.

M136. Mesoamerican Literatures. (4) (Formerly numbered M191.) Course mandatory; need not be bilingual to enroll. Special emphasis on antipoverty policies of government and nonprofit organizations and social planning and economic development strategies. Emphasis on community and economic development and environmental equity. Letter grading.
143. Mestizaje: History of Diverse Racial/Cultural Roots of Mexico. (4) Lecture, four hours. Historical examination of development of racial and cultural roots of Chi- canas and Chicanos. Utilizing theoretical frameworks of mestizaje, Aztecn, indigenismo, La Raza Cósmica, and la tercera raza, examination of some important groups who have contributed to formation of Mexican national culture. Development of race relations in Mexico during colonial period, with focus on analysis of Nahua (Aztecs), Mixtecs, Spaniards, and African slave population. Review of Asian immigration to Mexico and California during national period, specifically examination of migration and adaptation experiences of Chinese, Japanese, and Punjabi-Indian immigrants. P/NP or letter grading.

M144. Women's Movement in Latin America. (4) (Formerly numbered 144.) (Same as Women's Studies M144.) Lecture, four hours. Course on women's movements and feminism in Latin America and Caribbean to examine diverse social movements and locations from which women have launched political and gender struggles. Discussion of forms of feminism and women's consciousness that have emerged out of indigenous rights movements, environmental struggles, labor movements, Christian-based communities, peasant and rural organizing, and new social movements that are concerned with race, sexuality, feminism, and marriage. Comprehensive study of women's movements in diversity of political systems as well as national and transnational arenas, students gain understanding of historical contexts and political conditions that give rise to women's resistance, as well as major debates in field of study, P/NP or letter grading.

M145A-M145B. Introduction to Chicoano Literature. (4-4) (Same as Spanish M145A-M145B.) Lecture, three hours; discussion, two hours; outside study, one hour. Introduction to texts representative of the Chicoano literary heritage. Sampling of genres, as well as historical and geographical settings and points of view characteristic of Chicoano literature written during the 20th century. Most required reading is in Spanish. Bilingual and English works are included and discussed. Reading and analysis of a number of important scholarly and critical statements pertaining to characteristics and development of the Chicoano literary corpus. Letter grading. M145A. Literature to 1960; M145B. Literature after 1960.

M146. Chicoano Narrative. (4) (Same as Spanish M146.) Lecture, three hours. Introduction to major narrative genres in Chicanachicano literary tradition — Corrido, Semblanza, chronicle, autobiography, novel, romance, Emphasis on way in which narrative forms are formed by and address specific social/historical problems.

M147. Transnational Women's Organizing in Americas. (4) (Formerly numbered 147.) (Same as Women's Studies M147.) Lecture, four hours. Femini- nist theories of transnational organizing. Examination of gender and race as central to processes of global- ization and essential to economic and political struggles encompassed in transnational power relations. Exploration of how questions of race and gender influence global economic policies and impact local actors and their communities. In time when people, capital, culture, and ideologies cross national borders with growing frequency, discussion of process of ac- celerated globalization has been linked to feminiza- tion of labor and migration, environmental degra- dation, questions of diagnosis and cultural roots of Chi- canas and Chicanos, with focus on analysis of Nahua (Aztecs), Mixtecs, Spaniards, and African slave population. Review of Asian immigration to Mexico and California during national period, specifically examination of migration and adaptation experiences of Chinese, Japanese, and Punjabi-Indian immigrants. P/NP or letter grading.


150. Affirmative Action: History and Politics. (4) Lecture, four hours. Historical examination of political economic context in which affirmative action policies and programs were implemented. Re- view of impact on Chicanas/Chicanos, Latinas/Lati- nos, and other communities. Specific analysis of uni- versity admissions, hiring and contracting practices, and state initiatives. Letter grading.


M155. Latinos in the U.S. (4) (Same as Sociology M155.) Lecture, three hours; discussion, one hour. Designed for junior/senior level examination of history and social conditions of Latinos in Los Angeles as well as nationally, with particular emphasis on their loca- tion of origin, large-scale structures, and on collabo- rations with other minority groups. Topics include migra- tion, family, education, and work issues. P/NP or letter grading.

M156A. Immigrant Rights, Labor, and Higher Edu- cation. (4) (Same as Asian American Studies M166A and Labor and Workplace Studies M166A.) Seminar, three hours. New immigrant rights movement, with particular attention to labor and higher education. Overview of history of immigrant rights movement and examination of development of coalition efforts between labor movement and immigrant rights move- ment nationally and locally. Special focus on issue of immigrant students in higher education, challenges facing undocumented immigrant students, and legis- lative and policy issues that have emerged. Students conduct oral histories, family histories, research on immigration and immigrant rights, write poetry and spoken word about immigrant experience, and work to collectively develop student publication on immi- grant students in higher education. P/NP or letter grading.

M156B. Research on Immigration Rights, Labor, and Higher Education. (4) (Same as Asian Ameri- can Studies M166B and Labor and Workplace Studies M166B.) Seminar, two hours. Requisite: course M156A. Expansion of research conducted by stu- dents in course M156A involving oral histories, re- search on immigration/labor/higher education, and evaluation of legislation and legal issues impacting undocumented students. Letter grading.

M159A. History of Chicanos Peoples. (4) (Same as History M151A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for seniors/ele- niors. Survey lecture course on historical develop- ment of Mexican (Chicano) community and people of Mexican descent (Indio-Mestizo-Mulato) north of Rio through the 17th, 18th, and 19th centuries, with spe- cial focus on labor and politics. Counterpoints for student compositions and oral reports and supply part of raw data for learner's jour- nal. Review of key areas of Spanish grammar to allow UCLA students to improve language skills, increase knowledge of Latino community and new immigrant Latino youth, and help Venice students improve their English. Some discussions concern U.S. culture, im- portance of higher education, student adaptation to life in the U.S., and stimulating their interest in high- er education. P/NP or letter grading.

159B. History of Chicoano Peoples. (4) (Same as History M151B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for seniors/se- niors. Survey lecture course on historical develop- ment of Mexican (Chicano) community and people of Mexican descent in the U.S. through the 20th century, with special focus on labor and politics. Provides inte- grated understanding of Mexican community by inquiry into major formative historical and policy issues affecting community. Within frame- work of historical development of Mexican community in America deals with social structure, economy, labor, culture, political organization, conflict, and ideology. Developments re- lated to historical events of significance occurring both in the U.S. and Mexico. Lectures, special pre- sentations, readings, assignments, written examina- tions, library and/or field research, and submission of paper. P/NP or letter grading.

160. Introduction to Chicanas/Chicano Speech in America. (4) Lecture, three hours. Survey course presenting (1) basic elements of Chicanano lan- guage use, including history of Chicanano languages, types and social functions of Chicanano speech (pachu- co, caló, Spanglish), sexist language, and multilin- gualism and monolingualism and (2) major social is- sues associated with language use by Chicanos and other urban ethnic populations.

161. Chicano Sociolinguistics. (4) Lecture, three hours. Requisite course is introduction to sociolinguistics of various theories of sociolinguistics, social/cultural change, ethnicity, and power to develop a cohesive model of Chicanano sociolinguistics. Topics include histories and typology of Chicanano language varieties, language change and maintenance/loss, language attitude studies, and American social institutional (media, edu- cational, legal) responses to Chicanos presence.

162. Language Research in Barrio. (4) Lecture/ practicum, three hours. Group-oriented practicum to gather, record, and analyze languages spoken in Chicanos community, using scientific methods. Develop- ment of research agenda, research document, gathering of actual speech and its analysis, and writ- ing of final report under guidance of instructor. Student-selected research topics have included lan- guage takeover in barrio, public portraits of Latins, and societal and educational attitudes toward language use of Latinos. Introduction to oral history, sociolin- guistic interviewing, and social science methodology. Letter grading.


M164SL. Spanish/English Exchange. (5) (Same as Spanish M164SL.) Seminar, three hours; fieldwork at Venice High School, four hours. Preparation: two years of college or university Spanish. Students are paired with one or more English as a Second Lan- guage (ESL) Venice High students and converse for two hours in Spanish and two hours in English. Topics for Spanish portfolio provided in APS manual; topics for English exchange selected by ESL teacher. En- counters form basis for student compositions and oral reports and supply part of raw data for learner's jour- nal. Review of key areas of Spanish grammar to allow UCLA students to improve language skills, increase knowledge of Latino community and new immigrant Latino youth, and help Venice students improve their English. Some discussions concern U.S. culture, im- portance of higher education, student adaptation to life in the U.S., and stimulating their interest in high- er education. P/NP or letter grading.

165. Language in Education. (4) Lecture, three hours. Examination of language issues pertinent to educational systems, including language equity, lit- eracy, testing, and socialization, as well as institution- al ideologies.
166. Paulo Freire for Chicana/Chicana Classroom. (4) Seminar, four hours. Introduction to pedagogy of Paulo Freire and examination of historical and contemporary problems circumscribing Chicana/Chicana education. Central focus to offer Freirian alternative to answer theoretical, methodological, practical, and policy questions about schooling of Chicanas/Chicanos in the U.S. P/NP or letter grading.

M167A-M167B. Intercultural Dynamics in American Society and Culture. (5-5) (Same as Afro-American Studies M167A-M167B and Asian American Studies M167A-M167B.) Seminar, two hours. Not open to freshmen or students with credit for GE Clusters 20A and/or 20B. Examination of nature and meaning of race, racism, and interracial dialogues in the U.S. through various disciplinary perspectives, including sociology, history, literary criticism, and film studies. Race as social and historical category that shapes contemporary American life. P/NP or letter grading.

M167A. Enforced corequisite: attendance, but not enrollment, in GE Clusters 20A lecture; M167B. Enforced corequisite: attendance, but not enrollment, in GE Clusters 20B lecture.

168. Representations of Latinos in Print Media. (4) Lecture/research, three hours. Examination of systemic (mis)representations of Latinos by a print media source (Los Angeles Times) by means of critical discourse analysis and metaphor theory. Investigation of empirical basis for theories of racism in language in this context. Student projects range from immigration to education and crime to culture.


M170. Latinos, Linguistics, and Literacy. (5) (Same as Honors Collegium M128 and Spanish M172.) Seminar, four hours; field project, four to six hours. Recommended requisite: Spanish 100A. In-depth study of various topics related to literacy, including different definitions of literacy, programs for adult preliterates, literacy and gender, approaches to literacy, and specific language (Chicana aesthetic). Chicana artists have developed unique experience and identity as artists and Chicanas. Letter grading.

171. Latino Social Policy. (4) Lecture, three hours. Examination of social welfare of Latinos (Chicanos, Puerto Ricans, and Cubans) in the U.S. through assessment and critical analysis of social policy issues affecting them. Survey of social, economic, cultural, and political circumstances affecting ability of Latinos to access public benefits and human services. Letter grading.


179. Language Politics and Policies in the U.S.: Comparative History. (4) Lecture, four hours. Historical survey of language policies and language groups in the U.S. as context to understanding social, legal, and political constraints on bilingualism. Review of federal, state, and institutional language policies and politics, with focus on schooling, administration of government, justice, and workplace. Letter grading.


M182. Understanding Whiteness in American History and Culture. (4) (Formerly numbered 182.) (Same as History M105C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History, construction, and representation of whiteness in American society. Readings and discussions trace evolution of "white" identity and explore its significance to historical construction of race class in American history. Letter grading.

183. History of Los Angeles. (4) (Same as History M155.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Social, economic, cultural, and political development of Los Angeles and its environs from time of its founding to the present. Emphasis on diverse peoples of area, changing physical environment, various interpretations of city, and Los Angeles’ place among American urban centers. P/NP or letter grading.

184. Identities in Space and Time: Regional History of U.S./Mexican Borderlands. (4) Lecture, four hours. Survey of historic and geographic diversity of Chicana/Chicana identity and culture, with emphasis on regional communities of California, New Mexico, and Texas in “Spanish/Mexican” borderlands as situated within the U.S. national context. Letter grading.

M185. Whose Monument Where: Course on Public Art. (4) (Formerly numbered M188.) (Same as Art M185 and World Arts and Cultures M126.) Lecture, four hours. Recommended corequisite: course M186AL, M186B, or M186C. Examination of public monuments in the U.S. as basis for cultural insight and critique of American values from perspective of artist. Use of urban Los Angeles as textbook in urban space issues such as who is the “public” what is a “public space” at end of the 20th century, what defines neighborhoods, and do different ethnic populations use public space differently. P/NP or letter grading.

M186A. Beyond the Mexican Mural: Beginning Muralism and Community Development. (4) (Same as Art M186A and World Arts and Cultures M125A.) Studio/lecture, six hours. Corequisite: course M186AL. Investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created images and or painting for placement in a community. Students research, design, and work with community participants. P/NP or letter grading.

M186AL-M186BL-M186CL. Beyond the Mexican Mural: Muralism and Community Laboratory. (2-2-2) (Same as Art M186AL-M186BL-M186CL and World Arts and Cultures M125AL-M125BL-M125CL.) Laboratory, two hours. Course M186AL is requisite to M186BL, which is requisite to M186CL. Mural and Digital Laboratory is art studio housed at Social and Public Art Resource Center in Venice, CA, where students work in community-based setting. Open to studio students; studio schedules vary by academic technical support, it offers instruction as students independent-ly and in collaborative teams research, design, and produce large-scale painted and digitally generated murals to be placed in community setting. P/NP or letter grading. M186AL. Beginning; M186BL. Intermediate; M186CL. Advanced.

M186B. Beyond the Mexican Mural: Intermediate Muralism and Community Development. (4) (Same as Art M186B and World Arts and Cultures M125B.) Studio/lecture, six hours. Requisites: courses M186A, M186AL. Corequisite: course M186BL. Continuation of investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and or painting for placement in community. Students research, design, and work with community participants. Continuation of project through states of production to full scale and community approval. P/NP or letter grading.
M186C. Beyond the Mexican Mural: Advanced Muralism and Community Development. (4) (Same as M186C, Visual Arts and Cultures, M125C.) Studio/lecture, six hours. Requisites: courses M186B, M186BL. Corequisite: course M186CL. Continuation of investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and/or painting for placement in community. Students research, design, and work with community participants. Continuation of project through installation, documentation, and dedication, with work on more advanced independent projects. P/NP or letter grading.

188. Special Courses in Chicana and Chicano Studies. (4) Seminar, three hours. Some sections may require prior coursework. Program-sponsored experimental or temporary courses such as those taught by visiting faculty members. May be repeated for credit. P/NP or letter grading.

190. Research Colloquia in Chicana and Chicano Studies. (2) Seminar, two hours. Designed to bring together students undertaking supervised tutorial research in one or more faculty members to present reports, discuss research methodologies, share findings, and provide feedback on each other's work. Culminates in public "summit" of Chicana/Chicano student research at which students are expected to present polished position papers on their research. P/NP grading.


192. Undergraduate Practicum in Chicana and Chicano Studies. (4) Seminar, four hours. Requisite: course 10A or 10B. Limited to juniors/seniors. Training and supervised practicum for advanced undergraduate students who assist in preparation of materials and development of innovative programs or courses of study under guidance of faculty member in small group settings or one-on-one setting. May not be applied toward departmental major or minor elective requirements. P/NP or letter grading.

193. Readings/Speaker Series Seminars: Chicana and Chicano Studies. (2) Seminar, one hour. Designed for undergraduate students who are part of research group. Discussion of current literature in field or of research of faculty members or students. Use of specific research method on selected topic. May be repeated for credit with topic change. P/NP grading.

195. Community Internship in Chicana and Chicano Studies. (4) Tutorial, two hours; field placement, eight hours. Limited to juniors/seniors. Internship in supervised setting in community agency or business. Students meet on regular basis with instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. P/NP or letter grading.

196. Research Apprenticeship in Chicana and Chicano Studies. (2 to 4) Tutorial, three hours. Requisite: course 10A or 10B. Limited to juniors/seniors. Entry-level research apprenticeship for upper division students under guidance of faculty mentor. Participation in all aspects of research project, including library research, reading materials, and compilation of data, with scheduled meetings throughout term with faculty mentor for discussion of project. May be repeated under different contract; consult department. May not be applied toward departmental major or minor requirements. Individual contract required. P/NP or letter grading.

197. Individual Studies in Chicana and Chicano Studies. (2 to 4) (Formerly numbered 199B.) Tutorial, four hours. Requisites: courses 10A, 10B. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for a maximum of 8 units. Individual contract required. P/NP or letter grading.

198A-198B-198C. Honors Research in Chicana and Chicano Studies. (2 each) Tutorial, one hour. Limited to junior/senior honors program students. Involves building on the existing research of seniors. May be repeated for credit. P/NP or letter grading.

Graduate Courses

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

485. Learner-Centered Teaching in Chicana/Chicano Studies. (4) Seminar, four hours. Designed for graduate students and required of all new department teaching apprentices. Interactive forum for discussing learner-centered teaching in Chicana/Chicano studies. Exploration of diverse classroom strategies and pedagogical techniques specific to interdisciplinary field. Topics include preparing for discussion sections, promoting discussion among students, using class websites, office hours, grading, and campus resources. May be repeated once for credit. S/U grading.

CIVIC ENGAGEMENT Interdisciplinary Minor
College of Letters and Science

UCLA
A316 Murphy Hall
Box 951430
Los Angeles, CA 90095-1430
(310) 825-3223
fax: (310) 267-5166
e-mail: civicengagement@college.ucla.edu
http://www.college.ucla.edu/up/ccl/
Kathy O’Byrne, Ph.D., Chair
Faculty Advisory Committee

Joel D. Aberbach, Ph.D. (Political Science)
Jan de Leeuw, Ph.D. (Statistics)
Franklin D. Gilliam, Jr., Ph.D. (Political Science)
Reynaldo F. Macias, Ph.D. (Chicana and Chicano Studies)
Ruth M. Milkman, Ph.D. (Sociology)
Kathy O’Byrne, Ph.D. (Center for Community Learning)

Meredith Phillips, Ph.D. (Public Policy)
Susan J. Plann, Ph.D. (Spanish and Portuguese)
Robert N. Watson, Ph.D. (English)

Scope and Objectives

The Civic Engagement minor is designed to provide students with a core analytical, experiential, and theoretical framework for understanding issues of community building, governance, and the use of civic resources. It examines the connections between individual success and societal structures, while exploring traditions of service and the history of civic movements. The minor can be paired with any major as an applied and active way of putting disciplinary tools to use and is intended for highly motivated students of any ideological perspective who are committed to education among a broader community of learners.

Students complete a core curriculum, elective courses, an internship, and a capstone project involving research on a public policy issue. Three internship programs are available: local Los Angeles area internships, state internships through the University of California Center in Sacramento (UCCS) program, and national internships through the Center for American Politics and Public Policy (CAPPP) program in Washington, DC.

Undergraduate Study

Civic Engagement Minor

The Civic Engagement minor integrates local, state, and national internships with an academic context that enriches the valuable learning gained through meaningful work.

To enter the minor, students must (1) have an overall grade-point average of 2.7 or better, (2) submit an application and an essay, and (3) submit a letter of recommendation from a faculty member. To help plan the internship and course schedule, students are expected to select faculty sponsors with relevant expertise in the academic or service area in which they intend to concentrate. Applications are available on-line at http://www.college.ucla.edu/up/ccl/ and must be filed with the Center for Community Learning, A265 Murphy Hall.

Students who complete the minor with a grade-point average of at least 3.5 in their minor coursework, an overall GPA of 3.5, and Civic Engagement 198 for their capstone experience qualify for graduation with College Honors.
Required Lower Division Course (4 or 5 units): One course, with a grade of C or better, from English 4WS, General Education Clusters M24CW with a service learning component approved by petition if selected, General Education Clusters M24A and M24B must also be taken), General Education Clusters 80B (if selected, General Education Clusters 80A and 80C must also be taken), History 2B, Public Policy 10A, or Sociology 1.

Students who enroll in a lower division course without a service learning component are required to (1) present evidence of regular participation in a substantive service project or (2) select a service learning course as their upper division elective.


The capstone experience for the minor requires an integrative final paper or project that incorporates the required curriculum and elective courses. Students complete the capstone experience under the guidance of a specific faculty sponsor and enroll in either Civic Engagement 198 or 199 in the final quarter of the minor. The faculty sponsor approves the proposed readings as well as the length and scope of the final paper or project based on guidelines developed by the faculty advisory committee for the minor.

Required Upper Division Internship, Seminar, and Capstone Courses (19 units): Students must select from either local, state, or national internship locations as follows:

Local Los Angeles-area internships span three consecutive terms at the same internship location. Students enroll in three consecutive terms of a 195 internship course. Placements are selected in consultation with the Center for Community Learning minor coordinator and are based on both student interest and faculty recommendations. During the first two terms, students must take Civic Engagement 194A and 194B with grades of B or better. They must also complete a capstone experience through course 198 or 199.

State internships span one term through participation in the University of California Center in Sacramento (UCCSS) program during Winter, Spring, or Summer Quarter. Students enroll in Civic Engagement 191SA, 194SA, and 195SA. They must also complete a capstone experience through course 198 or 199. Applications are available at http://www.college.ucla.edu/ up/ccl/ or in A265 Murphy Hall, (310) 825-7867, ccl@college.ucla.edu.

National internships span one term through acceptance into the Center for American Politics and Public Policy (CPPPP) program in Washington, DC. In the Fall or Spring Quarter program, students enroll in History/Political Science/Sociology M191DC and M195DC plus one 4-unit elective course; in the Winter Quarter program, students enroll in History/Political Science/Sociology M194DC and M195DC plus one 4-unit elective course. They must also complete a capstone experience through course 198 or 199. Applications are available at http://www.cpppp.ucla.edu.

No more than one upper division course may be applied toward both this minor and a major or minor in another department or program. All minor courses (except internships) must be taken for a letter grade, with an overall grade point average of 3.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Civic Engagement Lower Division Course

18. Bruin Leaders: Model for Social Change. (1) Lecture, two hours; fieldwork, one hour. Introduction to leadership development and civic engagement through community service. Based on nonhierarchical mode of leadership developed by UCLA Graduate School of Education and Information Studies. Topics include diversity issues, organizational skills and team-building development, and personal growth and community service goals. Participation in first-week orientation session required. Consult Schedule of Classes for topics to be offered in specific term. May not be repeated for credit. P/NP grading.

Upper Division Courses

105SL. Client-Based Program Evaluation. (5) Formerly numbered Honors College 105.) Seminar, three hours; fieldwork, three hours. Limited to juniors/seniors. Service learning course for undergraduate students and community partners through which students learn theory and practice of program evaluation. Evaluation of public health program in Los Angeles by research teams. Letter grading.

133SL. Community-Based Research: Theory and Practice. (5) Formerly numbered Honors College 133.) Seminar, three hours; fieldwork, three hours. Limited to juniors/seniors. Service learning course in research methods. Community-based research, in collaboration with community organizations, on a theme of client rights: activism and advocacy. Offered in summer only. Letter grading.

163SL. Civic Engagement and Public Use of Knowledge. (5) Formerly numbered Honors College 163.) Seminar, three hours; fieldwork, three hours. Limited to juniors/seniors. Review and analysis of research literature and national discussion of role of citizens in modern-day democracy, including discussion of civic education in higher education and implications for lives of students. Letter grading.

191SA. Variable Topics in California Politics. (4) Formerly numbered Honors College 191SA.) Seminar, three hours. Limited to UC Center Sacramento Program students. Designed to sharpen student methodological understanding of policy issues. Topics vary by term, but use framework encompassing basic principles of economics, political science, and sociology to examine issues pertinent to California’s political and economic development: supply/demand (market) analysis, demographic analysis, and statistical analysis. Requires junior/senior level. Limited to UC Center Sacramento Program. Option of off-campus work with scholarly concepts of civic engagement. Students report on their experiences and reflect analytically on the relationship between their internship and issues of policy and social change. Letter grading.


194A. Corequisite: one 195 internship course. May be repeated for credit. 194B. Requirements: two terms of course 194A, Political Science 115C. Corequisite: one 195 internship course.

194SA. UC Center Sacramento Research Group Seminar. (4) Formerly numbered Honors College 194SA.) Seminar, three hours. Corequisite: course 195SA. Limited to UC Center Sacramento Program students. Development of professional skills in areas of writing, analysis, research, and oral presentation, and of understanding of policies and political processes in California. Research paper based on analysis of topic related to area of student academic interest or to internship area required. P/NP or letter grading.

195. Community or Corporate Internship in Civic Engagement. (4) Tutorial, eight hours. Limited to juniors/seniors. Internship in supervised setting in corporate, governmental, or nonprofit setting, using knowledge base of civic engagement. Students meet on regular basis with faculty mentor to discuss series of reading and writing assignments that examine civic issues related to meaningful work at internship site. Students expected to learn ways in which individuals and groups can organize to solve problems, analyze issues, or bring about change in democratic society. Individual contract with supervising faculty member required. P/NP grading.

195S. Community or Corporate Internship in Sciences. (4) Formerly numbered Honors College 195S.) Tutorial, four hours; fieldwork, eight hours. Limited to junior/senior life and physical sciences majors. Science internship in supervised setting in community agency or business. Students meet on regular basis with coordinator for guidance and discussion, prepare written journals/papers on their experience, and prepare final research paper. Individual contract with supervising faculty member required. P/NP or letter grading.

195SA. UC Center Sacramento Internship. (8) Formerly numbered Honors College 195SA.) Tutorial, one hour; fieldwork, 24 to 32 hours. Limited to junior/senior UC Center Sacramento Program students. Internship in workplace setting such as assembly member office, state senator office, governor's office, judicial branch office, state agencies, or nonprofit organization. Students read academic journal articles related to primary policy topics associated with internship and maintain weekly journals that reflect and assess their experiences. Students meet weekly with faculty mentors to review their progress, set goals for participation and achievement, and discuss problems that may arise. Individual contract with supervising faculty member required. Letter grading.

198. Honors Research in Civic Engagement. (4) Tutorial, one hour. Limited to juniors/seniors. Required capstone course to Civic Engagement minor for students pursuing College Honors. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. May be repeated for credit. Individual contract required. Letter grading.
Civil and Environmental Engineering

Henry Samueli School of Engineering and Applied Science

UCLA
5731 Boelter Hall
Box 951593
Los Angeles, CA 90095-1593
(310) 825-1348
fax: (310) 208-2222
http://www.cee.ucla.edu

William W-G. Yeh, Ph.D., Chair
Jiun-Shyan Chen, Ph.D., Vice Chair
Jonathan P. Stewart, Ph.D., Vice Chair

Professors
Jiun-Shyan Chen, Ph.D.
Jiann-Wen Ju, Ph.D.
Michael K. Stenstrom, Ph.D.
Keith D. Stolzenbach, Ph.D.
Miaden Vucetic, Ph.D.
John W. Wallace, Ph.D.
William W-G. Yeh, Ph.D.

Professors Emeriti
Stanley B. Dong, Ph.D.
Lewis P. Feiton, Ph.D.
Michael E. Fourney, Ph.D.
Gary C. Hart, Ph.D.
Poul V. Lade, Ph.D.
Tung Hua Lin, D.Sc.
Chung Yen Liu, Ph.D.
Richard L. Perrine, Ph.D.
Moshe F. Rubinstein, Ph.D.
Lucien A. Schmit, Jr., M.S.
Lawrence G. Selna, Ph.D.

Associate Professor
Jonathan P. Stewart, Ph.D.

Assistant Professors
Scott J. Brandenberg
Eric M.V. Hoek, Ph.D.
Terri S. Hogue, Ph.D.
Jennifer A. Jay, Ph.D.
Steve Margulis, Ph.D.
Ertugrul Taciroglu, Ph.D.
Jian Zhang, Ph.D.

Senior Lecturer
Christopher Tu, Ph.D.

Adjunct Professor
Ne-Zheng Sun, Ph.D.

Adjunct Associate Professors
Issam Najm, Ph.D.
Daniel E. Pradel, Ph.D.
Thomas Sabol, Ph.D.

Scope and Objectives

The civil and environmental engineering programs at UCLA include structural engineering, structural mechanics, geotechnical engineering, earthquake engineering, hydrology and water resources engineering, and environmental engineering.

The ABET-accredited civil engineering curriculum leads to a B.S. in Civil Engineering, a broad-based education in structural engineering, geotechnical engineering, hydrology and water resources engineering, and environmental engineering. This program is an excellent foundation for entry into professional practice in civil engineering or for more advanced study. At the graduate level, M.S. and Ph.D. degree programs are offered in the areas of structures (including structural/earthquake engineering and structural mechanics), geotechnical engineering, hydrology and water resources engineering, and environmental engineering. In these areas, research is being done on a variety of problems ranging from basic physics and mechanics problems to critical problems in earthquake engineering and in the development of new technologies for pollution control and water distribution and treatment.

Department Mission

The Civil and Environmental Engineering Department seeks to exploit its subfield teaching and research strengths as well as to engage in multidisciplinary collaboration. This occurs within the context of a central guiding theme: engineering sustainable infrastructure for the future. Under this theme the department is educating future engineering leaders, most of whom will work in multidisciplinary environments and confront a host of twenty-first-century challenges. With an infrastructure-based vision motivating its teaching and research enterprise, the department conceptualizes and orients its activity toward broadening and deepening fundamental knowledge of the interrelationships among the built environment, natural systems, and human agency.

Undergraduate Program Objectives

The objectives of the ABET-accredited civil engineering curriculum at UCLA are to (1) provide graduates with a solid foundation in basic mathematics, science, and humanities, as well as fundamental knowledge of relevant engineering principles, (2) provide students with the capability for critical thinking, engineering reasoning, problem solving, experimentation, and teamwork, (3) prepare graduates for advanced study and/or professional employment within a wide array of industries or governmental agencies, (4) produce graduates who understand ethical issues associated with their profession and who are able to apply their acquired knowledge and skills to the betterment of society, and (5) foster in students a respect for the educational process that is manifest by a lifelong pursuit of study.

Undergraduate Study

Civil Engineering B.S.

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L; Civil and Environmental Engineering 1, 15; Computer Science 31 (or another programming course approved by the Faculty Executive Committee); Mathematics 31A, 31B, 32A, 32B, 39A, 39B; Physics 1A, 1B, 1C (or Electrical Engineering 1), 4AL.

The Major

Required: Chemical Engineering 102A or Mechanical and Aerospace Engineering 105A, Civil and Environmental Engineering 101, 103, 108, 110, 120, 135A, 151, 153, Materials Science and Engineering 104, Mechanical and Aerospace Engineering 103, 182A; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and at least nine major field elective courses (36 units) that must include the required courses in two of the following tracks:

- Environmental Engineering: One laboratory course from Civil and Environmental Engineering 156A or 156B or M166L and one major project design course from 157B or 157C; recommended: courses 154, 155, 163, 164, M166
- Geotechnical Engineering: Civil and Environmental Engineering 121 and 128L; recommended: courses 123, 125, 135B, 137, 142
- Structural Engineering and Mechanics: Civil and Environmental Engineering 135B, one lecture course from 130, 135C, 137, 141, or 142, one laboratory course from 130L, 135L, 137L, or 142L (must select 130L or 137L or 142L if 135L is selected from structures major project design list), and one structures major project design course from 135L or 144 or 147 (must select 144 or 147 if 135L is selected from laboratory list); recommended: courses 121, 125, 130, 130L, 135L, 137L, 137L, 141, 142, 142L, 143, 144, 147

Water Resources Engineering: Civil and Environmental Engineering 150 and 157L; recommended: courses 154, 156A

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.
Graduate Degrees
The Department of Civil and Environmental Engineering offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Civil Engineering.

Civil and Environmental Engineering
Lower Division Courses
1. Introduction to Civil Engineering. (2) Lecture, two hours. Introduction to scope of civil engineering profession, including earthquake, environmental, geotechnical, structural, transportation, and water resources engineering. P/NP grading.

105. Technical Communication. (4) Lecture, four hours; outside study, eight hours. Techniques for effectively communicating technical material accurately, clearly, and in a professional manner. Emphasis on development of oral presentation skills. How to write clearly and concisely, organize material logically, present in a readable style, edit work accurately, and address the needs of the reader. Outside study: research papers and individual conferences. Letter grading.


110. Introduction to Probability and Statistics for Engineers. (4) Lecture, four hours; outside study, eight hours. Requisite: course 15, Mathematics 32A, 33A. Introduction to fundamental concepts and applications of probability and statistics in civil engineering, with focus on how these concepts are used in experimental design and sampling, data analysis, risk and reliability analysis, and uncertainty. Topics include basic probability concepts, random variables and analytical probability distributions, functions of random variables, estimating parameters from observational data, regression, hypothesis testing, and Bayesian concepts. Letter grading.

120. Principles of Soil Mechanics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 108. Soil as a foundation for structures and as a construction medium. Soil formation, classification, physical and mechanical properties, soil compaction, earth pressures, consolidation, and shear strength. Letter grading.

121. Design of Foundations and Earth Structures. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 120. Design methods for foundations and earth structures. Site investigation, including evaluation of soil properties for design. Analysis of footings and piles, including stability and settlement calculations. Design of slopes and earth retaining structures. Letter grading.

123. Advanced Geotechnical Design. (4) Lecture, four hours; outside study, eight hours. Requisite: course 121. Analysis and design of earth dams, including seepage, piping, and slope stability analyses. Case history studies involving landslides, settlement, and expansive soil problems, and design of repair methodologies for those problems. Within context of above technical problems, emphasis on preparation of professional engineering documents such as proposals, work acknowledgements, figures, plans, and reports. Letter grading.

125. Fundamentals of Earthquake Engineering. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 121 and either 137 or 232. Representation of earthquake ground motion, including response and Fourier spectra. Seismic design codes for building structures. Ground motion hazard analysis, including fault characterization, attenuation of ground motions, and near fault ground motions. Time history selection. Letter grading.

128L. Soil Mechanics Laboratory. (4) Lecture, one hour; laboratory, eight hours; outside study, three hours. Requisite or corequisite: course 120. Laboratory experiments to be performed by students to obtain soil parameters required for assigned design problems. Soil classification, grain size distribution, Atterberg limits, specific gravity, compaction, expansion, consolidation, and undrained strength determination. Design problems, laboratory report writing. Letter grading.


135A. Elementary Structural Analysis. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 15, 108. Introduction to structural analysis; classification of structural elements; analysis of statically determinate trusses, beams, and frames; deflections in elementary structures; analysis of indeterminate structures using force method; introduction to displacement method and energy concepts. Letter grading.

135B. Intermediate Structural Analysis. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 15, 135A. Direct approach for truss analysis, strong form and weak form, approximate functionals for frames and shells, weighted residual methods, Ritz method, variational method, convergence criteria and rate of convergence, natural coordinates and shape functions, isoparametric finite elements, finite element formulation of multidimensional heat flow and elasticity, numerical integration and approximation properties, finite element formulation of beam. Letter grading.


137. Elementary Structural Dynamics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 135B. Basic structural dynamics course for civil engineering students. Elastic free, forced vibration, and earthquake response spectra analysis for single and multidegree of freedom systems. Axial, bending, and torsional vibration of beams. Letter grading.
137L. Structural Dynamics Laboratory. (4) Lecture, two hours; laboratory, six hours; outside study, four hours; laboratory change. Letter grading.

141. Steel Structures. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: course 135A. Introduction to building codes. Fundamentals of load and resistance factor design of steel elements. Design of tension and compression members. Design of beams and beam columns. Simple connection design to computer modeling methods and design process. Letter grading.


142L. Reinforced Concrete Structural Laboratory. (4) Lecture, two hours; laboratory, six hours; outside study, four hours. Requisite: course 135B. Limited enrollment. Design considerations used for reinforced concrete beams, columns, slabs, and joints evaluated using analysis and experiments. Links between theory, building codes, and experimental results. Students demonstrate design limitations of calculation procedures used in design of reinforced concrete structures. Development of skills for written and oral presentations. Letter grading.


150. Introduction to Hydrology. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: Mechanical and Aerospace Engineering 103. Recommended: course 137. Study of hydrologic cycle and relevant atmospheric processes, water and energy balance, radiation, precipitation formation, infiltration, evaporation, vegetation transpiration, groundwater flow, storm runoff, and flood processes. Letter grading.

151. Introduction to Water Resources Engineering. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Recommended: Mechanical and Aerospace Engineering 103. Principles of hydraulics, flow of water in open channels and pressure conduits, reservoirs and dams, hydraulic machinery. Introduction to system analysis and design applied to water resources engineering. Letter grading.


155. Unit Operations and Processes for Water and Wastewater Treatment. (4) Lecture, four hours; discussion, two hours; outside study, four hours. Requisites: courses 135, 142. Water and wastewater treatment technology overview. Fundamentals of phenomena governing design of engineered systems for water and wastewater treatment systems. Field trip. Letter grading.

156A. Environmental Chemistry Laboratory. (4) Lecture, four hours; laboratory, four hours; outside study, four hours. Requisites: course 153 (may be taken concurrently). Course 135. Basic chemical, biological, and physical methods used to modify water quality. Emphasis on the environmental chemical issues in water and wastewater analysis. Letter grading.

156B. Environmental Engineering Unit Operations and Processes Laboratory. (4) Laboratory, six hours; discussion, two hours; outside study, four hours. Requisites: Chemistry 20A, 20B. Course 135. Water and wastewater treatment technology overview. Fundamentals of phenomena governing design of engineered systems for water and wastewater treatment systems. Field trip. Letter grading.

157. Design of Water Treatment Plants. (4) Lecture, two hours; discussion, two hours; laboratory, four hours; outside study, four hours. Requisite: course 155. Design of water treatment plants, hydraulic design of plants, process control, and cost estimation. Letter grading.

157C. Design of Wastewater Treatment Plants. (4) Lecture, four hours; outside study, eight hours. Requisite: course 155. Design of wastewater treatment plants, including primary and secondary treatment, detailed design review of existing plants, process control, and economics. Letter grading.

157L. Hydrologic Analysis and Design. (4) Lecture, two hours; laboratory, four hours; outside study, six hours. Requisites: courses 150 and/or 151. Collection, compilation, and interpretation of data for quantification of surface water components of hydrologic cycle, including precipitation, evaporation, infiltration, and runoff. Use of hydrologic variables and parameters for development, construction, and application of analytical models for selected problems in hydrology and water resources. Field trip required. Letter grading.

157M. Hydrology of Mountain Watersheds. (2) Fieldwork, three hours; laboratory, two hours; outside study, one hour; one field trip. Fieldwork 150 or 157L. Advanced field and laboratory course with focus on study of catchment processes in snow-dominated and mountainous regions. Students measure and quantify snowpack properties and watershed fluxes, investigate interactions of surface and groundwater systems, and classify mountain streams and flooding potential. Letter grading.

163. Introduction to Atmospheric Chemistry and Air Pollution. (4) Lecture, four hours; outside study, eight hours. Requisites: course 153, Chemistry 20A, 20B, Mathematics 31A, 31B, Physics 1A, 1B. Description of processes affecting chemical composition of troposphere: air pollutant concentrations/standards, urban and regional ozone, aerosol pollution, formation/deposition of acid precipitation, fate of anthropogenic/toxic/natural organic and inorganic compounds, selected global chemical cycle(s). Control technologies. Letter grading.


M166. Environmental Microbiology. (4) (Same as Environmental Health Sciences M166.) Lecture, four hours; discussion, two hours; outside study, six hours. Recommended requisite: course 153. Microbial cell and its metabolic capabilities, microbial genetics and its potentials, growth of microbes and kinetics of growth, microbial ecology and diversity/microbiology of wastewater treatment, probing of microbes, public health microbiology, pathogen control. Letter grading.

M166L. Environmental Microbiology and Biotechnology Laboratory. (1) (Formerly numbered 166LL.) Lecture, two hours; outside study, two hours. Corequisite: course M166. General laboratory practice within environmental microbiology, sampling of environmental samples, classical and modern molecular techniques for enumeration of microbes from environmental samples, techniques for determination of microbial activity in environmental samples, laboratory for studying environmental biotechnology. Letter grading.

180. Introduction to Transportation Engineering. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Designed for juniors/seniors. General characteristics of transportation systems, including streets and highways, rail, transit, air, and water. Capacity considerations including time-space diagrams and queueing. Components of transportation system design, including horizontal and vertical alignment, cross sections, earthwork, drainage, and pavements. Letter grading.

181. Traffic Engineering Systems: Operations and Control. (4) Lecture, four hours; fieldwork/laboratory, two hours; outside study, six hours. Designed for juniors/seniors. Applications of traffic flow theories; data collection and analyses; intersection capacity analyses; simulation models; simulation of time-dependent traffic signal timing design, implementation, and performance evaluation; Intelligent Transportation Systems concept, architecture, and integration. Letter grading.

188. Special Courses in Civil and Environmental Engineering. (4) (Formerly numbered 198L.) Lecture, four hours; outside study, eight hours. Special topics in civil engineering for undergraduate students that are taught on experimental or temporary basis, such as those taught by resident and visiting faculty members. May be repeated once for credit with topic or instructor change. Letter grading.
Graduate Courses


222. Introduction to Soil Dynamics. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 120. Review of engineering problems involving soil dynamics. Fundamentals of theoretical soil dynamics: response of sliding block-on-a-plane to cyclic earthquake loads, application of theories of single degree-of-freedom (DOF) system, multiple DOF system and one-dimensional wave propagation. Fundamentals of cyclic soil behavior: stress-strain-pore water pressure behavior, shear moduli and damping, cyclic settlement and concept of volumetric cyclic threshold shear strain. Introduction to modeling of cyclic soil behavior. Letter grading.

223. Earth Retaining Structures. (4) Lecture, four hours; outside study, eight hours. Prerequisites: courses 120, 121. Basic concepts of theory of earth pressures behind retaining structures, with special application to design of retaining walls, headwalls, sheet piles, and excavation bracing. Effects of flexibility, creep in soils, and construction techniques on stability of bulkheads and sheet piles. Mechanical stabilization of soils, such as with soil nails and geosynthetics. Letter grading.

224. Advanced Cyclic and Monotonic Soil Behavior. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 120. In-depth study of soil behavior under cyclic and monotonic loads. Relationships between stress, strain, pore water pressure, and volume change in range of very small and large strains. Concept of normalized static and cyclic soil behavior. Cyclic degradation and liquefaction of saturated soils. Cyclic settlement of partially saturated and dry soils. Concept of volumetric cyclic threshold shear strain. Factors affecting shear moduli and damping during cyclic loading. Postcyclic behavior under monotonic loads. Critical review of laboratory, field, and modeling testing techniques. Letter grading.

225. Geotechnical Earthquake Engineering. (4) Lecture, four hours; outside study, eight hours. Prerequisites: courses 125 (may be taken concurrently), 222. Analysis of earthquake-induced ground failure, including soil liquefaction, cyclic softening of clays, seismic liquefaction, and deep fault rupture, and seismic slope stability. Ground response effects on earthquake ground motions. Soil-structure interaction, including inertial and kinematic interaction and foundation deformations under seismic loading. Letter grading.

226. Geoenvironmental Engineering. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 120. Field of geoenvironmental engineering involves applications of geotechnical principles to environmental problems. Topics include environmental regulations, waste characterization, geosynthetics, solid waste landfills, subsurface barrier walls, and displacement of soils and groundwaters. Letter grading.

227. Numerical Methods in Geotechnical Engineering. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 220. Introduction to basic concepts of the finite element method, and to constitutive modeling based on elasticity and plasticity theories. Special emphasis on numerical applications and identification of modeling concepts such as bifurcation, anisotropy, soil nonlinearity, and uniqueness of solutions. Letter grading.

228L. Advanced Soil Mechanics Laboratory. (4) Lecture, one hour; laboratory, six hours; outside study, five hours. Prerequisites: courses 120, 121. Lecture and laboratory studies covering more advanced aspects of laboratory determination of soil properties and their application to design. Tests to determine permeability, consolidation, and shear strength. Review of advanced presentation and measurement techniques. Letter grading.

M230A. Linear Elasticity. (4) (Same as Mechanical and Aerospace Engineering M256A.) Lecture, four hours; outside study, eight hours. Prerequisite: Mechanical and Aerospace Engineering 165A or 166A. Linear elastostatics. Cartesian tensors; infinitesimal strain tensor; Cauchy stress tensor; strain energy; equilibrium equations; linear constitutive relations; plane elasticity problems, holes, corners, inclusions, cracks; three-dimensional problems of Kelvin, Boussinesq, and Cerruti. Introduction to boundary integral equation method. Letter grading.

M230B. Nonlinear Elasticity. (4) (Formerly numbered M230.) (Same as Mechanical and Aerospace Engineering M256B.) Lecture, four hours; outside study, eight hours. Prerequisite: course M230A. Kinetics of deformation, material and spatial coordinate, deformation gradient tensor, nonlinear and linear strain tensors, strain displacement relations; balance laws, Cauchy and Piola stresses, Cauchy equations of motion, balance of energy, stored energy; constitutive relations, elasticity, hyperelasticity, thermoelasticity; linearization of field equations; selection of solved problems. Letter grading.

M230C. Plasticity. (4) (Formerly numbered M239.) (Same as Mechanical and Aerospace Engineering M256C.) Lecture, four hours; outside study, eight hours. Prerequisites: Mechanical and Aerospace Engineering 256A, M256B. Classical rate-independent plasticity theory, yield functions, plastic potential, plastic flow rules, and theories of plasticity. Classical rate-dependent viscoplasticity, Perzyna and Duvant/Lions types of viscoplasticity. Thermoplasticity and creep. Return mapping algorithms for plasticity and viscoplasticity. Finite element implementations. Letter grading.

232. Theory of Plates and Shells. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 120 or Mechanical and Aerospace Engineering 156B. Small and large deformation theories of thin plates and shells; energy methods; free vibrations; membrane theory of shells; axisymmetric deformations of cylindrical and spherical shells. Letter grading.


234. Advanced Topics in Structural Mechanics. (4) Lecture, four hours; outside study, eight hours. Limited to graduate engineering students. Current topics in composite materials, computational methods, non-linear mechanics, and structural mechanics in general. Topics may vary from term to term. Letter grading.

235A. Advanced Structural Analysis. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 135A. Recommended: course 135B. Review of matrix force and displacement methods of structural analysis; virtual work theorem, virtual forces, and displacements; theorems on stationary value of total and complementary potential energy, minimum total potential energy. Matrix stiffness systems, effects of approximations, introduction to finite element analysis. Letter grading.

235B. Finite Element Analysis of Structures. (4) Lecture, four hours; outside study, eight hours. Prerequisites: courses 130, 235A. Direct energy formula for deformable systems; solution methods for linear equations; analysis of structural systems with one-dimensional elements; introduction to variational calculus; discrete element displacement, force, and mixed methods for membrane, plate, shell structures; instability effects. Letter grading.

235C. Nonlinear Structural Analysis. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 235B. Classification of nonlinear effects; material nonlinearities; conservative, nonconservative material behavior; geometric nonlinearities, Lagrangian/Eulerian description of motion; finite element methods in geometrically nonlinear problems; postbuckling behavior of structures; solution of nonlinear equations; incremental, iterative, programming methods. Letter grading.


238. Computational Solid Mechanics. (4) Lecture, four hours; outside study, eight hours. Prerequisite: course 235B. Advanced finite element and meshfree methods for computational solid mechanics. Stability and failure in both 2D and 3D. Unlike traditional finite element methods, meshfree methods enjoy freedom of imposition on boundary conditions, domain integration, and stability. Letter grading.


243A. Behavior and Design of Reinforced Concrete Structural Elements. (4) Lecture, four hours; outside study, eight hours. Requisite: course 142. Advanced topics in design of reinforced concrete structures, including stress-strain relationships for plain and confined concrete, moment-curvature analysis of sections, and design for shear. Design of slender and low-rise walls, as well as design of beam-column joints. Introduction to displacement-based design and applications of strut-and-tie models. Letter grading.

243B. Response and Design of Reinforced Concrete Structural Systems. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 243A, 246. Information on response and behavior of reinforced concrete buildings to earthquake ground motions. Topics include use of elastic and inelastic response spectra, role of strength, stiffness, and ductility in design, use of prescriptive versus performance-based design methodologies, and application of elastic and inelastic analysis techniques for new and existing construction. Letter grading.

244. Structural Loads and Safety for Civil Structures. (4) Lecture, four hours; outside study, eight hours. Requisite: course 141 or 142 or 143 or 144. Modeling of structural loads and structural mechanisms; structural safety analysis; and calculation of capacity reduction factors. Letter grading.

246. Structural Response to Ground Motions. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 137, 141, 142, 235A. Spectral analysis of ground motions: response, time, and Fourier spectra. Response of structures to ground motions due to earthquake waves. Computational methods to evaluate structural response. Response analysis, including evaluation of contemporary design standards. Limitations due to idealizations. Letter grading.

247. Earthquake Hazard Mitigation. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 130, and M237A or 246. Concept of seismic isolation, linear theory of base isolation, visco-elastic and hysteretic behavior, elastomeric bearings under compression and bending, buckling of bearings, sliding bearings, passive energy dissipation devices, response of structures with isolation and passive energy dissipation devices, static and dynamic analysis procedures, code provisions and design methods for seismically isolated structures. Letter grading.


249. Selected Topics in Structural Engineering and Mechanics. (2) Lecture, two hours; outside study, six hours. Review of recent research and developments in structural engineering and mechanics. Structural analysis, finite elements, structural stability, dynamics of structures, structural design, earthquake engineering, ground motion, elasticity, plasticity, structural mechanics, and design of components, and constitutive modeling. May be repeated for credit. S/U grading.

250A. Surface Water Hydrology. (4) Lecture, four hours; outside study, eight hours. Requisite: course 150. In-depth study of surface water hydrology, including discussion and interrelationship of major topics such as rainfall and evaporation, soils and infiltration properties, runoff and snowmelt processes. Introduction to rainfall-runoff modeling, floods, and policy issues involved in water resource engineering and management. Letter grading.


250C. Hydrometeorology. (4) Lecture, four hours. Requisite: course 250A. In-depth study of hydrometeorological processes in climate system, precipitation and evaporation processes, atmospheric radiation, exchange of mass, heat, and momentum between soil and vegetation surface and overlying atmosphere, energy transport through turbulent and boundary layer, basic remote sensing principles. Letter grading.

250D. Water Resources Systems Engineering. (4) (Formerly numbered 251.) Lecture, four hours; outside study, eight hours. Requisite: course 151. Application of mathematical programming techniques to water resources systems. Topics include reservoir management and operation; optimal timing, sequencing, and sizing of water resources projects; and multi-objective planning and conjunctive use of surface water and groundwater. Emphasis on management of water quantity. Letter grading.

251A. Rainfall-Runoff Modeling. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 250A, 251C. Introduction to hydrologic modeling concepts, including rainfall-runoff analysis, input data, uncertainty analysis, lumped and distributed modeling, parameter estimation, sensitivity analysis, and application of models for flood forecasting and prediction of streamflows in water resource applications. Letter grading.

251B. Contaminant Transport in Groundwater. (4) (Formerly numbered 251C.) Lecture, four hours; outside study, eight hours. Requisites: courses 250B, 253. Phenomena and mechanisms of hydrodynamic dispersion, governing equations of mass transport in porous media, various analytical and numerical solutions, determination of dispersion parameters by laboratory and field experiments, biological and reactive transport in multiphase flow, remediation design, software packages and applications. Letter grading.

251C. Remote Sensing with Hydrologic Applications. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 250A, 250C. Introduction to basic concepts of classical and Bayesian estimation theory for purposes of hydrologic data assimilation. Applications geared toward assimilating disparate observations into dynamic models of hydrologic systems. Letter grading.

251D. Hydrologic Data Assimilation. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 250A, 250C. Introduction to fundamental concepts of parameter estimation, experimental design, conjugate use of surface and groundwater, multijobjective water resource planning, and optimization of water resource systems. Topics may vary from term to term. Letter grading.

252. Engineering Economic Analysis of Water and Environmental Planning. (4) Lecture, four hours; outside study, eight hours. Requisites: course 106A, one or more courses from Economics 1, 2, 11, 100, 101. Economic theory and applications in analysis and management of water and environmental problems; application of price theory to water resource management and renewable resources; benefit-cost analysis with applications to water resources and environmental planning. Letter grading.


254A. Environmental Aquatic Inorganic Chemistry. (4) Lecture, four hours; outside study, eight hours. Requisites: Chemistry 20B, Mathematics 31A, 31B, Physical Chemistry 1A. Electronic and coordination properties of chemical behavior of metals and inorganic ions in natural fresh/marine surface waters and in water treatment. Processes include acid-base chemistry and alkalinity (carbonate system), complexation, precipitation/dissolution, absorption oxidation/reduction, and photochemistry. Letter grading.

255A. Physical and Chemical Processes for Water and Wastewater Treatment. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 254A, 255A. Fundamentals of environmental engineering microbiology; kinetics of microbial growth and biological oxidation; applications for activated sludge, gas transfer, fixed biomass processes, aerobic and anaerobic digestion, sludge disposal, and biological nutrient removal. Letter grading.

255B. Biological Processes for Water and Wastewater Treatment. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 254A, 255A. Review of recent research and developments in environmental engineering. Water and wastewater treatment systems, nonpoint pollution, multimedia impacts. May be repeated for credit. S/U grading.

259A. Selected Topics in Environmental Engineering. (2) Lecture, two hours; outside study, four hours. Requisites: courses 255A, 255B. Information on response and behavior of reinforced concrete buildings to earthquake ground motions. Topics include use of elastic and inelastic response spectra, role of strength, stiffness, and ductility in design, use of prescriptive versus performance-based design methodologies, and application of elastic and inelastic analysis techniques for new and existing construction. Letter grading.

259A. Selected Topics in Environmental Engineering. (2) Lecture, two hours; outside study, four hours. Requisites: courses 255A, 255B. Information on response and behavior of reinforced concrete buildings to earthquake ground motions. Topics include use of elastic and inelastic response spectra, role of strength, stiffness, and ductility in design, use of prescriptive versus performance-based design methodologies, and application of elastic and inelastic analysis techniques for new and existing construction. Letter grading.

260. Advanced Topics in Hydrology and Water Resources. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 250A, 250B, 250C. Current research topics in inverse problem of parameter estimation, experimental design, conjugate use of surface and groundwater, multijobjective water resource planning, and optimization of water resource systems. Topics may vary from term to term. Letter grading.


261B. Advanced Biological Processes for Water and Wastewater Treatment. (4) Lecture, four hours; outside study, eight hours. Requisite: course 250B. In-depth study of selected topics related to biological treatment of waters and wastewaters, such as biodegradation of xenobiotics, pharmaceuticals, emerging pollutants, toxins, and nutrients. Discussion of theoretical aspects, experimental observations, and recent literature. Application to important and emerging environmental problems. Letter grading.
M262A. Introduction to Atmospheric Chemistry. (4) (Same as Environmental Sciences M203A.) Lecture, three hours. Requisite for undergraduates: Chemistry 20B. Principles of chemical kinetics, thermochemistry, spectroscopy, and photochemistry; chemical composition and history of Earth's atmosphere; biogeochemical cycles of key atmospheric constituents; basic photochemistry of troposphere and stratosphere, upper atmosphere chemical processes; air pollution; chemistry and climate. S/U or letter grading.

M262B. Atmospheric Diffusion and Air Pollution. (4) (Same as Atmospheric and Oceanic Sciences M224B.) Lecture, three hours. Nature and sources of atmospheric pollution; diffusion from point, line, and area sources; pollution-dictator in urban complexes; meteorological factors and air pollution potential; meteorological aspects of air pollution. S/U for majors; with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department) or letter grading.

263A. Physics of Environmental Transport. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Transport processes in surface water, groundwater, and atmosphere. Emphasis on exchanges across phase boundaries: sediment/water interface, air/water gas exchange, particulates, droplets, and bubbles; small-scale dispersion and mixing; effect of reactions on transport; linkages between physical, chemical, and biological processes. Letter grading.

263B. Advanced Topics in Transport at Environmental Interfaces. (4) Lecture, four hours; outside study, eight hours. Requisite: course 263A. In-depth treatment of selected topics involving transport phenomena at environmental interfaces between solid, fluid, and gas phases, such as aquatic sediments, porous aggregates, and vegetative canopies. Discussion of theoretical models and experimental observations. Application to important environmental engineering problems. Letter grading.

265A. Mass Transfer in Environmental Systems. (4) Lecture, four hours; computer applications, two hours; outside study, eight hours. Designed for graduate environmental engineering program students. Physical chemistry and mass transfer fundamentals related to contaminant fate and transport in soil, air, and water systems, including soil/water sorption and desorption, contaminant retardation, vaporization and dissolution of nonaqueous phase liquids (NAPL), and other environmental systems. Letter grading.

265B. Contaminant Transport in Soils and Groundwater. (4) Lecture, four hours; computer applications, two hours; outside study, six hours. Requisites: courses 250B, 265A. Principles of mass transfer as they apply in soil and groundwater, independent estimation of transport model parameters; remediation of hazardous waste sites. Letter grading.

266. Environmental Biotechnology. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 153, 264A. Environmental biotechnology — concept and potential, biotechnology of pollution control, bioremediation, biomass conversion; composting, biogas and bioethanol production. Letter grading.

269. Advanced Topics in Civil Engineering. (2 to 4) Seminar, to be arranged. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

277. Seminar: Current Topics in Civil Engineering. (2 to 4) Seminar, to be arranged. Lectures, discussions, and student presentations and projects in areas of current interest in civil engineering. May be repeated for credit. S/U grading.

289. Seminar: Engineering. (2 to 4) Seminar, to be arranged. Limited to graduate civil engineering students. Seminar may be organized in advanced technical fields. If appropriate, field trips may be arranged. May be repeated with topic change. Letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching Assistant Training Seminar. (2) Seminar, two hours. Preparation: appointment as teaching assistant in Civil and Environmental Engineering Department. Seminar on communication of civil engineering principles, concepts, and methods; teaching assistant preparation, organization, and presentation of material, including use of visual aids; grading, advising, and rapport with students. S/U grading.

596. Directed Individual or Tutorial Studies. (2 to 8) Tutorial, to be arranged. Limited to graduate civil engineering students. Petition forms to request enrollment may be obtained from assistant dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

597A. Preparation for M.S. Comprehensive Examination. (2 to 12) Tutorial, to be arranged. Limited to graduate civil engineering students. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations. (2 to 16) Tutorial, to be arranged. Limited to graduate civil engineering students. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination. (2 to 16) Tutorial, to be arranged. Limited to graduate civil engineering students. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research for and Preparation of M.S. Thesis. (2 to 12) Tutorial, to be arranged. Limited to graduate civil engineering students. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation. (2 to 16) Tutorial, to be arranged. Limited to graduate civil engineering students. Usually taken after students have been advanced to candidacy. S/U grading.

CLASSICS

College of Letters and Science

UCLA 100 Dodd Hall
Box 951417
Los Angeles, CA 90095-1417
(310) 825-4171
fax: (310) 206-1903
http://www.humnet.ucla.edu/humnet/classics/home.html

John K. Papadopoulos, Ph.D., Chair

Professors
Ann L.T. Bergren, Ph.D.
David L. Blanton, Ph.D.
Sander M. Goldberg, Ph.D.
Michael W. Haslam, Ph.D.
Katherine C. King, Ph.D.
Kathryn A. Morgan, Ph.D.
Sandra P. Morris, Ph.D. (Hemmets Professor of Classical Archaeology and Material Culture)

John K. Papadopoulos, Ph.D.
Amy Richlin, Ph.D.
David Silverberg, Ph.D.
Brent H. Vine, Ph.D.

Professors Emeriti
Steven Lattimore, Ph.D.
Philip Levine, Ph.D.
Jaan Puhvel, Ph.D.

Albert H. Travis, Ph.D.

Associate Professors
Shane Butler, Ph.D.
Robert A. Gurval, Ph.D.

Assistant Professor
Alex C. Purves, Ph.D.

Adjunct Associate Professor
Catherine Atherton, Ph.D.

Scope and Objectives

The general objective of the Classics Department is to provide a thorough knowledge of the Greek and Roman languages and culture. To this end, it offers elementary and advanced courses in the languages, the reading and analysis of Greek and Roman authors, the history of Greek and Roman literature, classical art, archaeology, linguistics, mythology, philosophy, and religion.

Bachelor of Arts degrees are offered in Classical Civilization, in Greek, in Latin, and in Greek and Latin. Graduate degrees include the Master of Arts in Classics (Greek and Latin), Greek, and Latin, and the Ph.D. in Classics.

Undergraduate Study

Students considering a major in the department should consult the adviser as soon as possible in their University career, but in no case later than the point at which they are about to take upper division courses.

Classical Civilization B.A.

The civilizations of ancient Greece and Rome have made important contributions to the political, social, artistic, and intellectual development of the Western world. The purpose of the Classical Civilization major is to provide a formal and balanced introduction to the historical and cultural experiences of the ancient Greeks and Romans. The program of study is structured, yet not rigid. Lower division survey courses and requirements in elementary language study, ancient history, and classical art establish an essential background of knowledge, while electives encourage individual and specialized interests. The program offers a broad range of courses in the fields of language, literature, history, mythology, religion, philosophy, art, and archaeology. The major serves as excellent and rewarding preparation for a professional career in medicine, law, business, journalism, communications, or the arts.

Preparation for the Major

Required: Classics 10, 20, and one course from 30, 40W, 41W, 42, 51A, 51B.

Transfer Students

Transfer applicants to the Classical Civilization major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one classical Greek culture course, one Roman civilization course, and one course in Greek or Roman literature in translation, classical mythology, or classical archaeology.
Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: (1) Greek 3 or Latin 3; (2) two upper division courses in Greek or Roman history (History 112A through 112E, 113A, 113B, 114A, 114B, 114C, 115); (3) two upper division courses in classical art or archaeology (Classics C151E, 152, M153A through M153K); (4) seven upper division courses in the department (courses in related fields not offered by the department may be substituted by petition and with approval of the undergraduate adviser) — no more than three may be selected from Greek 100 through 133 or Latin 100 through 133, and Classics 198A and 198B may be applied as only one course toward the major; (5) Classics 191. All other courses in the 190 series may be substituted only by petition.

Greek B.A.
Preparation for the Major
Required: Classics 10, 20; Greek 1, 2, 3, 20, or equivalent. Greek 16 may be substituted for Greek 1, 2, 3.

Transfer Students
Transfer applicants to the Greek major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one year of Greek and related courses in civilization, culture, history, linguistics, literature, and closely related languages. 

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: (1) Seven upper division Greek courses, including course 110; Greek 197 and 199 may be applied only by petition; (2) three upper division courses in classical civilization and/or ancient history (History 112A through 112E, 113A, 113B, 114A, 114B, 114C, 115). Courses in related fields not offered by the department may be substituted by petition and with approval of the faculty undergraduate adviser; (3) Classics 191.

Greek and Latin B.A.
Preparation for the Major
Required: Classics 10, 20; Greek 1, 2, 3, 20 and Latin 1, 2, 3, 20, or equivalent. Greek 16 may be substituted for Greek 1, 2, 3.

Transfer Students
Transfer applicants to the Greek and Latin major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one year of Greek and of Latin and related courses in civilization, culture, history, linguistics, literature, and closely related languages.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: (1) Eight upper division Greek and/or Latin courses (of which at least four must be in each language), including Greek 110 or Latin 110; Greek and/or Latin 197 and 199 may be applied only by petition; (2) three upper division courses in classical civilization and/or ancient history (History 112A through 112E, 113A, 113B, 114A, 114B, 114C, 115). Courses in related fields not offered by the department may be substituted by petition and with approval of the faculty undergraduate adviser; (3) Classics 191.

Latin B.A.
Preparation for the Major
Required: Classics 10, 20; Latin 1, 2, 3, 20, or equivalent. Latin 16 may be substituted for Latin 1, 2, 3.

Transfer Students
Transfer applicants to the Latin major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one year of Latin and related courses in civilization, culture, history, linguistics, literature, and closely related languages.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: (1) Seven upper division Latin courses, including course 110; Latin 197 and 199 may be applied only by petition; (2) three upper division courses in classical civilization and/or ancient history (History 112A through 112E, 113A, 113B, 114A, 114B, 114C, 115). Courses in related fields not offered by the department may be substituted by petition and with approval of the faculty undergraduate adviser; (3) Classics 191.

Note: Students in the Greek, Latin, and Greek and Latin majors are permitted to take Greek 200A, 200B, 200C and Latin 200A, 200B, 200C with consent of the instructor.

Honors Program
Admission
The honors program is open to all departmental majors with a cumulative grade-point average of 3.5 or better in departmental courses and an overall GPA of 3.25 or better. Students with lower GPAs may petition for admission to the program, but these grade-point averages must be achieved before graduation in order to qualify for honors.

Requirements
All honors students are required to take Classics 191 (or an equivalent undergraduate seminar) in their junior year before beginning work on their honors thesis. Students must then enroll in Classics 198A and 198B in consecutive terms, in which they write the thesis under the direct supervision of a faculty member. They may take courses 198A and 198B concurrently or be exempt from course 198A only with approval of the faculty undergraduate adviser. In course 198A students submit an annotated bibliography and preliminary outline of their thesis. In course 198B, they submit at least one initial draft and the final revised version of the thesis. Only course 198B may be applied toward the upper division classical civilization requirement for departmental majors.

To qualify for graduation with departmental honors, students must (1) have a cumulative grade-point average of 3.5 or better in departmental courses and an overall GPA of 3.25 or better and (2) complete Classics 198A and 198B with a grade of A– or better.

To qualify for graduation with departmental highest honors, students must (1) have a cumulative GPA of 3.85 or better in departmental courses and an overall GPA of 3.65 or better and (2) complete Classics 198A and 198B with a grade of A.

Classical Civilization Minor
The Classical Civilization minor is designed to recognize a serious commitment to the study of the cultures and civilizations of ancient Greece and Rome. Lower division survey courses in historical studies, classical literature, mythology, and film provide an essential introduction to the imagination and power of the ancient world. Students may fulfill upper division requirements from a variety of courses in classical civilization and related fields, including political and social history, literature, art and archaeology, religion, mythology, philosophy, and cultural studies of ethnicity, gender, and sexuality in antiquity.

To enter the minor, students must have an overall grade-point average of 2.0 or better.

Required Lower Division Courses (15 units):
Classics 10, 20, and one course from 30, 40W, 41W, 42, 51A, 51B.

Required Upper Division Courses (20 units):
Five upper division courses in classical civilization offered by the department. One course in a related field may be substituted with approval of the faculty undergraduate adviser. Classics 191 may be applied, but all other courses in the 190 series may be substituted only by petition.

A minimum of 16 upper division units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program. All minor courses must be taken for a letter grade, with an overall grade-point average of 3.0 or better.
Graduate Degrees
The Department of Classics offers the Master of Arts (M.A.) degree in Greek, Master of Arts (M.A.) degree in Latin, and Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Classics.

Classics Lower Division Courses

10. Discovering the Greeks. (5) Lecture, three hours; discussion, one hour. Knowledge of Greek not required. Study of Greek life and culture from age of Homer to Roman conquest. Readings focus on selections from works of ancient authors in translation. Lectures illustrated with images of art, architecture, and material culture. P/NP or letter grading.

20. Discovering the Romans. (5) Lecture, three hours; discussion, one hour. Knowledge of Latin not required. Study of Roman life and culture from city’s legendary foundations to end of classical antiquity. Readings focus on selections from works of ancient authors in translation. Lectures illustrated with images of art, architecture, and material culture. P/NP or letter grading.

30. Classical Mythology. (5) Lecture, three hours; discussion, one hour. Introduction to myths and legends of ancient Greece and/or Rome, role of those stories in their societies, and modern approaches to studying them. P/NP or letter grading.

40W. Reading Greek Literature: Writing-Intensive. (5) Lecture, two hours; discussion, two hours. Enforced requisite: English Composition 3 or 4H. Not open for credit to students who have completed course 40. Exploration in detail and variety of critical perspectives carefully selected literary texts characteristic of ancient Greece and significant in Western literary tradition. Satisfies Writing II requirement. Letter grading.

41W. Reading Roman Literature: Writing-Intensive. (5) Lecture, two hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students who have completed course 41. Exploration in detail and variety of critical perspectives a carefully selected set of literary texts characteristic of ancient Rome and significant in Western literary tradition. Satisfies Writing II requirement. Letter grading.

42. Cinema and the Ancient World. (5) Lecture/screenings, five hours; discussion, 75 minutes. Use of popular culture and cinema to introduce students to ancient Greek and/or Roman culture; focus at discretion of instructor. P/NP or letter grading.

51A. Art and Archaeology of Ancient Greece. (5) Lecture, three hours; discussion, one hour. Survey of a major period, theme, or medium of Greek art and archaeology at discretion of instructor. P/NP or letter grading.

51B. Art and Archaeology of Ancient Rome. (5) Lecture, three hours; discussion, one hour. Survey of a major period, theme, or medium of Roman art and archaeology at discretion of instructor. P/NP or letter grading.

87GE. Sophomore Seminar: Variable Topics. (5) Seminar, three hours. Enforced requisite: course 20. Designed for sophomores/juniors. Focused study of one aspect of ancient Greek or Roman culture or reception of classical tradition. Topics are interdisciplinary in nature (literature, art, religion, politics, culture) and make connections between ancient and postclassical eras. Topics include re-discovery of Pompeii and Herculaneum; Roman religion and literature; pleasures of Greek or Roman body; and 18th-century British literature and reception of classics. P/NP or letter grading.

Upper Division Courses
M121. History of Political Thought: Ancient and Medieval Political Theory from Plato to Machiavelii. (4) (Same as Political Science M111A.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Exposition and critical analysis of major political philosophers and schools from Plato to Machiaveli. P/NP or letter grading.

M124. Modern Receptions of Ancient Political Thought. (4) (Same as Political Science M119A.) Lecture, three hours. Designed for juniors/seniors. Study of how Western culture has conceived and reinterpreted political thought of ancient Greeks and Romans. Topics include examination of influential case(s) of modern reception of classical antiquity. P/NP or letter grading.

M125. Invention of Democracy. (5) (Same as Political Science M112B.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Democracy was invented in ancient Greece. Political form grounded on equality before law, citizenship, and freedom, it came into existence as a struggle by a “ demos,” the people, aware of its excellence and proud of its power, “ kratos.” It became only regime capable of including all members of community to disregard wealth, status, and diverging interests. Examination of history and theory of ancient democracy. P/NP or letter grading.

140. Topics in History of Greek Literature. (4) Lecture, three hours; Requisite: course 10 or 40W. Investigation of a specific issue in the understanding of Greek literature, such as definition of a genre or evaluation of a particular author. May be repeated for credit with topic change. P/NP or letter grading.

141. Topics in History of Latin Literature. (4) Lecture, three hours; Requisite: course 20 or 41W. Investigation of a specific issue in the interpretation of Latin literature, such as definition of a genre or evaluation of a particular author. May be repeated for credit with topic change. P/NP or letter grading.

142. Ancient Epic. (4) Lecture, three hours. Requisite: course one from 10, 20, 30, 40W, or 41W. Homer’s Iliad and Odyssey; Vergil’s Aeneid, and Ovid’s Metamorphoses, studied in translation. P/NP or letter grading.

143A. Ancient Tragedy. (4) Lecture, three hours. Requisite: course 10 or 40W. Survey of tragedy of 5th-century Athens through later antiquity. P/NP or letter grading.

143B. Ancient Comedy. (4) Lecture, three hours. Requisite: course 10 or 20. Survey of comedy as it developed in Greek and Roman worlds. P/NP or letter grading.

144. Topical Studies in Ancient Culture. (4) Lecture, three hours. Requisite: one course from 10, 20, 30, 40W, or 41W. Investigation of a problem in ancient culture that involves discussion of both Greek and Roman material. May be repeated for credit with topic change. P/NP or letter grading.

M145A. Ancient Greek and Roman Philosophy. (4) (Same as Philosophy M103A.) Lecture, three hours. Study of some major Greek and Roman philosophical texts, including those of pre-Socrates, Plato, Aristotle, and Hellenistic philosophers, with emphasis on historical and cultural setting of the texts, their literary form, interrelations, and contribution to discussion of basic philosophical issues.
145B. Later Ancient Greek Philosophy. (4) (Same as Philosophy M103B.) Lecture, three hours. Requisite: one course from M145A, Philosophy 1, 100A, M101B, M102. Study of some major texts in Greek philosophy of the Hellenistic and Roman periods. Readings vary and include works by Stoics, skeptics, philosophers of science, Neoplatonists, etc. P/NP or letter grading.

146A. Plato — Earlier Dialogues. (4) (Same as Philosophy M101A.) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Study of selected topics in early and middle dialogues of Plato.

146B. Plato — Later Dialogues. (4) (Same as Philosophy M101B.) Lecture, three hours; discussion, one hour. Requisite: course M146A. Study of selected topics in middle and late dialogues of Plato.

147. Aristotle. (4) (Same as Philosophy M102.) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Study of selected works of Aristotle.


150A. Female in Greek Literature and Culture. (4) Lecture, three hours. Requisite: course 10. Interdisciplinary study of concept of female in Greek literature and culture. Readings vary depending on individual instructor and topic. P/NP or letter grading.

150B. Female in Roman Literature and Culture. (4) Lecture, three hours; discussion, one hour. Requisite: course 20. Interdisciplinary study of concept of female in Roman literature and culture. P/NP or letter grading.

151E. Archaeological Field Techniques. (12) Off-campus field archaeology. 36 hours. Preparation: at least one classical archaeology course. Training in techniques of archaeological research in the field, including topographic and area survey, mapping and recording artifacts, excavation and data analysis. Conducted in Mediterranean area. Concurrently scheduled with course C251E. P/NP or letter grading.

152A. Ancient City: Athens. (4) Lecture, three hours. Enforced requisite: course 10 or 51A or Art History 50. Arts of Italic peninsula from circa 1000 B.C. to end of Roman Republic. P/NP or letter grading.

152B. Ancient City: Rome. (4) (Formerly numbered 152.) Lecture, three hours. Enforced requisite: course 10 or 51B or Art History 50 or History 1A. Range of interdisciplinary approaches to study of Athens and/or cities of Greek world, including Asia Minor, south Italy, and Sicily. Approaches, themes, and periods (both ancient city and receptions of city from classical antiquity to modern era) vary depending on individual instructor and topic. P/NP or letter grading.

153A. Minoan Art and Archaeology. (4) (Same as Art History M102A.) Lecture, three hours. Requisite: course 10 or Art History 50. Study of development of art and architecture of Mediterranean Crete from circa 3000 to 1000 B.C. P/NP or letter grading.

153B. Mycenaean Art and Archaeology. (4) (Same as Art History M102B.) Lecture, three hours. Requisite: course 10 or Art History 50. Study of development of art and architecture of Mycenaean Greece from circa 2000 to 1000 B.C. P/NP or letter grading.

153C. Archaic Greek Art and Archaeology. (4) (Same as Art History M102C.) Lecture, three hours. Requisite: course 10 or Art History 50. Study of development of art and architecture of Greek world from approximately 800 through 490 B.C. P/NP or letter grading.

153D. Classical Greek Art and Archaeology. (4) (Same as Art History M102D.) Lecture, three hours. Requisite: course 10 or Art History 50. Study of development of art and architecture of Greek world from approximately 490 through 350 B.C. P/NP or letter grading.

153E. Hellenistic Greek Art and Archaeology. (4) (Same as Art History M102E.) Lecture, three hours. Requisite: course 10 or Art History 50. Study of development of art and architecture of Greek world from middle of the 4th century B.C., including transmission of Greek art forms to the Romans. P/NP or letter grading.

153F. Etruscan Art. (4) (Same as Art History M102F.) Lecture, three hours. Requisite: course 20 or Art History 50. Arts of Etruscan peninsula from circa 1000 B.C. to end of Roman Republic. P/NP or letter grading.

153G. Roman Art and Archaeology. (4) (Same as Art History M102G.) Lecture, three hours. Requisite: course 20 or Art History 50. Art and architecture of Rome and its Empire from circa 300 B.C. to A.D. 300. P/NP or letter grading.

153H. Late Roman Art. (4) (Same as Art History M102H.) Lecture, three hours. Requisite: course 10 or 51C or Art History 50. Study of art and architecture from the 2nd through 4th century A.D. P/NP or letter grading.

153J-153K-153L. Classical Archaeology. (4-4-4) (Same as Art History M102I-M102J-M102K.) Lecture, three hours; discussion, four hours. Requisite: course 10 or 20 or Art History 50 or History 1A. Knowledge of Greek and Latin not required. General introduction to study of Aegean, Greek, and Roman architecture, sculpture, and painting. P/NP or letter grading. 153J. Greco-Roman Architecture: M153J. Greco-Roman Sculpture: M153K. Greco-Roman Painting.

153M. Greeks and Romans on Bay of Naples. (4) Lecture, three hours; fieldwork, 21 hours. Recommended preparation: course 10 or 20 or Art History 50. Four-week intensive study of history and cultures of Bay of Naples in classical antiquity. Survey of period from first settlements and colonization by Greeks in 8th century B.C.E. to destruction of Roman towns of Pompeii and Herculanum in 1st century C.E. Daily lectures and site visits. Field trips to Naples, Cumae, Pozzuoli, Paestum, Pompeii, Herculanum, Capri, Oplontis, and Boscoreale. Part of UCLA Summer Travel Program. P/NP or letter grading.


162. Classical Myth in Literature. (4) Use of myth in principal authors and genres of Greek and Roman literature, with examples of its influence in later literature.


165. Ancient Athletics. (4) Requisite: course 10 or History 1A. Study of ancient Greek and Roman athletics and their connections with religion, politics, literature, etc.

166A. Greek Religion. (4) Requisite: course 10. Study of the religion of the ancient Greeks.


167. Greek and Roman Magic. (4) Lecture, three hours; discussion, one hour. Requisite: course 10 or 20. Study of beliefs and supernatural phenomena in the ancient world, including witches, ghosts, vampires, and magic spells, attested in both literary and archaeological sources. P/NP or letter grading.

168. Comparative Mythology. (4) Lecture, three hours. Requisite: course 30. Religious, mythical, and/or historical traditions of Greece and Rome compared with each other and with other traditions worldwide. P/NP or letter grading.


180. Introduction to Classical Linguistics. (4) Lecture, three hours. Requisite: Greek 3 or Latin 3. Linguistic approach to Greek and Latin, including Indo-European background, etymology, pronunciation, alphabets, sociolinguistics (dialects, bilingualism), and applications to classical literature. P/NP or letter grading.

185. Origins and Nature of English Vocabulary. (5) Lecture, three hours. Origins and nature of English vocabulary, from Proto-Indo-European prehistory to current slang. Topics include Greek and Latin components in English (including technical terminology), alphabets and English spelling, semantic change and word formation, vocabulary in literature and film. P/NP or letter grading.

190. Research Colloquia in Classics. (1) Seminar. One hour. Limited to juniors/seniors. Designed to bring together students undertaking supervised tutorial research in seminar setting with one or more faculty members to discuss their own work or related work in discipline. Led by one supervising faculty member. P/NP grading.

191. Advanced Variable Topics Seminars: Classics. (5) (Formerly numbered 197.) Seminar, three hours. Limited to juniors/seniors. Topical research seminar on important themes, periods, genres of ancient Greek and Roman world that take innovative interdisciplinary approach to questions old and new. Readings, discussions, oral presentations, and final research paper. Letter grading.


197. Individual Studies in Classics. (2 to 4) Tutoring, one hour. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.


199. Directed Research in Classics. (2 to 4) Tutoring, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating research paper required. Individual contract required. P/NP or letter grading.

Graduate Courses


210B. Topics in Ancient History: Roman World. (2 or 4) Seminar, three hours. Introduction to basic methodology and approaches to study of Roman history by intensive examination of selected topics, including readings of ancient texts and modern scholarship. S/U or letter grading.

236. Classics
M218. Paleography of Latin and Vernacular Manuscripts, 900 to 1500. (4) (Same as English M215, French C251E, Classics M218) Lecture, three hours; discussion, two hours. Introduction to history of Latin and vernacular manuscript book from 900 to 1500 to (1) train students to make informed judgments with regard to place and date of origin; (2) provide training in accurate reading and transcription of later medieval scripts, and (3) examine manuscript book as witness to changing society that produced it. Focus on relationship between Latin manuscripts and vernacular manuscripts with regard to their respective presentation of written texts. S/U or letter grading.

M220A. Interfaces: Transmission of Roman Literature. (4) (Same as History CM220A.) Lecture, three hours. Examination of transmission of Latin classical literature in late antiquity, Middle Ages, and Renaissance to understand processes by which Latin literature has been preserved. S/U or letter grading.


244. Textual Criticism: Studies in Preparation of a Critical Edition of Greek and/or Latin Texts. (4) Seminar, three hours. Different steps required in preparation of an ancient text: locating manuscripts; collation; establishing the stemma; selecting the right reading on basis of knowledge of the context, of the language of the author, and of the sources; emendations; formulation of apparatus criticus and apparatus forstum.

245. Computing and Classics. (4) Introduction to processing and analysis of digitized texts of classical authors for purposes of literary history and criticism.

246. Greek and Latin Meter. (4) Comprehensive study of meter as it functions in classical poetry.

250. Topics in Greek and Latin Literature. (2 or 4) Lecture, three hours. Investigation of specific literary genres or historical issues in history of classical literature. May be repeated for credit with topic change. S/U or letter grading.

251A. Seminar: Classical Archaeology — Aegean Bronze Age. (2 or 4) Seminar, three hours. S/U or letter grading.

251B. Seminar: Classical Archaeology — Greco-Roman Architecture. (4) Seminar, three hours. S/U or letter grading.


251D. Seminar: Classical Archaeology — Greco-Roman Painting. (2 or 4) Seminar, three hours. Studies in style and iconography of various periods of Aegean, Greek, and Roman painting. May be repeated for credit with consent of instructor. S/U or letter grading.

251E. Archaeological Field Techniques. (12) Off-campus field archaeology. 36 hours. Preparation: at least one classical archaeology course. Training in techniques of archaeological research in the field, including topographic and survey area, mapping and recording artifacts, excavation and data analysis. Conducted in Mediterranean area. Concurrently scheduled with course C251E, S/U or letter grading.

252. Topography and Monuments of Athens. (2 or 4) Lecture, two or four hours. Detailed studies in topography and monuments of Athens, combining evidence of literature, inscriptions, and actual remains. S/U or letter grading.

253. Topography and Monuments of Rome. (2 or 4) Lecture, two or four hours. Detailed studies in topography and monuments of ancient Rome, combining evidence of literature, inscriptions, and actual remains. S/U or letter grading.

260. Topics in Ancient Religion. (2 or 4) Seminar, three hours. S/U or letter grading.


287. Graduate Colloquium in Classical Literature. (2) Seminar, three hours. Survey of basic methods of approaching classical scholarship, including textual criticism, literary interpretation and theory, hermeneutics, interdisciplinary studies, and computer applications to classics. Emphasis varies from year to year, depending on instructor(s). May be repeated for credit with topic change. S/U grading.

288. Literary Theory. (2 or 4) Discussion, three hours. Designed for graduate students. Introduction to chief texts in literary theory and criticism for readers of classical literature, with application to classical texts. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching Apprentice Practicum: two hours. Normally to be taken by all graduate students in term before or during their first assignments as teaching assistants. Seminar/workshop in various pedagogical issues and strategies in preparation for teaching classical civilization, Greek, and/or Latin undergraduate courses. Readings and group discussions in topics related to teaching in field of classics. May not be applied toward M.A. or Ph.D. course requirements. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. S/U grading.

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 8) Tutorial, to be arranged. S/U grading.


100. Readings in Greek Prose. (4) Lecture, three hours; discussion, two hours. P/NP or letter grading.

200A-200B-200C. History of Greek Literature. (4-4-4) Lecture, three hours. Lectures on history of Greek literature, supplemented by reading of Greek texts in original language. Each course may be taken independently for credit. S/U or letter grading.

201A-201B. Homer: Iliad. (2 or 4 each) Seminar, three hours. Course 201A is requisite to 201B. S/U (2-unit course) or letter (4-unit course) grading.

202A-202B. Homer: Odyssey and the Epic Cycle. (2 or 4 each) Seminar, three hours. Course 202A is requisite to 202B. S/U (2-unit course) or letter (4-unit course) grading.

203. Homer. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

204. Homeric Hymns. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

205. Aeschylus. (2 or 4) Seminar, three hours. S/U grading.

206. Aeschylean Tragedy. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

207. Sophocles. (2 or 4) Seminar, three hours. S/U grading.

208. Sophoclean Drama. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

213. Readings in Later Greek. (4) Requisite: course 100. Topics vary from year to year and include “Longinus,” On the Sublime: Marcus Aurelius; “Arrian;” the Second Sophistic; Plutarch; later epic; epigram; epistolography.

214. Survey of Byzantine Literature. (4) Requisite: course 100. Readings based on (1) Anthology of Byzantine Prose, ed. Nigel Wilson and (2) Oxford Book of Medieval and Modern Greek Literature, ed. O.A. Trypanis, or if unavailable, Poeti bizantini, ed. R. Cantarella. In addition, necessary historical and cultural background provided by readings and lectures.

215. Individual Studies in Greek. (2 to 4) Tutorial, two hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

219. Directed Research in Greek. (2 to 4) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culuminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses

200A-200B-200C. History of Greek Literature. (4-4-4) Lecture, three hours. Lectures on history of Greek literature, supplemented by reading of Greek texts in original language. Each course may be taken independently for credit. S/U or letter grading.

201A-201B. Homer: Iliad. (2 or 4 each) Seminar, three hours. Course 201A is requisite to 201B. S/U (2-unit course) or letter (4-unit course) grading.

202A-202B. Homer: Odyssey and the Epic Cycle. (2 or 4 each) Seminar, three hours. Course 202A is requisite to 202B. S/U (2-unit course) or letter (4-unit course) grading.

203. Homer. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

204. Homeric Hymns. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

205. Aeschylus. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

206A-206B. Sophocles. (2 or 4 each) Seminar, three hours. Course 206A is requisite to 206B. S/U (2-unit course) or letter (4-unit course) grading.
207A-207B. Euripides. (2 or 4 each) Seminar, three hours. Course 207A is requisite to 207B. S/U (2-unit course) or letter (4-unit course) grading.

208A-208B. Aristophanes. (2 or 4 each) Seminar, three hours. Course 208A is requisite to 208B. S/U (2-unit course) or letter (4-unit course) grading.

209A-209B. Seminars: Hellenistic Poetry. (2 or 4 each) Seminar, three hours. Course 209A is requisite to 209B. S/U (2-unit course) or letter (4-unit course) grading.


211A-211B. Herodotus. (2 or 4 each) Seminar, three hours. Course 211A is requisite to 211B. S/U (2-unit course) or letter (4-unit course) grading.

212A-212B. Thucydides. (2 or 4 each) Seminar, three hours. Course 212A is requisite to 212B. S/U (2-unit course) or letter (4-unit course) grading.

213. Greek Historiography. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

214. Demosthenes. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

215. Early Greek Orators. (2 or 4) Seminar, three hours. Studies in works of Antiphon, Andocides, and Lysias. S/U (2-unit course) or letter (4-unit course) grading.

216. Menander. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

217A-217B. Greek Lyric Poetry. (2 or 4 each) Seminar, three hours. Each course may be taken independently for credit. S/U (2-unit course) or letter (4-unit course) grading. 217A. Archaic Lyric. Study of lyric poetry of Archaic period, both choral and monodic, with emphasis on lyric and Homeric poetry. S/U (2-unit course) or letter (4-unit course) grading.

220. Greek Novel. (2 or 4) Seminar, three hours. Study of the Greek romance and its place in Greek literature. Two texts (Chariton: Chaereas and Callirhoe and Longus: Daphnis and Chloe) studied in some detail. S/U (2-unit course) or letter (4-unit course) grading.

221. Pre-Socratic Philosophers. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

222A-222B. Plato. (2 or 4 each) Seminar, three hours. Course 222A is requisite to 222B. S/U (2-unit course) or letter (4-unit course) grading.

223A-223B. Aristotle. (2 or 4 each) Seminar, three hours. Course 223A is requisite to 223B. S/U (2-unit course) or letter (4-unit course) grading.

224. Post-Aristotelian Philosophy. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

229. Sight Translation. (2 or 4) Discussion, three hours. Designed for graduate students. Practice in translation of previously unseen texts from a variety of authors and genres. Topics include peculiarities of style and vocabulary of the distinct genres, literary or scholarly translation, semantic properties of particular words and constructions. S/U or letter grading.

231A-231B-231C. Later Greek and Byzantine Literature. (2 or 4 each) Seminar, three hours. Studies in various aspects of Byzantine Greek language and literature. Topics vary from year to year. Each course may be taken independently. S/U (2-unit course) or letter (4-unit course) grading.

233. Byzantine Poetry. (2 or 4) Study of main representatives of both religious and secular poetry, with emphasis on the development of Byzantine Greek poetry. S/U (2-unit course) or letter (4-unit course) grading.

240A-240B. History of the Greek Language. (2 or 4 each) Lecture, four hours. S/U or letter grading.


243. Mycenaean Greek. (2 or 4) Seminar, three hours. Script, language, and grammar of the Linear B inscriptions; their relevance to ancient Greek linguistic and cultural history, S/U or letter grading.

244. Greek Papyrology. (4) Preparation: reading knowledge of Greek. Introduction to Greek papyri, considered both as historical documents and as carriers of literature.

245. Greek Paleography. (4) Studies in development of book hand in Greek manuscripts earlier than the invention of printing.

250. Topical Studies of Ancient Greece. (2 or 4) Lecture, three hours. Advanced study of some aspect of ancient Greek literature, language, and culture. May be repeated for credit with topic change. S/U (2-unit course) or letter (4-unit course) grading.

256. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. S/U grading.

257. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 8) Tutorial, to be arranged. S/U grading.


Latin

Lower Division Courses

1. Elementary Latin. (5) Lecture, three hours; discussion, two hours. P/NP or letter grading.

101B. Advanced Vergil. (4) Lecture, three hours. Requisite: course 105A. Reading and discussion of Vergil’s Eclogues, Georgics, and/or second half of the Aeneid. May be repeated for credit with change in readings. P/NP or letter grading.


111. Livy. (4) Requisite: course 100.

112. Tacitus. (4) Requisite: course 100.


114. Roman Epistology: Cicero and Pliny. (4) Requisite: course 100.


116. Roman Novel. (4) Lecture, three hours. Requisite: course 100. Reading and discussion of either Petronius’ Satyricon or Apuleius’ Metamorphoses and development of the genre of prose novel in antiquity. May be repeated for credit with change in author and text.

117. Sallust. (4) Requisite: course 100.

118. Seneca. (4) Requisite: course 100. Selection of Seneca’s works read in Latin.

119A. Readings in Roman Prose. (4) Lecture, three hours. Requisite: course 100. Readings of selected Roman prose author(s). Topics may vary from year to year and may be organized in terms of chronology (Republican or Imperial), literary genre (Roman biography, antiquarian learning, or science), or genre. May be repeated for credit with topic change. P/NP or letter grading.

119B. Readings in Roman Poetry. (4) Lecture, three hours. Requisite: course 100. Readings of selected Roman poetry author(s). Topics may vary from year to year and may be organized in terms of chronology (Republican or Imperial), epic, lyric, elegy, and/or theme. May be repeated for credit with topic change. P/NP or letter grading.

120. The Vulgate. (4) Lecture, three hours. Requisite: course 3. Reading of selected chapters of St. Jerome’s translation of the Bible, with emphasis on unclassical features of the Latin.

121. Patristic Texts. (4) Lecture, three hours. Requi- site: course 100. Reading and discussion of one or more Latin patristic texts (especially works of Ambrose, Augustine, and/or Jerome), with emphasis on specific features of patristic, as opposed to classical, Latin.


197. Individual Studies in Latin. (2 to 4) Tutorial, two hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject mat- ter required. Individual contract required. P/NP or letter grading.

199. Directed Research in Latin. (2 to 4) Tutorial, two hours. Limited to juniors/seniors. Supervised indi- vidual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.
Graduate Courses

200A-200B-200C. History of Latin Literature (4-4-4). Lecture, three hours. Lectures on history of Latin literature, supplemented by reading of Latin texts in original language. Each course may be taken independently for credit. S/U or letter grading.

201. Roman Epic Tradition. (2 or 4) Seminar, three hours. Close study of one epic poet other than Vergil (e.g., Ennius, Lucan, Valerius Flaccus, Statius, Silius Italicus), with attention to the literary tradition of epic. May be repeated for credit with topic change. S/U (2-unit course) or letter (4-unit course) grading.

202. Seminar: Catullus. (2 or 4) Detailed consideration of entire Catullan corpus, S/U (2-unit course) or letter (4-unit course) grading.

203A. Elegiac Poetry. (2 or 4) S/U (2-unit course) or letter (4-unit course) grading.

203B. Proprietas. (2 or 4) Course 203A is not requisite to 203B. S/U (2-unit course) or letter (4-unit course) grading.

204A-204B. Vergil’s Aeneid. (2 or 4 each) Course 204A is requisite to 204B. S/U (2-unit course) or letter (4-unit course) grading.

205A. Seminar: Vergil’s Bucolics. (2 or 4) S/U (2-unit course) or letter (4-unit course) grading.

205B. Seminar: Vergil’s Georgics. (2 or 4) Course 205A is not requisite to 205B. Close reading of Vergil’s text; careful evaluation of influential criticism on the poem, much of it recent; examination of the work’s place within the tradition of rural poetry. S/U (2-unit course) or letter (4-unit course) grading.

206. Horace. (2 or 4) S/U (2-unit course) or letter (4-unit course) grading.

207. Roman Comedy. (2 or 4) Seminar, three hours. Survey of history of Roman comedy. S/U (2-unit course) or letter (4-unit course) grading.

208. Ovid. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

209. Seminar: Roman Satire. (2 or 4) Detailed study of an individual satirist, with attention to his position in development of the satirical genre in Roman literature. Choice of author varies from year to year. Close study of the text, of characteristics of the writer as a social critic and artist, and of contemporary literary and social environment. S/U (2-unit course) or letter (4-unit course) grading.

210. Advanced Latin Prose Composition. (4) Prerequisite: course 110.

211A-211B-211C. Seminars: Roman Historians. (2 or 4 each) Study of considerable portions of writings of the following. Each course may be taken independently for credit. S/U (2-unit course) or letter (4-unit course) grading.

211A. Sallust; 211B. Livy; 211C. Tacitus.

215. Seminar: Roman Novel. (2 or 4) Works such as Petronius’ Satyricon and Apuleius’ Metamorphoses: study of literary problems. May be repeated for credit with topic change. S/U (2-unit course) or letter (4-unit course) grading.

216. Roman Rhetoric. (2 or 4) Seminar, three hours. Close study of one rhetorical text (e.g., Rhetorica ad Herennium, Cicero’s De Oratore), Seneca’s Controversiae or Suasoriae, Quintilian’s Institution, with attention to its place in rhetorical tradition. May be repeated with topic change. S/U (2-unit course) or letter (4-unit course) grading.

219. Cicero’s Orations. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

220A. Cicero: Philosophical Works. (2 or 4) S/U (2-unit course) or letter (4-unit course) grading.

220B. Cicero: De Natura Deorum. (2 or 4) Course 220A is not requisite to 220B. S/U (2-unit course) or letter (4-unit course) grading.

222. Seminar: Roman Stoicism. (2 or 4) Seminar, three hours. S/U (2-unit course) or letter (4-unit course) grading.

223. Lucretius. (2 or 4) S/U (2-unit course) or letter (4-unit course) grading.

224. Seneca. (2 or 4) Seminar, three hours. Detailed study of one work of prose or poetry by the younger Seneca. May be repeated with topic change. S/U (2-unit course) or letter (4-unit course) grading.

229. Sight Translation. (2 or 4) Discussion, three hours. Designed for graduate students. Practice in translation of previously unseen texts from a variety of authors and genres. Attention to the particular style and vocabulary of the distinct genres, literary vs. scholarly translation, semantic properties of particular words and constructions. S/U (2-unit course) or letter (4-unit course) grading.

231A-231B. Seminars: Medieval Latin. (2 or 4 each) Preparation: at least one upper division Latin course. Course 231A is not requisite to 231B. Studies in various areas of the language and literature of medieval Latin. May be repeated for credit with consent of instructor. S/U (2-unit course) or letter (4-unit course) grading.

232. Vulgar Latin. (2 or 4) Lecture, three hours. History and characteristics of popular Latin; its development into early forms of the Romance languages. S/U or letter grading.

235. Late Latin Poetry. (2 or 4) Seminar, three hours. Close study, with attention to literary and historical background, of work of one of several poets who flourished between the death of Ovid and fall of the Roman Empire. May be repeated with change in author.

236. Late Latin Prose. (2 or 4) Seminar, three hours. Close study, with attention to literary and historical background, of work of one or several prose authors who flourished between the death of Tacitus and fall of the Roman Empire. May be repeated with change in author.

240. History of the Latin Language. (2 or 4) Lecture, three hours. Development of Latin from the earliest monuments until its emergence in the Romance languages. S/U or letter grading.


245. Neo-Latin. (2 or 4) Seminar, three hours. Preparation: at least two upper division Latin courses. S/U or letter grading.


249. College Teaching of Latin. (2 or 4) Seminar, to be arranged. Preparation: appointment as a teaching assistant, Methodological preparation in conjunction with classroom practice. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. S/U grading.

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 8) Tutorial, to be arranged. S/U grading.


COMMUNICATION STUDIES

College of Letters and Science

UCLA
2318 Rolfe Hall
Box 951558
Los Angeles, CA 90095-1538
(310) 825-3303
fax: (310) 206-2371
http://www.commstudies.ucla.edu

Paul I. Rosenthal, Ph.D., Chair

Professor
Neil M. Malamuth, Ph.D.

Associate Professors
Matthew A. Baum, Ph.D.
Martie G. Haselton, Ph.D.
Paul I. Rosenthal, Ph.D.

Assistant Professors
Gregory A. Bryant, Ph.D.
Timothy J. Groeling, Ph.D.
Kyu S. Hahn, Ph.D.
Francis F. Steen, Ph.D.

Senior Lecturers
Maride S. Gregory, M.A.
Thomas E. Miller, M.A.
Paul Von Blum, J.D.

Lecturers
Dree A. Bridgewater, Ph.D.
Dmitry Gorin, J.D.
Pamela J. Hobbs, J.D., Ph.D.
William Kelly, Ph.D.
John Kochian, M.A.
Steven M. Peterson, Ph.D.
Michael W. Suman, Ph.D.
Jeffrey B. Valle, J.D.

Adjunct Professor
Thomas G. Plate, M.A.

Adjunct Assistant Professor
Barry Sanders, J.D.

Scope and Objectives

The major in Communication Studies is an interdisciplinary curriculum leading to a Bachelor of Arts degree. It seeks to provide students with a comprehensive knowledge of the nature of human communication, the symbol systems by which it functions, the environments in which it occurs, its media, and its effects. Employing critical and empirical approaches, the major draws its resources from the social sciences, humanities, and fine arts. Two areas of focus are offered: the concentration in mass communication centers on formal and institutional communication systems and the macro-cosmic social contexts in which they function; the concentration in interpersonal communication centers on face-to-face communicative interaction in the small group environment.

Undergraduate Study

Communication Studies B.A.

Students fulfilling the major in Communication Studies must complete the seven required lower division courses and a minimum of 15 upper division courses as set forth below. Enrollment in the major is limited. Admission to the major is by application to the committee in charge. Applications are available at http://www.commstudies.ucla.edu to regularly enrolled UCLA students during Spring Quarter.

Preparation for the Major

Students are encouraged but not required to complete as many lower division preparation for the major courses as possible before admission to the program.


Computing Specialization

Majors in Communication Studies may select a specialization in Computing by (1) satisfying all the requirements for a bachelor's degree in the major, (2) completing Program in Computing 10A and 10B, and (3) completing four courses (at least one of which must be in communication studies) from Communication Studies 151, 154, 158, Program in Computing 10C, 20A, 20B, 40A. Courses need to be completed with a minimum grade of C– in each course and a combined grade-point average of at least 2.0. Students must petition for admission to the program and are advised to do so after they complete Program in Computing 10B (petitions should be filed in the Counseling Office). Students graduate with a bachelor's degree in communication studies and a specialization in Computing.

Communication Studies

Lower Division Courses

1. Principles of Oral Communication. (4) (Formerly numbered Speech 1.) Lecture, four hours. Enforced prerequisite: satisfaction of Entry-Level Writing requirement. Examination of foundations of communication and public speaking. Consideration of the number of basic theories related to study of communication and development of skills to enable composition and delivery of speeches in accordance with specific rhetorical concepts. Improvement of ability to analyze, organize, and critically think about communicative messages while becoming better equipped to articulate ideas. P/NP or letter grading.

1A. Public Speaking for Nonnative Speakers. (4) (Formerly numbered Speech 1, 1A.) Lecture, four hours. Designed for nonnative speakers of English to increase fluency and vocabulary while improving presentation skills, language usage, reasoning, style, and delivery. Conversation and pronunciation practice. Focus on theory and practice of public speaking, including selection of content, organization of ideas, language, and delivery. Practice in extemporaneous and manuscript speaking. Critical analysis of speeches in both contemporary and historical settings. Special emphasis on group discussions, evaluations, practice of both public and private speaking skills. Offered in summer only. P/NP or letter grading.

10. Introduction to Communication Studies. (5) Lecture, four hours; discussion, one hour. Introduction to fields of mass communication and interpersonal communication. Study of modes, media, and effects of mass communication, interpersonal processes, and communication theory. Letter grading.

15A. Production of Multimedia Software. (4) Description of what goes into a multimedia software program; discussion of different platforms (PC, Mac, network computers, servers, and transmitters) and distribution means (CD-ROM, DVD-ROM, Internet), content organization and layout, data structure and management; and overall planning for prototype and final product. P/NP or letter grading.

M40W. Language and Gender: Introduction to Gender and Stereotypes. (5) (Formerly numbered M40.) (Same as Applied Linguistics and TESL M40W, Japanese M40W, and Russian M40W.) Lecture, four hours; discussion, two hours. Enforced prerequisite: English Composition 3 or 3H. Not open for credit to students with credit for former course M40. Prior knowledge of foreign languages not required. Introduction to language from sociological perspective of gender. Use of research and examples in English, Japanese, and Russian to explore nature of male and female ‘genderlects’ and gendered language, as reflected in lexicon, language behavior, phonetics and intonation, and language acquisition and linguistic change. Satisfies Writing II requirement. Letter grading.

M70. Origin of Language. (5) (Same as German M70 and Indo-European Studies M70.) Lecture, three hours; discussion, one hour. Theoretical and methodological issues surrounding origin of language. Topics include evolutionary theory, evolution of man, how language is organized in brain, and science of language, including physiology of speech, phonetics, and comparative reconstruction. Letter grading.

88. Sophomore Seminars: Communication Studies. (4) (Formerly numbered 88A-88Z.) Seminar, three hours. Limited to maximum of 20 lower division students. Readings and discussions designed to introduce students to current research in discipline. Culminating project may be required. P/NP or letter grading.

Upper Division Courses

100. Communication Theory. (4) Prerequisites: course 10 or Linguistics 1 or Sociology 1 or Psychology 10. Analysis of fundamental nature of human communication; its physical, linguistic, psychological, and sociological bases. Study of theoretical models explicated in the process and constituents of the communicative act.

101. Freedom of Communication. (4) Analysis of legal, political, and philosophical issues entailed in rights of free expression, access to an audience, and access to information. Study of court decisions governing freedom of communication in the U.S.

103A-103B. Forensics. (2-2) (Formerly numbered Speech 181A-181B.) Lecture, two hours. Participation in on-campus and intercollegiate forensics activities, including exposure to fundamentals of competitive forensic events. Students practice public address, interpretation of literature, debate, oratory, and extemporaneous speaking and engage in independent research. Each course may be repeated once for credit. P/NP or letter grading. 103A. Basic preparation; 103B. Advanced practice in speech.

104. Analysis and Briefing. (2) (Formerly numbered Speech 182.) Lecture, two hours. Intensive study of selected political or social issues, preparation of bibliography, analysis and evaluation of issues and arguments. May be repeated once for credit. P/NP or letter grading.

107A. Variable Topics in Mass Communication. (4) (Formerly numbered 107.) Lecture, three hours. Variable topics; consult Schedule of Classes for topics to be offered in specific term. Letter grading.

107B. Variable Topics in Interpersonal Communication. (4) Lecture, three hours. Variable topics; consult Schedule of Classes for topics to be offered in specific term. Letter grading.


M116. Communication and Conflict in Couples and Families. (4) (Same as Psychology M176.) Lecture, 90 minutes; discussion, 90 minutes. Requisites: Psychology 10, 100A, 127. Examination of (1) dysfunctional communication and conflict in couples and families and (2) relationship of these processes to individual psychopathology, marital discord, and family disruption (e.g., separation and divorce). P/NP or letter grading.

118. Language and Music. (4) Lecture, three hours. Language and music share many properties but are also distinct phenomena. Exploration of structure, function, and aesthetics of language and music and their relationships to communication, cognition, and culture. P/NP or letter grading.

119. Voice and Its Perception. (4) Lecture, four hours. Focus on how human voice conveys information about identity of speakers, physical characteristics, personality, and emotional state, and on how listeners utilize this information to make judgments about speakers. Letter grading.

120. Group Communication. (4) Lecture, four hours. Examination of group communication from perspectives of evolutionary psychology, communications, and psycholinguistics. Topics include evolution of cooperation, ingroup and outgroup dynamics, gossip, music improvisation, and conversational behaviors. P/NP or letter grading.

121. Talk and Mass Communication. (4) Lecture, three hours. In recent years there has been sea change in broadcast news and public affairs programming. News is once packaged and presented to audiences in form of scripted narrative or story, but increasingly news is organized around spontaneous interactive encounters between some combination of journalists, public figures, and ordinary citizens. Examination of interactional forms, with emphasis on news interviews, presidential press conferences, and political speeches before live audiences, from standpoint of their historical development and consequenc-es for journalism, political communication, and public sphere. Primary focus on inner workings of each form of talk—social norms and practices that organize interactional forms, and potential for interactivity. Each course may be repeated once for credit. P/NP or letter grading.

122. Promoting Dialogue between Diverse Worlds. (4) Lecture, three hours. Exploration of issues related to management of conflict between major areas of work with focus on historical background, perception gaps, and political context. Communication approaches based on nonviolence and management of moral conflict offered as alternatives to clash of civilizations. Letter grading.

M123. Talk and the Body. (4) (Same as Anthropology M148 and Applied Linguistics and TESL M161.) Seminar, four hours. Relationship between language and the body. How do the body and language influence each other? P/NP or letter grading. New approaches to phenomena such as embodiment become possible when body is analyzed, not as iso-lated entity, but as visible agent whose talk and action are bridged with each other by human interpreta-tion and rich settings where people pursue courses of action that count in their lives. Letter grading.

124. Psychology of Language and Gender. (4) (Same as Women’s Studies M124.) Lecture, four hours. Examination of current topics at intersection of gender and language. Topics include sex differentiation in language cross-culturally; sex bias in lexicon and usage; sex differences in lexicon, syntax, phonol-ogy, and nonverbal communication of sex differ-entiated language in children; “women’s” and “men’s” language in various racial/ethnic/class/sexu-al preference groups; and conversational interaction. Letter grading.

M125. Talk and Social Institutions. (4) (Same as Sociology CM125.) Lecture, four hours; discussion, one hour. Requisites: Psychology CM125. Focus on rhetoric. Analysis of theories of Plato, Aristotle, Cicero, Quintilian, St. Augustine, Blair, Whately, Campbell, and other leading works in theory of rhetoric. Letter grading.

130. Cultural Factors in Interpersonal Communication. (4) Lecture, three hours. Study of cultural factors as they affect quality and processes of interpersonal communication; exercises in participation, analysis, and criticism of ethnocentric and intercultural communications in small group configuration. P/NP or letter grading.

131. Culture versus Media? (4) Lecture, three hours. Examination of meaning of cultural texts, analysis of representation of particular groups, and consideration of how audiences provide their own meanings and uses to such texts, with focus on media in relation to issues of globalization, consumption, class, race, gender, youth, and sexuality. Letter grading.


133. Decoding Media Strategies. (4) Lecture, three hours. Today’s mass media are thriving business of content and context, central part of cultural identity, and vital component of democracy. How do these different and often conflicting functions determine content of mass media? Ex-amination of psychological dynamics of advertising, nature of entertainment and mass culture, practice of propaganda, and changing patterns of media ownership. Assessment of impact of mass media on individ-uals and social institutions. Letter grading.

M135. Narrative in Mass Communication. (6) (Same as Honors Collegium M135.) Seminar, four hours. Examination of narrative as a primary function of mass media, beginning with social, political, cultural, and rhetorical functions of storytelling and basic elements of narrative, then applying these to study of film, television, and print media. P/NP or letter grading.


140. Theory of Persuasive Communication. (4) Lecture, four hours. Dynamics of communication de-signed to influence human conduct; analysis of struc-ture of persuasive discourse; integration of theoretical materials from relevant disciplines of humanities and social sciences. Letter grading.


M144A-M144B. Conversational Structures I, II. (4-5) (Same as Sociology M144A-M144B.) Lecture, three hours; discussion, one hour. P/NP or letter grading. M144A. Introduction to some structures which are employed in organization of conversational interaction, such as turn-taking organization, organi-zation of repair, and some basic sequence structures with limited expansions. M144B. Requisite: course M144A. Consideration of some more expanded se-quence structures, story subsequences, topic sequenc-es, and overall structural organization of single con-versations.

146. Evolution of Mass Media Images. (5) Lecture, four hours. Topics include history and organization of evolutionary psychology as basis for images selected by media portraying women and/or minorities in entertainment, advertising, and informational communication. Letter grading.

M147. Sociology of Mass Communication. (4) (Same as Sociology M176.) Lecture, four hours; discussion, one hour (when scheduled). Study in relation-ship between mass communication and social orga-nization. Topics include examination of role of major media institutions, social forces that shape produc-tion of mass media news and entertainment, se-lected studies in media content, and effects of media on society. P/NP or letter grading.

154. Social Communication and New Technology. (4) Lecture, four hours. Internet’s digital core was designed for military command. Yet emerging network was gradually co-opted to perform communicative functions such as gossip, dating, news, entertainment, and trade. Exploration of history, social effects, and possible futures of digital communication. Letter grading.


156. Social Networking. (4) Lecture, three hours. Investigation of how online social networks have facilitated interpersonal interactions for knowledge sharing, romance, business, politics, and entertainment. Critical investigation of current popular social networking websites (e.g., Facebook, MySpace, Friendster, You Tube) through social network analysis and other social science research methods. P/NP or letter grading.


158. M159. Pornography and Evolution. (4) (Same as Women’s Studies M159.) Lecture, three hours. Discussion, one hour (when scheduled). Examination of adequate legal, ethical, and social responsibilities journalists bear in reporting the news. Letter grading.

159. Political Communication. (4) Lecture, four hours; discussion, one hour. Study of nature and function of communication in the political sphere; analysis of interpersonal, group, and mass media communication with its impact on the mass media; mass attitudes; role of the media in American political process. P/NP or letter grading.

160. Electoral Politics: Mass Media and Elections. (4) (Same as Political Science M141D.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study of nature and function of communication in the political sphere; analysis of interpersonal, group, and mass media communication with its impact on the mass media; mass attitudes; role of the media in American political process. P/NP or letter grading.

161. Visual Communication and Social Advocacy. (4) Lecture, three hours. Visual communication reaches diverse audiences in contemporary society and its overlapping social and political contexts. Cartoons, posters, murals, and documentary photography have had powerful world impact. Survey of all four genres of visual communications as features of modern mass media. Letter grading.


163. Images of the U.S. (4) Lecture, four hours. Awareness of the U.S. as an international role of the U.S. necessitates clear understanding of way our nation is perceived by others. Exploration of roots of U.S. images in minds of people abroad. Analysis of influences that contribute to images and messages in which images affect practical matters. Letter grading.

164. Politics of Censorship. (4) Discussion, two hours; simulation teaching, three hours. Requisite: course 101. Examination of the process and substance of debates over government and private censorship by having students become active participants in a term-long simulated battle over a current issue such as book censorship, pornography, or UNESCO’s proposed “New World Information Order.”

165. Evolutionary Psychology and Intersubpersonal Communication. (2) Seminar, three hours. Designed to bring together students undertaking supervised tutorial research in seminar setting to discuss their work with faculty members. Hands-on course in which students learn to conduct empirical research in communication and evolutionary psychology. Readings, discussions, and average of seven hours per week of research (designing experiment protocols, collecting and processing data, interpreting results). P/NP grading.

166. Nonverbal Communication in Architecture. (4) Lecture, four hours. Study of how elements of design and style of various buildings in architectural history send messages to viewers and users of such buildings. Letter grading.


168. Field Studies in Communication. (2 to 4) Lecture, two hours. Designed for juniors/seniors. Fieldwork in communication. Students participate in two-hour seminar sessions and spend seven hours in approved community settings each week for each 2 units of credit. May be taken for maximum of 4 units per term. P/NP grading.

169. Mass Media, Public Opinion, and Foreign Policy. (4) Lecture, four hours. Investigation of various media through which public opinion influence foreign policy. Development of coherent view of interaction between media, public opinion, and politicians with respect to foreign affairs. Letter grading.
Michael S. Goldstein, Ph.D.
Gail G. Harrison, Ph.D.
David Heber, M.D., Ph.D.
Martin Y. Iguchi, Ph.D.
Marjorie Kagawa-Singer, R.N, Ph.D.
Snehendu B. Kar, Dr.P.H., M.Sc.
Robert J. Kim-Farley, M.D., M.P.H., in Residence
Joel D. Koppie, M.D., in Residence
Virginia C. Li, Ph.D., M.P.H.
Donald E. Morisky, Sc.D., M.S.P.H., Sc.M.
Charlotte G. Neumann, M.D., M.P.H.
Anne R. Pemble, Ph.D. (Fred H. Boby Professor of Population Policy)
Michael G. Ross, M.D., M.P.H.
Mary Jane Rotheram-Borus, Ph.D., in Residence
Judith M. Siegel, Ph.D., M.S.Hyg.
Dawn M. Upchurch, Ph.D.
Steven F. Wallace, Ph.D.

**Professors Emeriti**
Isabelle F. Hunt, Dr.P.H., R.D.
Allied K. Neumann, M.D., M.A., M.P.H., F.A.B.P.M.
Marian E. Swendsen, Ph.D.
Daniel M. Wilner, Ph.D.

**Associate Professors**
Elizabeth A. Frankenfield, Ph.D.
Kim D. Gregory, M.D., M.P.H., in Residence
Michael C. Lu, M.D., M.P.H.

**Lecturers**
Frances Chasen, M.A.
Susan Edelstein, M.S.W., L.C.S.W.
Diane Harris, Ph.D.
Lynn Kersey, M.A., M.P.H.
Wendy Lazarus, M.S.
Pamela Viele, Ph.D.

**Adjunct Professors**
Martin Anderson, M.D., M.P.H.
Daniel H. Ershoff, Dr.P.H., R.D.
Neal Kaufman, M.D., M.P.H.
Steve Rottmann, M.D.
Samuel J. Stratton, M.D., M.P.H.

**Adjunct Associate Professors**
Alina Dorian, Ph.D.
Helen M. Du Plessis, Ph.D.
Janel Frank, Ph.D.
Dena R. Herman, M.P.H., Ph.D., R.D.
Carollyn A. Mendez-Luck, Ph.D.
Michael L. Prelip, D.P.A., M.P.H., C.H.E.S.
Wendelin M. Slusser, M.D.
Bonnie Taub, Ph.D.
Paula A. Tavrow, Ph.D.

**Field Program Supervisor**
Michael L. Prelip, D.P.A., M.P.H., C.H.E.S.

**Scope and Objectives**

The Department of Community Health Sciences focuses on the determinants of health within the context of the social structure, community, health care systems, and family units. Of particular interest is how health-related behaviors of individuals are influenced by and interact with conditions in the social, cultural, physical, and biological environment to influence health status, with particular emphasis on describing, evaluating, and encouraging health-promoting behaviors and facilitating health-promoting behaviors. The curriculum seeks to integrate basic and applied public health theories and methods in applying them to real problems of public health. Assessment, planning, and evaluation are common themes in the department's educational programs.

The department offers both schoolwide professional (M.P.H. and Dr.P.H.) and academic (M.S. and Ph.D.) degree programs. Graduates of the professional programs generally assume positions in the planning, administration, and evaluation of public health programs and policies, both in the U.S. and abroad, which have as their objective the maintenance and improvement of the health of individuals, families, communities, and populations. Graduates of the doctoral programs assume teaching, research, and managerial positions in a wide variety of settings, including universities, government agencies, nongovernmental organizations, international health agencies, and research centers.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnct.ucla.edu/gasas/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Community Health Sciences offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Public Health.

**Community Health Sciences**

**Lower Division Courses**

90. Aging Frontier: Public Health Perspective. (4) Lecture, three hours; discussion, one hour. Introduction to gerontology from public health perspective, emphasizing prevention of illness and promotion of healthy aging. Special attention to health and aging among women and racial/ethnic minorities. Letter grading.

91. Peer Health Counselor Training. (4) (Formerly numbered 99.) Lecture, four hours. Limited to students in Peer Health Counselor Program. Analysis of student healthcare issues as related to campus healthcare delivery system and to healthcare consumer. Identification of health needs, determination of appropriate resources, delivery of preventive and self-care education, and delineation of peer health counselor's role. P/NP or letter grading.

**Upper Division Courses**

100. Introduction to Community Health Sciences. (4) Lecture, three hours; discussion, one hour. Development of broad appreciation of community, cultural, developmental, and psychosocial factors as they affect health, health-related behavior, and implications for public health. Review of theories, models, and modalities of interventions and policies for health promotion and disease prevention. Letter grading.
M208. Introduction to Demographic Methods.  (4) (Same as Biostatistics M208, Economics M208, and Sociology M213A.) Lecture, four hours. Preparation: one introductory statistics course. Introduction to methods of demographic analysis. Topics include demographic rates, standardization, decomposition of differences, life tables, survival analysis, cohort analysis, birth interval analysis, and population growth, stable populations, population projection, and demographic data sources. Letter grading.

210. Community Health Sciences.  (4) Lecture, three hours. Preparation: one social science or social science course. Basic concepts, relationships, and policy issues in the field of community health, variability in definitions of health and illness, correlates of health and illness behavior, impact of social and community structure on health status, major contemporary approaches to health promotion and health education at community level. Use of comparative international perspective. Letter grading.

211A-211B. Program Planning, Research, and Evaluation in Community Health Sciences.  (4-4) Lecture, three hours; discussion, one hour; outside assignments, eight hours. Course 211A is requisite to 211B. Development, planning, and administration of public health programs in community settings. Introduction to range of research methods and techniques used in designing and conducting health research, with particular emphasis on community-based public health programs. Course organized into three modules. Letter grading. 211A. Requisites: course 210; 211B. Requisites: courses 210, 211A, and Biostatistics 100B or Epidemiology 100.

212. Advanced Social Research Methods in Health.  (4) Lecture, four hours; laboratory, two hours; outside assignments, eight hours. Requisites: courses 211A, Biostatistics 100B, 406. Topics of health survey design and data collection; measurement issues in data analysis and interpretation; use of computer for analysis of large-scale survey data using various statistical techniques. Letter grading.

213. Research in Community and Patient Health Education.  (4) Lecture, three hours; discussion, two hours. Requisite: course 210. Application of conceptual, theoretical, and evaluation skills to community-based health education risk-reduction programs. Computer applications, data management, and research methodologies taught through microcomputer and mainframe computer management and analysis of program databases.


M216. Qualitative Research Methodology.  (4) (Same as Anthropology M284.) Discussion, three hours; laboratory, one hour. Intensive seminar/field course in qualitative research methodology. Emphasis on using qualitative methods and techniques in research and evaluation related to healthcare. Letter grading.

M218. Questionnaire Design and Administration.  (4) (Same as Epidemiology M218.) Lecture, four hours. Requisites: courses 211A and 211B, or Epime- diology 200B and 200C. Design, testing, field use, and administration of data collection instruments, with particular emphasis on questionnaires. Letter grading.

219. Theory-Based Data Analysis.  (4) Seminar, three hours. Enforced requisites: Biostatistics 100A, 100B, 406. Translation of theory into data analysis, plan its application to real data, and interpretation of results obtained through multivariate analysis. Analysis of quantitative data using range of multivariate techniques, such as linear multiple regression and logistic regression. Analysis of theoretical problem using student quantitative data or public use data. Letter grading.

221. Introduction to Sociocultural Aspects of Health.  (4) Lecture, three hours; discussion, one hour. Examination of how social stratification and culture influence health and the health care delivery system. Consideration of four major status characteristics: age, ethnicity, gender, and socioeconomic status. Description of epidemiological patterns and discussion of social meaning of the four characteristics. Letter grading.

M222. Understanding Fertility: Theories and Methods.  (4) (Same as Sociology M206.) Lecture, three hours; outside study, four hours. Preparation: one introductory sociology course. Requisite: Biostatistics 100A. Application of demographic theories and methods to describe fertility trends and differentials and social and proximate determinants of fertility, with emphasis on understanding key proximate determinants. For advanced students interested in population, demography of health, and social demography. Letter grading.

M223. Tobacco: Prevention, Use, and Public Policy.  (4) (Same as Health Services CM221.) Lecture, four hours. Designed for juniors/seniors and graduate students. Study of tobacco use and its health consequences, including interplay of historical, biological, sociocultural, political, and economic forces with knowledge, attitudes, and behavior choices of individuals. Introduction to prevention interventions, cessation interventions, anti-tobacco efforts in the U.S., and international trends in tobacco policy. Letter grading.


229. Policy and Public Health Approaches to Violence Prevention.  (4) Lecture, four hours. How policies relate to violence and development of skills to transmit this knowledge. Examination of wide range of policy topics and how each might be associated with a reduction/increase in violence/violent injury. Letter grading.

230. Family and Sexual Violence.  (4) Lecture, three hours; community, three to four hours. Examination of rape, incest, and spouse and elder abuse. Presentation of definitions, causes, outcomes of research on family and sexual violence, as well as response of social, medical, and criminal justice systems. Letter grading.


M232. Determinants of Health.  (4) (Same as Health Services M242.) Lecture, three hours; discussion, one hour. Designed for graduate students. Critical analysis of models for what determines health and evidence for social, economic, environmental, genetic, health system, and other factors that influence health of populations and defined subgroups. Letter grading.

233. Hunger and Food Insecurity as Public Health Issues.  (4) Lecture, three hours. Designed for graduate students. Public health aspects of hunger and food insecurity in historical and international perspectives, including measurement and identification of vulnerability, prevention, and options for relieving acute food shortage. Letter grading.

M234. Obesity, Physical Activity, and Nutrition Seminar.  (4) (Same as Health Services CM224.) Seminar, three hours; outside study, one hour. Designed for graduate students. Multidisciplinary introduction at graduate level to epidemiology, physiology, and current state of preventive and therapeutic interventions for obesity in adults and children, including public health approaches to healthy nutrition and physical activity promotion. S/U or letter grading.
236. Managing Drug Abuse from Public Health Perspective. (4) Lecture, four hours. Exploration of numerous areas that health is impacted by drug use; public health options for controlling associated problems; positive and negative aspects of drug use in terms of costs and benefits; variety of information resources such as scientific literature, surveys, institutional databases, key indicators, key informants, and expert opinions; and use and application of specific decision tools such as decision tree analyses, benefit-cost analyses, Delphi panels or other consensus-building approaches, and basic epidemic models when developing public health policies having to do with substance use and misuse. Letter grading.

237. Evolving Paradigms of Prevention: Interventions in Early Childhood. (2 to 4) Seminar, three hours; fieldwork, one hour. Designed for graduate students. Introduction to use of early childhood interventions as means of preventing adverse health and developmental outcomes. Concepts of developmental vulnerabilities, approaches to assessment, models of service delivery, evaluation and cost-benefit issues, funding, and other policy issues. Letter grading.

238. Evolving Paradigms of Prevention: Interventions in Early Childhood. (2 to 4) Seminar, three hours; fieldwork, one hour. Designed for graduate students. Introduction to organizing principles which underlie health assessment and intervention in adolescent populations (identity formation, acculturation, sexual orientation, substance use, risk behavior, cultural in-fluences) and provide a basis for understanding pivotal issues in health enhancement, morbidity, and mortality. Letter grading.

M239. Race and Ethnicity as a Concept in Practice and Research. (4) (Same as Asian American Studies M239.) Discussion, three hours. Integration of cross-cultural findings in healthcare with current American (U.S.) healthcare system paradigms to facilitate designing culturally based public health programs and train culturally competent practitioners. Letter grading.

M244. Advanced Seminar: Medical Anthropology. (2 to 4) (Same as Anthropology M236Q, Nursing M273, and Psychiatry M273.) Seminar, three hours. Limited to 15 students. Examination of interrelationships between society, culture, ecology, health, and illness. Bases for written critical analysis and discussion provided through key theoretical works. S/U or letter grading.


246. Women's Roles and Family Health. (4) Lecture, two hours; discussion, one hour. Rapidly changing roles of women throughout the world are having important effects on women's own health and that of their families. Analysis of multidisciplinary research from both developed and industrialized countries to provide basis for in-depth discussion of programmatic and policy implications. Letter grading.

247. Population Change and Public Policy. (4) Lecture, four hours. Examination of international population change, population-related policies, and public health implications of demographic processes. Letter grading.

248. Women's Mental Health. (4) Discussion, three hours. Designed for graduate students. Prevalence of psychological and psychiatric disorders among women, with emphasis on impact of social and cultural factors, including gender roles and socialization, stratification and inequality, work and family roles, and health-seeking behavior, and treatment. Letter grading.

M249L. Ethical Issues in Public Health. (4) (Same as Health Services M249L.) Lecture, four hours. Requires: Health Services 200A, 200B. Course conferences, based on real-life experience, focus on ethical issues in health services organization and management, including ethical issues related to conflict of interest, quality of care, health insurance selection, choice of drugs, reproductive rights, AIDS, and resource allocation. Letter grading.

M251. Human Resources and Economic Development. (4) (Same as Education M252C.) Lecture, four hours. Examination, in context of developing countries, of interactions among economic development, population growth, levels of health and nutritional status, and educational investments. S/U or letter grading.


M253. Advanced Topics in Health Services Research: Access to Care. (4) (Same as Health Services M253L.) Lecture, four hours. Requires: courses 210, 270A, 270B, or 270C, and M263, M273A, M273B, and M273C. Doctoral seminar designed to explore health services research regarding access to healthcare and policies to enhance access. Topics include conceptual frameworks, measurement issues, the process of health care delivery, how access affects health behavior, and outcome analysis. Letter grading.

M254. Preventive Services: Women and Refugees. (2) Lecture, two hours. Requisite: courses 211A, 211B, 295, Epidemiology 100, one survey methods course. Previous international experience strongly encouraged. Overview of intentional disasters, with focus on locally underdeveloped areas and consequent population migration. Principal focus on how health consequences of these events and strategies to address health issues. Letter grading.

M255. Keeping Children Safe: Causes and Prevention of Pediatric Injuries. (2) (Same as Epidemiology M255L.) Lecture, two hours. Injuries have been a leading killer of children in the U.S. for decades. Children have specific risk factors for injuries, many of which are preventable. Consideration of research and prevention of pediatric injuries. Letter grading.

M256. Interdisciplinary Response to Infectious Disease Emergencies: Public Health Perspective. (4) (Formerly numbered 256.) Lecture, three hours; discussion, one hour. Designed to instill in professional students ideas of common emergency health problems and coordinated response, with specific attention to bioterrorism. Examination of tools to help students prevent, detect, and intervene in infectious disease emergencies. Interdisciplinary sessions also attended by students in Schools of Dentistry, Medicine, and Nursing during weeks two through five. Letter grading.

257. Program Planning in Community Disaster Preparedness. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 211A, 211B, 295. Health education and emergency management principles combined to design, plan, implement, and evaluate community disaster preparedness programs, including needs assessment, identification of target population, objective writing, program planning, and process, outcome, and impact evaluation. Letter grading.


M263. Social Demography of Los Angeles. (4) (Same as Sociology M263L.) Lecture, three hours. Designed for graduate students. Use of city of Los Angeles to examine major social and demographic factors that characterize cities in the U.S. Examination of role of these factors in affecting health outcomes. Letter grading.

M264. Latin America: Traditional Medicine, Shamanism, and Folk Illness. (4) (Same as Anthropology M264 and Latin American Studies M264L.) Lecture, three hours. Recommended preparation: course 132, bilingual English/Spanish skills. Examination of role of traditional medicine and shamanism in Latin America and exploration of how indigenous and mestizo groups diagnose and treat folk illness and Western-defined diseases with a variety of health-seeking mechanisms. Use of examination of dual and case examples of religion and healing practices via lecture, film, and audiotape. Letter grading.

265. Images of Aging and Illness. (4) Lecture, three hours; discussion, one hour. Designed for graduate students. Images of the aged that students hold, images that serve various professional and commercial interests in society, and images the aged themselves use to make sense out of their experiences. Letter grading.

270A-270B. Foundations of Community Health Sciences. (4-4) Lecture, four hours. Requires: course 210. Course 270A is prerequisite to 270B. Designed for doctoral students. In-depth analysis of theories, methods, and research on which community health sciences are based. Letter grading.


273. Social Epidemiology of Chronic Disease. (4) Lecture, two hours; discussion, one hour. Requisite: Epidemiology 100. Relationship between sociocultural, cultural, and psychosocial factors in etiology, occurrence, and distribution of chronic diseases. Topics include hypertension, coronary heart disease, and cancer. Emphasis on lifestyles and other socioenvironmental factors associated with chronic diseases. Letter grading.

M274. Health Professions. (4) (Same as Sociology M249A.) Lecture, three hours. Requisite: course 210. Social epidemiology examines “population” and “illness” and role of various health professionals, especially physicians. Attention to meaning of professionalization and professional/clinical relationships within range of organizational contexts. Letter grading.

M275. Health and Illness Behavior. (4) (Same as Sociology M249B.) Seminar, three hours. Designed for graduate students. Seminar discussion based on student responses to readings on medicalization, health promotion as moral enterprise and consumerism, and preoccupation with body. S/U or letter grading.

277. Advanced Community Health Education. (4) Lecture, two hours; discussion, two hours. Requisite: course 210. Before planning the educational components of a health program, one must assess behaviors and factors influencing the health problem. Conceptual, theoretical, and evaluative skills developed and applied in constructing a community-based educational program. Letter grading.  

M278. Work and Health. (4) (Formerly numbered 278.) (Same as Environmental Health Sciences M270.) Lecture, three hours; practicum, one hour. Recommended: preparation, graduate-level methods/statistics course, basic epidemiology. Designed for graduate students. Exploration of impact of work on physical and psychological health in context of newly emerging discipline. Focus on psychosocial models; measurement (including hands-on experience), contextual factors (gender, ethnicity, social class), and how work stressors can be ameliorated. S/U or letter grading.  

M279. Building Stronger Communities for Los Angeles. (4) (Same as Public Policy M273.) Lecture, four hours. Designed for graduate students. Introductory survey course on family-centered community building (FCCB) to introduce graduate students as well as community practitioners to range of topics, issues, and frameworks to help build stronger, more cohesive, and family-centered communities. Letter grading.  

M280. Drugs of Abuse from Neurobiology to Policy and Education. (4) (Same as Neuroscience CM277.) Lecture, four hours. Course ranges from synapse to society. Provides intensive didactic on current neuroscientific basis for understanding substance abuse and blends that material with relevant topics such as epidemiology, co-occurring disorders, treatment options, prevention, and public policies, with emphasis on communication of course materials to general public. Letter grading.  


280. Race, Class, Culture, and Aging. (4) Lecture, three hours; discussion, one hour. Experience of aging for African American, Latino, and Asian elderly examined in context of communities, and the nation. Exploration of cultural and structural influences on health and lived experiences of these elders. Letter grading.  

281. Health Promotion and the Aged. (4) Lecture, three hours; discussion, one hour. Examination of political, economic, and social forces that shape health policy for the aged, identifying failings in those policies within framework of broader health policy problems. Letter grading.  

M282. Aging, Health, and Society. (4) Lecture, three hours; discussion, one hour. General introduction to major social issues affecting health of the elderly in America. Leading gerontological theories and major issues that affect the aged, showing how those theories and issues influence health status, health promotion, and illness among the elderly. S/U or letter grading.  

286. Doctoral Roundtable in Community Health Sciences. (4) Seminar, two hours. Designed for departmental doctoral students who must enroll every term until they graduate. Interactive seminar with focus on research process and social mechanisms in science. May be repeated for credit. S/U grading.  

M287. Politics of Health Policy. (4) (Same as Health Services M287.) Lecture, three hours; discussion, one hour. Requisites: course 210, or Health Services 200A and 200B. Examination of politics of health policy process, including effects of political structure and institutions; economic and social factors; interest groups, classes, and social movements; media and public opinion; and other factors. Letter grading.  

288. Health Communication in Popular Media. (4) Lecture, three hours; discussion, one hour. Requisites: course 210 or prior social sciences courses. Designed for graduate public health students. Topics include how popular media portray health issues, how people use these media, and impact of these media on health behaviors and perceptions. Strategies to influence or understand media, such as media advocacy, health journalism, media literacy, and entertainment education. Case examples include both domestic and global health issues. Media content analysis, audience research, and assessment of media effects. Letter grading.  

290. Drug Abuse in Pregnancy: Special Focus on Adolescents and Utilizing Secondary Data Sources. (4) Lecture, three hours; clinical placement. Designed for graduate students. Multidisciplinary graduate seminar combining didactic material on substance abuse in pregnancy, participation in ongoing research, and clinical experience in on- and off-campus settings. Medical, social, economic, and legal issues affecting pregnant substance abusers. Letter grading.  

291. Selected Topics in Disaster Relief and Humanitarian Assistance. (2) (Same as Psychiatry M289.) Lecture, two hours. Designed for graduate students. Overview of interdisciplinary issues which necessarily converge in fields of disaster preparedness and humanitarian assistance. Introduction to both theoretical and problem-solving strategies. Letter grading.  

M296. Advanced Research Topics in Community Health Sciences. (2 to 4) Discussion, two to four hours. Advanced study and analysis of current topics in community health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. May be repeated for credit. S/U or letter grading.  

M299. Intervention to Reduce HIV and Its Consequences. (4) (Same as Psychiatry M289.) Lecture, three hours. Examination of interventions to reduce HIV/AIDS transmission. Review of theory and research supporting efficacy of HIV interventions for a variety of high-risk populations. Letter grading.  

295. Selected Topics in Disaster Relief and Humanitarian Assistance. (2) (Same as Psychiatry M289.) Lecture, two hours. Designed for graduate students. Review of interdisciplinary issues which necessarily converge in fields of disaster preparedness and humanitarian assistance. Introduction to both theoretical and problem-solving strategies. Letter grading.  

400. Field Studies in Public Health. (2 or 4) Fieldwork, to be arranged. Field observation and studies in selected community organizations for health promotion or medical care. Students must file field placement and program training documentation on form available from Student Affairs Office. May not be applied toward M.S. minimum course requirement; 4 units may be applied toward 60-unit minimum total required for M.P.H. degree. Letter grading.  

401. Measuring Sensitive Topics. (4) Lecture, two hours; discussion, two hours. Limited to School of Public Health doctoral students. Data collection methods and designs and how to think analytically about them, ethics in measurement of sensitive topics, review of current best practices in measuring important public health content areas. Letter grading.  

M406. Preparing for Smallpox or Other Bioterrorist Events. (2) (Same as Epidemiology M406.) Lecture, two hours. Major current public health issue is massive effort to prepare for possible bioterrorist events. Practical application of principles of epidemiology and public health in preparing for smallpox or other bioterrorist events. Letter grading.  

M411. Issues in Cancer Prevention and Control. (4) (Same as Health Sciences M411.) Lecture, four hours. Designed for juniors/seniors and graduate students. Introduction to causes and characteristics of the cancer epidemic, cancer control goals for the nation, and interventions designed to encourage smoking cessation/prevention, cancer screening, and other dietary, psychosocial, and lifestyle changes. Letter grading.  

M418. Rapid Epidemiologic Surveys in Developing Countries. (4) (Same as Epidemiology M418.) Lecture, four hours. Requisites: Biostatistics 100A, Epidemiology 100 and/or 200. Presentation of how to do health surveys in Third World countries. Practical assistance for planning and organizing surveys, including use of microcomputers to develop and test questionnaire, select sample, process and analyze data, and prepare final report. Letter grading.  

M420. Children with Special Healthcare Needs: Systems Perspective. (4) (Same as Social Welfare M290.) Lecture, three hours; fieldwork, one hour. Examination and evaluation of principles, policies, programs, and practices which have been applied to identify, assess, and meet special needs of infants, children, and adolescents with developmental disabilities or chronic illness and their families. Letter grading.
425. Child Advocacy: Skills for Effective Action. (4) Lecture, three hours; fieldwork, one hour. Designed for use of case methods and approach to involve students both in classroom discussions and in fieldwork projects about which they update classmates. Highly respected leaders for children in the community share experiences and offer insight. Letter grading.

426. School-Linked Services: Integrated Health, Education, and Social Services for Children in Communities. (4) Seminar, three hours; fieldwork, one hour. Designed for graduate students. Examination of school services in context of other dramatic changes, scope of problems facing youth, roles that schools may serve as organizations/deliver sites for comprehensive services, and factors that influence development of appropriate school service models. Letter grading.

427. Reproductive Health in Sub-Saharan Africa. (4) Lecture, four hours. Recommended requisite: course 247. In-depth understanding of reproductive health challenges facing sub-Saharan Africa and main programs designed to address them. Topics include family planning, STIs, abortion, adolescents, HIV/AIDS, and refugees. Letter grading.

428. Perinatal Healthcare: Principles, Programs, and Policies. (4) Lecture, three hours; discussion, one hour. Comprehensive examination of perinatal healthcare, including perinatal epidemiology, outcome measurement, cost, and surrounding new technology, regionalization, organization of services at federal, state, and county levels, and medical/legal issues. S/U or letter grading.

433. Reproductive Health: Demographic Applications. (4) Lecture, four hours. Introductory aspects of population dynamics; reproductive biology (male and female); contraceptive methods; fertility-related behaviors and STDs; methods to measure contraceptive (life tables) and program (evaluation) effectiveness. Letter grading.

434A. Maternal and Child Health in Developing Areas. (4) Lecture, four hours. Requisite: course 231. Major health problems of mothers and children in developing areas, stressing causation, management, and prevention. Particular reference to adapting programs to limited resources in cross-cultural milieu. S/U or letter grading.

435. Seminar: Advanced Issues in Women's Health. (4) Seminar, three hours. Preparation: at least one prior women's health course, one to two biostatistics courses, one research methods course. Provides an opportunity to understand the place of women in scientific discourse. Examination of a series of case studies as a starting point for discussion of gender and international health. M436A-M436B. Child Health, Programs, and Policies. (4-4) (Same as Health Services M449A-M449B) Lecture, four hours. Requisite: Health Services 100. Course M436A is requisite to M436B. Examination of history of child health policy trends and determinants of health, structure, and function of health service system; needs, programs, and policies affecting especially at-risk populations. Letter grading.

437. Principles and Practice of Preventive Medicine. (4) Lecture, two hours; discussion, two hours. Designed for graduate students. Comprehensive review and evaluation of scientific background and application of principles of preventive medicine, with primary focus on the family and the disadvantaged. Letter grading.


482. Practicum: Community Health Sciences. (4) Discussion, two hours; fieldwork, up to 20 hours. Requisites: courses 210, 211A, 211B. Understanding of professional practice in health-related organizations. Letter grading.

483. Leadership Development and Empowerment for Health Promotion and Health Education. (4) Lecture, three hours; discussion, one hour. Requisites: courses 210, 211A, 211B. Development of basics understanding of and competency in leadership development and empowerment support for health promotion in multicultural and distressed communities (e.g., south-central Los Angeles). Letter grading.

484. Risk Communications. (4) Lecture, three hours; fieldwork, one hour. Requisites: courses 210, 211A, and 211B, or prior public health and behavioral sciences courses. Lecture, fieldwork, research, and practice, including social and psychological bases of population risk perceptions, media theories, and how risk is portrayed in media. Environmental, biocultural, infectious diseases, disasters, and bioterrorism communications. Letter grading.

485. Resource Development for Community Health Programs. (4) Lecture, two hours; fieldwork, one hour. Designed for graduate students. Overview of course of fund and resource development for public health and community-based programs. Lectures and workshops include developing grant proposals, researching funding sources, evaluating proposals, developing volunteer and in-kind resources, and implementing capital campaigns. Letter grading.


495B. Teaching in Public Health. (4) Lecture, three hours. Limited to School of Public Health doctoral students. Preparation of advanced doctoral students for teaching responsibilities as part of university career. Although instructional teaching to be emphasized, information and ideas can be applied to other educational and training settings. S/U grading.

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Limited to graduate students. Preparation of graduate students for teaching responsibilities as part of university career. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

506. Directed Individual Study or Research. (2 to 12) Tutorial, to be arranged. Limited to graduate students. Individual guided studies under direct faculty supervision. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit. S/U or letter grading.

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations. (2 to 12) Tutorial, to be arranged. Limited to graduate students. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

598. Master's Thesis Research. (2 to 8) Tutorial, to be arranged. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement. May not be applied toward minimum graduate course requirement. May be repeated for credit. S/U grading.
Courses in literary criticism and theory inquire into the premises of specific critical approaches, and of criticism itself, in order to provide further insight into the intellectual and moral concerns of literature and the world it reflects. Thus, through the study of these various assumptions and aspects of literature and criticism, students learn not only to cross linguistic boundaries, but to join them — to compare and to contrast, to analyze and, finally, to synthesize the text and the subtext, the structure and the history which define, undermine, and transcend the text and its reader.

Undergraduate Study

Comparative Literature B.A.

Preparation for the Major

Required: Two courses from the Comparative Literature 1 or 2 series or comparable lower division courses in other departments; completion of the College Writing requirement; literary proficiency in at least one language other than English, to be demonstrated by successful completion of (1) two years of the college language sequence or its equivalent or (2) an upper division literature course in the original language.

Transfer Students

Transfer applicants to the Comparative Literature major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one English composition course, two world or English literature survey courses, and two years of one foreign language. Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Twelve courses, of which (1) a minimum of four must be from comparative literature offerings, including Comparative Literature 100 and at least three additional comparative literature courses selected from M101 through 197; (2) four upper division literature courses using original language texts in the major language area; (3) three upper division literature courses using original language texts in the minor language area (students may petition the undergraduate adviser to take three upper division literature courses in translation if their major area is in a language other than English); (4) one upper division elective in a third language or a field such as anthropology, art, art history, Asian languages and cultures, classics, film, folklore, history, music, philosophy, or political theory, to be selected in consultation with the undergraduate adviser.

Honors Program

The honors program is open to Comparative Literature majors with a 3.5 departmental and a 3.25 overall grade-point average. Eligible interested students should contact the undergraduate adviser to enter the program. Honors candidates must complete all requirements for the major and an honors research paper (in addition to regular course requirements) in two of the four required upper division comparative literature courses. Students must also complete Comparative Literature 198 with a core faculty member in which they write a senior honors thesis of approximately 25 pages.

Comparative Literature Minor

The Comparative Literature minor offers students interested in literature and the humanities the opportunity to gain insight into the critical problems and theories addressed by comparative literature and to apply that knowledge in literature and comparative literature courses. To enter the minor students must have fulfilled the College Writing requirement, have completed 40 units with an overall grade-point average of 2.0 or better, have taken at least one year or equivalent of a language other than English, and file a petition with either the faculty or staff undergraduate adviser, 350B Humanities Building, (310) 825-7650.

Required Courses (28 units minimum): (1) Four upper division comparative literature courses (one course from Comparative Literature 1A through 2DW may be substituted); (2) two upper division courses in one literature (e.g., Arabic, Chinese, English, French, German, Korean, Russian, Spanish) in the original language; and (3) one upper division course in a second literature in the original language (one level six foreign language course may be substituted). If students complete two upper division courses in a language other than English, they may petition to take one upper division course taught in English translation to fulfill the third requirement.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Comparative Literature offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Comparative Literature.
Comparative Literature

Lower Division Courses

1A. World Literature: Antiquity to Middle Ages. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to students with credit for course 2AW or 4AW. Study of major texts in world literature, with emphasis on Western civilization. Texts include major works and authors such as Iliad or Odyssey, Greek tragedies, portions of the Bible, Virgil, Petronius, St. Augustine, and others such as Gilgamesh or Tristan and Isolde. P/NP or letter grading.

1B. World Literature: Middle Ages to the 17th Century. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to students with credit for course 2B or 4B. Study of major texts in world literature, with emphasis on Western civilization. Texts include works and authors such as Chaucer's Canterbury Tales, Dante's Divine Comedy, Boccaccio's Decameron, Cervantes' Don Quixote, Shakespeare, Calderón, Molière, and Racine. P/NP or letter grading.

1C. World Literature: Age of Enlightenment to the 20th Century. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to students with credit for course 2C or 4C. Study of major texts in world literature, with emphasis on Western civilization. Authors include Swift, Voltaire, Diderot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, Dostoevsky, Kafka, Joyce, Woolf, and Stevens. P/NP or letter grading.

1D. Great Books from the World at Large. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to students with credit for course 1A or 2A. Study of selected texts from the Western tradition, with emphasis on literary analysis and expository writing. Texts include works and authors such as Iliad, Odyssey, Gilgamesh, Sapfo, Greek tragedies, Aeneid, Petronius, Beowulf, and Marie de France. Satisfies Writing II requirement. Letter grading.

2A. Survey of Literature: Antiquity to Middle Ages. (5) Lecture, two hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1A or 4A. Study of selected texts from antiquity to Middle Ages, with emphasis on literary analysis and expository writing. Texts include works and authors such as Odyssey, Gilgamesh, Sapfo, Greek tragedies, Aeneid, Petronius, Beowulf, and Marie de France. Satisfies Writing II requirement. Letter grading.

2B. Survey of Literature: Middle Ages to the 17th Century. (5) Lecture, two hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1B or 4B. Study of selected texts from Middle Ages to the 17th century, with emphasis on literary analysis and expository writing. Texts may include works by authors such as Chaucer, Dante, Cervantes, Marguerite de Navarre, Shakespeare, Calderón, Molière, and Racine. Satisfies Writing II requirement. Letter grading.

2C. Survey of Literature: Age of Enlightenment to the 20th Century. (5) Lecture, two hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1C or 4C. Study of selected texts from the Age of Enlightenment to the 20th century, with emphasis on literary analysis and expository writing. Texts may include works by authors such as Swift, Voltaire, Diderot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, M. Shelley, Dostoevsky, Kafka, James Joyce, Goethe, J. Kafkas, Kafkas, Satisfies Writing II requirement. Letter grading.

2D. Survey of Literature: Great Books from the World at Large. (5) Lecture, two hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1D or 4D. Study of major literary works usually overlooked in courses that focus only on the canon of Western literature. Texts from at least three of the following areas read in any given term: African, Caribbean, East Asian, Latin American, and Middle Eastern literature. Satisfies Writing II requirement. Letter grading.

4A. Writing and Literature: Antiquity to Middle Ages. (5) Discussion, four hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1A or 2A. Study and discussion of selected texts from antiquity to the Middle Ages, with emphasis on literary analysis and expository writing. Texts include works and authors such as Iliad, Odyssey, Gilgamesh, Sapfo, Greek tragedies, Aeneid, Petronius, Beowulf, or Marie de France. Satisfies Writing II requirement. Letter grading.

4B. Writing and Literature: Middle Ages to the 17th Century. (5) Discussion, four hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1B or 2B. Study and discussion of selected texts from the Middle Ages to the 17th century, with emphasis on literary analysis and expository writing. Texts include works and authors such as Chaucer, Dante's Divine Comedy, Cervantes' Don Quixote, Shakespeare, 1001 Nights, Christine de Pizan, Popul Vuh, Molière, and Racine. Satisfies Writing II requirement. Letter grading.

4C. Writing and Literature: Age of Enlightenment to the 20th Century. (5) Discussion, four hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1C or 2C. Study and discussion of selected texts from the Age of Enlightenment to the 20th century, with emphasis on literary analysis and expository writing. Texts may include works by authors such as Swift, Voltaire, Diderot, Rousseau, Goethe, M. Shelley, Flaubert, Ibsen, Strindberg, Dostoevsky, Gogol, Kafka, Joyce, Beckett, L. Hughes, and Garcia Marquez. Satisfies Writing II requirement. Letter grading.

4D. Writing and Literature: Great Books from the World at Large. (5) Discussion, four hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 1D or 2D. Study and discussion of major literary texts usually overlooked in courses that focus only on the canon of Western literature, with emphasis on literary analysis and expository writing. Texts from at least three of the following areas read in any given term: African, Caribbean, East Asian, Latin American, and Middle Eastern literature. Texts may include works by authors such as Ngugi, Desai, Kincaid, Enmetcha, El Saadawi, Achebe, Pak, Can Xue, Neruda, and Rushdie. Satisfies Writing II requirement. Letter grading.

Upper Division Courses

100. Introduction to Comparative Literature: Histories, Theories, Practices, and Perspectives. (5) Lecture, four hours. Preparation: satisfaction of Entry-Level Writing and College Writing requirements. Requires: two courses from Comparative Literature 1 or 2 series or English 10 series or Spanish 60 series, etc. Seminar-style introduction to discipline of comparative literature presented through a series of texts illustrative of its formation and practice. Letter grading.


102. Classical Tradition: Epic. (4) Seminar, three hours. Designed for upper division literature majors. Analysis of Iliad, Odyssey, Homeric, Genesis, and Paradise Lost both in relation to their contemporary societies and to literary traditions. Emphasizes on how poets build on work of their predecessors. P/NP or letter grading.

C105. Comic Vision. (4) Lecture, three hours. Designed for upper division literature majors. Literary masterpieces, both dramatic and nondramatic, selected to demonstrate varieties of comic expression. May be concurrently scheduled with course C205. Undergraduate students read all works in translation. P/NP or letter grading.

106. Archetypal Heroes in Literature. (4) Seminar, three hours. Designed for upper division literature majors. Study and analysis of function and appearance of such archetypal heroes as Achilles, Ulysses, Prometheus, Oedipus, and Orpheus in literature from antiquity to the modern period. All works read in translation. P/NP or letter grading.

120. The Individual and Society in the Renaissance. (4) Lecture, three hours; discussion, one hour. Requisite: one course from 1A, 1B, 1C, 2A, 2B, 2C, or English Composition 3 or 3H. Explorations of a change in Western man's relationship to his world, himself, and his art; reading of such works as Don Quixote, Montaigne's Essays, Gargantua and Pantagruel, The Praise of Folly, Utopia. P/NP or letter grading.

C112. Renaissance Drama. (4) Lecture, three hours. Designed for upper division literature majors. Broad introduction to subject matter and types of plays in the Renaissance, with consideration of historical and literary influences on plays. Readings include works of such dramatists as Tasso, Machiavelli, Lope de Vega, Racine, Jonson, Shakespeare. May be concurrently scheduled with course C212. Undergraduate students read all works in translation. P/NP or letter grading.

C152. Symbolism and Decadence. (5) Seminar, four hours. Designed for upper division literature majors. Study of symbolist and decadent movements in 19th- and 20th-century English and French poetry and prose, including authors such as Baudelaire, Rimbaud, Verlaine, Mailarmé, Wilde, Yeats, and Eliot. May be concurrently scheduled with course C252. Undergraduate students may read all required French texts in translation. P/NP or letter grading.

C153. Post-Symbolist Poetry and Poetics. (5) Seminar, four hours. Designed for upper division literature majors. Study of Symbolist poets and poetics related to them during first half of the 20th century. Texts may include poets such as W.B. Yeats, Ezra Pound, T.S. Eliot, Paul Valery, R.M. Rilke, Gunnar Ekelöf, and Wallace Stevens. May be concurrently scheduled with course C253. Undergraduate students may read all works in translation. P/NP or letter grading.

C155. Hemispheric Exchanges. (5) Lecture, three hours. Designed for juniors/seniors. In “Reading North by South,” Neil Larsen claims that North American interest in Latin American Boom literature was of sinister intent, being largely product of U.S. Cold War politics, investing in fiction that could produce images of areas ripe for development. From poetry perspective, mainstream translation efforts to south, producing lingua franca with unexplored consequences for poetry north and south of border. Study of poetry translations by writers from both hemispheres and examination of consequences of these preliminary translations for later development of poetry on both sides of continental divide. Concurrently scheduled with course C255. P/NP or letter grading.

C156. Fantastic Fictions. (Formerly numbered C167.) Seminar, three hours. Designed for upper division literature majors. Time and again in modern literature, corpses become conduits or catalysts for revelation. What are ghosts that fiction frequently cannot put to rest, and what is their connection to national history or nation language or narrative? Readings from James Joyce, John Banville, Henry James, Toni Morrison, Adolfo Bioy Casares, Juan Carlos Onetti, Jhonen Vasquez, with films by Alejandro Amenabar, Andrei Tarkovsky, and Kenji Mizoguchi. May be concurrently scheduled with course C256. Undergraduate students read all works in translation. P/NP or letter grading.

C157. Memory and Forgetting. (5) Seminar, four hours. Reading of theoretical accounts of nature of traumatic memory and consideration of relationship between memory and history, meanings of both writing and reading as traumatic events, and discussion of ethical (personal and communal) commitment to memory. Reading of memoirs of survivors and questioning of importance of authenticity in regard to representation of memory necessarily based on actual past? What is role of testimony in maintenance of collective memory? How is value of testimony judged? What are criteria on which authenticity is claimed? Concurrently scheduled with course C257. P/NP or letter grading.

C158. Colonial Encounters. (4) Seminar, three hours. Discussion of how a Western textual system restricts cultures of colonized peoples to an encounter with the European. As a means of understanding limits to a European frame of reference, reading of English literary works alongside their postcolonial counterparts. Investigation of perspective affects telling of a tale. P/NP or letter grading.

C159. Exilic Pleasures: Memory, Writing, and Being. (Not the same as course 159 prior to Fall Quarter 2004.) Lecture, four hours. Engagement of theoretical and literary texts about experience of living in exile and questioning of political and poetic possibilities and limitations that this condition brings about. Exploration of relationships between exile, poetic expression, freedom, memory, writing, and collective identification. Clarification of difference between “exile by choice” and “forced exile,” proceeding to distinguish between exile and exile-in-exile. Discussion of modernist and postmodernist features. May be concurrently scheduled with course C256. Undergraduate students may read all works in translation. P/NP or letter grading.

C161. Fiction and History. (4) Seminar, three hours. Designed for upper division literature majors. Analysis of use of historical events, situations, and characters in literary works of the modern period. Texts and individual assignments range from Renaissance historical narratives (Italian humanists, Machiavelli) to 19th- and 20th-century novels by authors such as Balzac, Huysmans, and Pynchon, P/K/P or letter grading.

C163. Crisis of Consciousness in Modern Literature. (5) Seminar, three hours. Designed for upper division literature majors. Study of modern European and American works that are concerned both with subject matter and artistic methods with growing self-consciousness of human beings and their society, with focus on works of Kafka, Rilke, Woolf, Sartr and Stevens. May be concurrently scheduled with course C263. Undergraduate students may read all works in translation. P/NP or letter grading.

C164. Modern Continental Novel. (5) Seminar, three hours. Designed for upper division literature majors. Study of modern European and American literature, major works of the 20th and 21st centuries. Texts and individual assignments range from Joyce to Mailer to Pynchon, P/K/P or letter grading.

C165. Holocaust in Literature. (4) (Same as Jewish Studies M187.) Lecture, three hours. Required: History M182D or 183A or 183B. Investigation of how Holocaust is remembered in literature and culture. Reading of memoirs, novels, and other works and raises wide range of aesthetic and moral questions. P/K/P or letter grading.

C166 Modern Jewish Literature in English: Diaspora Literature. (4) (Same as Jewish Studies M187.) Lecture, three hours. Required: History M182D or 183A or 183B. Investigation of how Holocaust is remembered in literature and culture. Reading of memoirs, novels, and other works and raises wide range of aesthetic and moral questions. P/K/P or letter grading.

C168. Korean American Literature. (4) Designated for upper division literature majors. Study of Korean American novel as it developed out of modernism. Postmodernism defined in three different ways—philosophically, scientifically, and economically. Emphasis on relationship of modernist to theories of structuralism and poststructuralism. Readings include authors such as Borges, Beckett, Nabokov, Pynchon, Fuentes, Grass, Boll, and Calvino. Concurrently scheduled with course C353. Undergraduate students read all works in translation. P/NP or letter grading.

C173. Postmodernism and the Third World. (4) Seminar, three hours. Exploration of intersection between concepts of postmodernism and Third World literature and politics, including topics such as post-Maoist and revolutionary culture, gender, ethnicity, imperialism, and their relationship to cultural politics; and recent Latin American literary production. Concurrently scheduled with course C273. P/NP or letter grading.

C175. Race, Gender, Class. (5) (Same as Asian American Studies M165.) Seminar, three hours. Theoretical and literary readings combined to explore three main aspects of social and cultural experience (race, gender, class) as separate but interconnected spheres affecting both minority and majority populations in the U.S. Examination of these issues from comparative, multidisciplinary, P/NP or letter grading.


C178. India Ink: Literature and Culture of Modern South Asia. (5) Seminar, three hours. Survey of significant issues in history of 20th-century Indian literature and culture. Great works of modern Indian culture by such figures as Rabindranath Tagore, Satyajit Ray, Faiz Ahmed Faiz, and U.R. Ananthamurthy, including novels, short stories, plays, film, music, and works in cultural criticism and historical scholarship. Central and defining issue for 20th-century Indian culture is experience of British colonial rule and massive cultural and material changes that accompanied it. Exploration of manner in which literature and culture have developed in interaction with powerful social forces, such as struggle for national independence from Britain under leaders like Mahatma Gandhi and expansion of Indian diaspora. Concurrently scheduled with course C272. P/NP or letter grading.

C187. Reading across Culture. (5) Seminar, three hours. What is it we do when we try to understand words, habits, gestures, and beliefs not our own? Do we understand something foreign to us by immersing ourselves in it or by standing apart? Does ability to understand something foreign to us lead us to a universal standpoint? Can we make judgments about beliefs other than our own? Questions of cultural interpretation have long history in both Western and non-Western cultures. Discussion of history of questions about cross-cultural interpretation and comparative interpretation of cultures in both comparative literature and cultural anthropology. Reading of some very complex and influential works by key theorists. Concurrently scheduled with course C272. P/NP or letter grading.
190. Research Colloquia in Comparative Literature. (2) Seminar, three hours. Designed to bring students together in informal research settings, in a seminar setting with one or more faculty members to discuss their own work or related work in discipline. Led by one of supervising faculty members. P/NP grading.

191. Variable Topics in Comparative Literature. (4) (Formerly numbered 194.) Seminar, three hours. Designed for juniors/seniors. Study and discussion of limited periods and specialized issues and approach in literary theory, especially in relation to other modes of discourse such as history, philosophy, psychology, linguistics, anthropology. Development of culminating project required. Consult Schedule of Classes for topics to be offered in specified term. May be repeated for credit with topic change. P/NP or letter grading.

197. Individual Studies in Comparative Literature. (2 to 4) Tutorial, three hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

198. Honors Research in Comparative Literature. (2 to 4) (Formerly numbered 197H.) Tutorial, three hours. Limited to senior comparative literature honors students. Development and completion of honors thesis or comprehensive examination on comparative topic selected by student and written under supervision of core faculty member. Students expected to meet regularly with supervisor throughout term. May be repeated for credit with consent of chair. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Comparative Literature. (2 to 4) Tutorial, three hours. Requisite: course 100. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. May be repeated for credit with consent of chair. Individual contract required. P/NP or letter grading.

Graduate Courses

200A. Theory of Comparative Literature. (6) Seminar, three hours. Study of theory of literature, with emphasis on genealogy of theoretical problems. S/U or letter grading.

200B. Methodology of Comparative Literature. (6) Seminar, three hours. Requisite: course 200A. Study of methodology of comparative literature, with emphasis on its history. S/U or letter grading.

202. Classical Tradition: Epic, Tragedy, or Comic Expression. (4) Seminar, three hours. Preparation: reading knowledge of Greek, Latin, or Italian. Analysis of Greek and Roman works and their re-creations in Renaissance and modern periods. Emphasis on how poets build on work of their predecessors. May be concurrently scheduled with course C112. Graduate students required to prepare papers based on texts read in original languages and to meet as a group one additional hour each week. S/U or letter grading.

225. Symbolism and Decadence. (5) Seminar, four hours. Preparation: reading knowledge of French. Study of symbolists and decadent movements in 19th- and 20th-century French and English poetry and prose, including authors such as Baudelaire, Rimbaud, Verlaine, Mallarmé, Wilde, Yeats, and Eliot. May be concurrently scheduled with course C152. Graduate students required to prepare papers based on texts read in original languages and may meet as a group one additional hour each week. S/U or letter grading.

253. Post-Symbolist Poetry and Poetics. (5) Seminar, four hours. Study of specific poets and poetics related to them during first half of the 20th century. Texts may include poems such as W.B. Yeats, Ezra Pound, T.S. Eliot, Paul Valery, R.M. Rilke, Guernac Echevarria, and Andre Breton. May be concurrently scheduled with course C153. Graduate students may meet as a group one additional hour each week. S/U or letter grading.

255. Hemispheric Exchanges. (5) Lecture, three hours. In “Reading North by South,” Neil Larsen claims that North American interest in Latin American Boom literature was of sinister intent, being largely prophylactic. Reading of U.S. cross-border writing in fiction that could produce images of areas ripe for development. From poetry perspective, dynamic was quite different. In the 1930s, North American poets became involved in larger cultural currents, and in translating recent or contemporaneous poetry by their counterparts to south, producing lingua franca with unexplored consequences for poetry north and south of border. Study of poetry translations by writers from both hemispheres and examination of consequences of these preliminary translations for later development of poetry on both sides of continental divide. Concurrantly scheduled with course C155. Graduate students may meet as a group one additional hour each week. S/U or letter grading.

256. Fantastic Fictions. (4) (Formerly numbered C267.) Seminar, three hours. Time and again in modern literature, critics or analysts for revelation. What are ghosts that fiction frequently cannot put to rest, and what is their connection to national history or nation language or narrative? Readings from James Joyce, John Banville, Henry James, Toni Morrison, Adolfo Bioy Casares, Juan Carlos Onetti, Juan Rulfo, and Carlos Fuentes, with films by Alejandro Amenabar, Andrei Tarkovsky, and Kenji Mi-zoguchi. May be concurrently scheduled with course C156. Graduate students have additional meetings and theoretical readings by Benjamin, Freud, Barthes, Derrida, Rabate, Ricards, and Caruth. S/U or letter grading.

257. Memory and Forgetting. (5) Seminar, four hours. Reading of theoretical accounts of nature of traumatic memory and consideration of relationship between memory and history, meanings of both writing and reading about traumatic events, and discussion of ethical (personal and communal) commitment to memory. Reading of memoirs of survivors and questioning of importance of authenticity in regard to representations of past. Is memory reliable based on actual past? What is role of testimony in maintenance of collective memory? How is value of testimony judged? How much authority is claimed? Concurrently scheduled with course C157. Graduate students required to give 20-minute presentation as basis for seminar paper. S/U or letter grading.

C260. Literature and Visual Arts. (4) Lecture, three hours. Knowledge of art history valuable but not required. Assuming that literature and visual arts are in some respects complementary, this course explores similarities and differences between visual arts in a comparative study. May be repeated for credit with instructor and/or topic change. May be concurrently scheduled with course C160. Graduate students required to read works in original languages. S/U or letter grading.

C261. Fiction and History. (4) Seminar, three hours. Analysis of use of historical events, situations, and characters in literary works of the Renaissance and/or modern period. Texts and individual assignments range from Renaissance historical narratives (Italian humanists, Machiavelli) to 19th- and 20th-century novels by authors such as Stendhal, Verla, Tomasi di Lampedusa, Carpenter, and Kundera. Use of fictional methods by historians. Emphasis on how aesthetic, ideological, and political factors influence authors’ choice and use of historical material. May be concurrently scheduled with course C161. Graduate students required to prepare papers based on texts read in original languages. S/U or letter grading.

C263. Crisis of Consciousness in Modern Literature. (5) Seminar, three hours. Preparation: reading knowledge of one appropriate foreign language. Study of modern European and American works that are concerned both in subject matter and artistic methods with growing self-consciousness of human beings and their society, with focus on works of Kafka, Rilke, Woolf, Sartre, and Stevens. May be concurrently scheduled with course C163. Graduate students required to prepare papers based on texts read in original languages and to meet as a group one additional hour each week. S/U or letter grading.

C264. Modern Continental Novel. (5) Seminar, three hours. Preparation: reading knowledge of at least one appropriate foreign language. Study of modern European novel’s development from the 19th to 21st centuries. Use of authors such as Hardy, Strindberg, Lagerkvist, Gide, Proust, Mann, Joyce, Kafka, Woolf, Nabokov, Grass, Christa Wolf, and Enquist to focus on development of themes such as shifting authority, gender conflicts, change versus stability, formal experimentation, and self-consciousness in narrative. May be concurrently scheduled with course C164. Graduate students required to prepare papers based on texts read in original languages whenever possible and to meet as a group one additional hour each week. S/U or letter grading.

266. Writing and the Photographic Image. (4) Seminar, three hours. Preparation: knowledge of one appropriate foreign language. Designed for graduate students. Investigation of intertextual relations between writing and photography in American and European contexts. Use of practice in public domain framed by writing and discussion and that, in turn, some forms of writing are framed by photographic modes of representation. S/U or letter grading.

CM270. Alternate Traditions: In Search of Female Voices in Contemporary Literature. (5) (Formerly numbered C270.) (Same as Women’s Studies CM270.) Seminar, three hours. Preparation: reading knowledge of one appropriate foreign language. Investigation of narrative texts by contemporary French, German, English, American, Spanish American, African, and Asian women writers from cross-cultural perspective. Common themes, problems, and techniques. May be concurrently scheduled with course CM170. Graduate students required to prepare papers based on texts read in original languages whenever possible. S/U or letter grading.

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274. Theorizing the Third World (4). (Same as Asian American Studies C262.) Seminar, four hours. Preparation: reading knowledge of one appropriate foreign language. Exploration of interaction between concepts of postmodernism and Third World culture and politics, including topics such as post-Marxism and revolution; historical thought; gender; race; and the relationship between cultural politics; and postmodern cultural production. Concurrently scheduled with course C172. S/U or letter grading.


276. Reading Modern Bodies (4). (Same as Japanese C276.) Seminar, three hours. Designed for graduate students. Exploration of construction of human body through modern technologies and discourses, including those of disease, diet, race, gender, and sexuality. Examination of texts from variety of locales, with particular emphasis on Japan. S/U or letter grading.


278. Literary representations of women in political discourse in modern Latin America. S/U or letter grading.

279. Subaltern Studies: Colonial Histories and Cultural Critique (3). Seminar, three hours. Examination of cemilinks between practice of cultural criticism and problems in colonial literature and postcolonial societies. Use of key texts by members of Subaltern Studies collective of Indian historians to explore some central issues arising from this relationship. What kind of interdisciplinary space is produced by dialog of history and literary and cultural theory? Attention to literary texts to practice such interdiscipli- nary criticism. Nature of "modernity" in colonial set- ting. What is nature of bourgeoisie in colonial society? What kind of modernization does it seek? What is rel- ationship of modern metropolitan bourgeoisie to in- digenous one? S/U or letter grading.

280. Latin American Literature in Comparative Contexts. (4) Seminar, three hours. Preparation: reading knowledge of one foreign language. In-depth study of one topic of Latin American literature in a comparative context. May be repeated for credit. S/U or letter grading.

281. Theories of Translation (3). Seminar, three hours. Examination of various approaches to concept of translation and to its significance for literary studies. Readings include authors such as Matthew Ar- nold, Walter Benjamin, George Steiner, and Susan Bassnett. S/U or letter grading.


283. Workshop: Social Sciences Translation. (4) Seminar, three hours. Preparation: solid reading knowledge of at least one foreign language. Designed for graduate social sciences students. Techniques students need to render scholarly texts in their fields from language they use in their re- search into English and to advance their knowledge of language to stage where they can use it more ef- fectively in all aspects of their research, as well as to practice translation techniques they have learned. S/U or letter grading.

284. Reading across Culture (3). Seminar, three hours. What is it we do when we try to understand words, habits, gestures, and beliefs not our own? Do we undertake this task by immer- sing ourselves in it or by standing apart? Does ability to understand something foreign imply taking universal standpoint? Can we make judgments about beliefs other than our own? Do cultural interpreta- tion have long history in both Western and non-West- ern cultures. Discussion of history of questions about cross-cultural interpretation and comparative interpre- tation of cultures in both comparative literature and cultural anthropology. Reading of some very complex and influential works by such writers as Claude Levi- Straus, Annette Bauman, Edward Said, and Edward Said, Spivak, and Erich Auerbach. Concurrently scheduled with course C187. S/U or letter grading.

285. Theory of Film and Literature (5). Seminar, three hours; film screening, two hours. Study of defini- tion and aims of theories of film and literature. Approaches vary by instructor (e.g., postcoloniality, psychoanalysis, gender, feminism, postmodernism, Marxist theory). S/U or letter grading.


288. Theories of Empire. (4) Seminar, three hours. History of theorizations of modern imperialism and colonialism since relevant writings of Karl Marx and Friedrich Engels. Examination of number of landmark theories of empire and consideration of whether or not they may be said to constitute coherent tradition or line of theoretical development. Question of resis- tance to imperial rule and role it plays in these theo- retical accounts. S/U or letter grading.

290. Interdepartmental Program

COMPUTATIONAL AND SYSTEMS BIOLOGY

Interdepartmental Program

College of Letters and Science

UCLA

4436 Boelter Hall

Box 951596

Los Angeles, CA 90095-1596

(310) 825-7482

e-mail: beth@cs.ucla.edu

http://www.cs.ucla.edu/C&SB/
Joseph J. DiStefano III, Ph.D., Chair
Elliot M. Landaw, M.D., Ph.D., Vice Chair

Faculty Advisory Committee
Robijn F. Bruinsma, Ph.D. (Physics and Astronomy)
Joseph J. DiStefano III, Ph.D. (Computer Science, Medicine)
Stephen A. Engel, Ph.D. (Psychology)
C. Fred Fox, Ph.D. (Microbiology, Immunology, and Molecular Genetics)
Jack W. Judy, Ph.D. (Electrical Engineering)
Richard E. Korf, Ph.D. (Computer Science)
Elliot M. Landaw, M.D., Ph.D. (Biomathematics)
Christopher J. Lee, Ph.D. (Chemistry and Biochemistry)
James C. Liao, Ph.D. (Chemical and Biomolecular Engineering)
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Marc A. Suchard, M.D., Ph.D. (Biomathematics, Human Genetics)
Benjamin M. Wu, D.D.S., Ph.D. (Bioengineering, Materials Science and Engineering)
Elliot M. Landaw, M.D., Ph.D., Vice Chair
Joseph J. DiStefano III, Ph.D., Chair

Scope and Objectives
The major in Computational and Systems Biology is designed primarily for highly motivated undergraduate students interested in interdisciplinary studies in life sciences, behavioral sciences, and engineering and computer sciences. Preparation for the major consists of a broad foundation in basic sciences — chemistry, biology, physics, and mathematics, plus an introduction to psychology and computing. The major itself provides foundations in mathematical modeling, information processing, and control and system analysis, with an emphasis on quantitative ideas and methodologies. Mathematical and other analytical skills are essential in the major.

Computational and Systems Biology majors have several options for in-depth studies: a coherent integration of courses selected from one of five designated concentrations in bioinformatics, biomedical systems, computer systems, neurosystems, or systems biology, or from the broader concentration areas of life sciences, behavioral sciences, or engineering and applied mathematical sciences, or an integration of courses from these areas. The major is appropriate preparation for employment or for graduate studies in any of these areas, with emphasis on interdisciplinary activities. It is also appropriate preparation for professional school studies in medicine, public health, management, dentistry, and engineering.

Undergraduate Study
Computational and Systems Biology B.S.

Precomputational and Systems Biology Major
Students may apply for the Precomputational and Systems Biology major via petition if they are sophomores and have taken at least three of the premajor mathematics courses with a 2.7 grade-point average or better and three other premajor courses. Together, all premajor courses, including mathematics, must be completed with at least a 3.0 overall GPA and a minimum grade of C in all courses.

Preparation for the Major
Required: A minimum of 81 to 83 units (depending on the computer programming course and physics sequence selected), including Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL; Computer Science 31 or Program in Computing 10A; Life Sciences 2, 3, 4; Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 115A; Physics 1A, 1B, and 1C (or Electrical Engineering 1), or 1AH, 1BH, and 1CH. For the bioinformatics concentration, Computer Science 32 and 180, or Program in Computing 10B, 10C, and 60 are also required; for the computer systems concentration, Computer Science 32, 33, and 180, or Program in Computing 10B, 10C, 30, and 60 are also required.

Transfer Students
Transfer applicants to the Computational and Systems Biology major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one year of general chemistry with laboratory for majors, two years of calculus for majors, one year of calculus-based physics, one year of biology with laboratory for majors, one psychology course, and one programming course using C++.

Transfer applicants must meet the same academic requirements as current UCLA students, based on all courses transferred from another institution that satisfy premajor requirements, and must have completed one 12-unit term of residence in regular session at UCLA. Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Admission to the major is by petition only and is based on successful completion of all preparation for the major courses and requirements (2.7 grade-point average in mathematics, 3.0 GPA overall, and a minimum grade of C in all preparation for the major courses).

The major consists of a methodology core of six courses (23 units), a concentration of six to seven upper division courses (24 or 28 units minimum), and a one-course research and communication requirement (4 units). Each course in the major must be passed with a grade of C or better.

Methodology Core
Required: Four subject areas as follows:

1. One overview course: Computational and Systems Biology M186A
2. Two courses in probability and statistics from one of the following groups: (a) Statistics 180A and 100B or (b) Mathematics 170A and Statistics 100B or (c) Electrical Engineering 131A and Statistics 100B
3. Two courses in signals, systems, and control systems: (a) Electrical Engineering 102 and (b) Electrical Engineering 141 or Mechanical and Aerospace Engineering 171A
4. One course in biomodeling and computer simulation: Computational and Systems Biology M186B

Concentrations
Required: Six to seven upper division courses (24 or 28 units minimum), depending on the concentration selected. An approved list of courses for each concentration is available in the program office and at http://www.cs.ucla.edu/~cyber/.

For a concentration in the broader areas of life sciences, behavioral sciences, or engineering and applied mathematical sciences, or an integration of courses from these areas, seven courses must be selected from the approved lists in consultation with a faculty mentor and approved by the program chair.

For the bioinformatics concentration, six courses must be selected from the bioinformatics approved list in consultation with a faculty mentor and approved by the program chair. Note: Computer Science 32 and 180, or Program in Computing 10B, 10C, and 60 also are required under Preparation for the Major.

For the biomedical systems concentration, seven courses must be selected from the biomedical systems approved list in consultation with a faculty mentor and approved by the program chair. By petition, up to two relevant courses from another UCLA department may be included among the seven (e.g., upper division requisites to biomedical engineering courses).

For the computer systems concentration, six courses must be selected from the computer systems approved list in consultation with a faculty mentor and approved by the program chair. Note: Computer Science 32, 33, and 180, or Program in Computing 10B, 10C, 30, and 60 also are required under Preparation for the Major.

For the neurosystems concentration, Neuroscience M101A, M101B, 102, and at least 14 units from the neurosystems approved list selected in consultation with a faculty mentor and approved by the program chair are required.

For the systems biology concentration, Molecular, Cell, and Developmental Biology 100, 144, Biomedical Engineering CM102/CM103 or Ecology and Evolutionary Biology 170 or Physiological Science 166, and at least 12 units from the systems biology approved list selected in consultation with a faculty mentor and approved by the program chair are required.

Research and Communication Requirement
Required: One 4-unit independent research course, such as a 199 mentored by a faculty
member affiliated with the program, or another formal course with a major research component, such as Computational and Systems Biology M186C. The course must include a research communication component (written report and oral presentation of the research) and must be selected in consultation with a faculty mentor and approved by the program chair.

**Honors Program**

Junior and senior majors who have completed all preparation for the major courses and have an overall grade-point average of 3.0 or better and a 3.5 or better in required major courses may apply for admission to the honors program. Students are required to take Computational and Systems Biology M186B with a corequisite adjunct honors course (189 or 189HC). Students pursuing highest honors must, in addition, complete a senior thesis (Computational and Systems Biology 198) based on an approved research topic. Those who successfully complete the program (3.0 GPA or better overall, 3.5 or better in major coursework, and a grade of B or better in the honors adjunct course of Computational and Systems Biology M186B or other contracted honors coursework) are awarded a degree with honors. At the discretion of the faculty sponsor and the interdepartmental committee, students demonstrating exceptional ability on the senior research thesis are awarded highest honors.

**Computational and Systems Biology**

**Upper Division Courses**

**M186A. Introduction to Cybernetics, Biomodeling, and Biomedical Computing.** (2) (Formerly numbered Cybernetics M186A.) (Same as Biomedical Engineering M186A and Computer Science CM186A.) Lecture, two hours. Requisites: Mathematics 31A, 31B, Program in Computing 10A. Strongly recommended for students with potential interest in biomedical engineering/biocomputing fields or in Computational and Systems Biology as a major. Introduction and survey of topics in cybernetics, biomodeling, bio-computing, and related bioengineering disciplines. Lectures presented by faculty currently performing research in one of the areas; some sessions include laboratory tours. P/NP grading.

**M186B. Computational Systems Biology: Modeling and Simulation of Biological Systems.** (5) (Formerly numbered Cybernetics M186B.) (Same as Biomedical Engineering CM186B and Computer Science CM186B.) Lecture, four hours; laboratory, three hours. Corequisite: Electrical Engineering 102. Dynamic biosystems modeling and computer simulation methods for studying biological/biomedical processes and systems at multiple levels of organization. Control system, multi-compartmental, predator-prey, pharmacokinetic (PK), pharmacodynamic (PD), and other structural modeling methods applied to life sciences problems at molecular, cellular (biochemical pathways/networks), organ, and organismic levels. Both theory- and data-driven modeling, with focus on translating biomodeling goals and data into mathematics models and implementing them for simulation and analysis. Basics of numerical simulation algorithms, with modeling software exercises in class and PC laboratory assignments. Letter grading.

**M186C. Biomodeling Research and Research Communication Workshop.** (2 to 4) (Formerly numbered M186L.) (Same as Biomedical Engineering CM186C and Computer Science CM186C.) Lecture, one hour; discussion, two hours; laboratory, one hour; outside study, eight hours. Corequisite: course M186B. Closely directed, interactive, and real research experience in active quantitative systems biology research laboratory. Direction on how to focus on topics of current research in scientific community, appropriate to student interests and capabilities. Critiques of oral presentations and written progress reports explain how to proceed with search for research results. Major emphasis on effective research reporting, both oral and written. Letter grading.

**198. Honors Research in Cybernetics.** (4) (Formerly numbered Cybernetics 198.) Tutorial, to be arranged. Limited to juniors/seniors. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

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**COMPUTER SCIENCE**

**Henry Samueli School of Engineering and Applied Science**

**UCLA**

4732 Boelter Hall

Box 951596

Los Angeles, CA 90095-1596

(310) 825-3886

fax: (310) 825-2273

http://www.cs.ucla.edu

Jason (Jingsheng) Cong, Ph.D., Chair
Richard R. Munzt, Ph.D., Vice Chair
Jens Palsberg, Ph.D., P.N.D.

**Professors**

Rajive L. Bagrodia, Ph.D.
Alfonso F. Cardenas, Ph.D.
Wesley W. Chu, Ph.D.
Jason (Jingsheng) Cong, Ph.D.
Adnan Y. Darwiche, Ph.D.
Joseph J. DiStefano III, Ph.D.
Michael G. Dyer, Ph.D.
Milos D. Ercegovac, Ph.D.
Deborah L. Estrin, Ph.D. (Jonathan B. Postel Professor of Computer Science)
Elielaer M. Gafni, Ph.D.
Mario Gerla, Ph.D.
Sheila A. Greibach, Ph.D.
Richard E. Kort, Ph.D.
Richard R. Munzt, Ph.D.
Stanley J. Osher, Ph.D.
Rafael Ostrovsky, Ph.D.
Jens Palsberg, Ph.D.
D. Stott Parker, Jr., Ph.D.
Miodrag Potkonjak, Ph.D.
Majid Sarrafzadeh, Ph.D.
Stefano Soatto, Ph.D.
Demetri Terzopoulos, Ph.D.
Carlo A. Zaniolo, Ph.D. (Norman E. Friedman Professor of Knowledge Sciences)
Lixin Zhang, Ph.D.
Song-Chun Zhu, Ph.D.

**Professors Emeriti**

Alguidas A. Avizienis, Ph.D.
Bertram Russell, Ph.D.
Jack W. Carlyle, Ph.D.
Gerald Estrin, Ph.D.
Thelma Estrin, Ph.D.
Leonard Kleinrock, Ph.D.
Allen Klinger, Ph.D.
Lawrence P. McNamee, Ph.D.
Michel A. Melkanoff, Ph.D.
Judea Pearl, Ph.D.
Jacques J. Vidal, Ph.D.

**Associate Professors**

Songwu Lu, Ph.D.
David A. Rennen, Ph.D.
Armit Sairah, Ph.D.
Yuval Tamir, Ph.D.

**Assistant Professors**

Jieun Park, Ph.D.
Jeroen J. van Dorssen, Ph.D.
Pedro Faloutsos, Ph.D.
Edward Kohler, Ph.D.
Rupak Majumdar, Ph.D.
Todd Millstein, Ph.D.
Glenn D. Reinman, Ph.D.

**Senior Lecturer**

Leon Levine, M.S., Emeritus

**Lecturers P.S.O.E.**

Paul R. Eggert, Ph.D.
David A. Smallberg, M.S.

**Adjunct Professors**

Alan Kay, Ph.D.
Boris Kogan, Ph.D.
Gerald J. Popek, Ph.D.
M. Yahya Sanadidi, Ph.D.

**Adjunct Associate Professors**

Leon Alkalai, Ph.D.
Peter L. Reifer, Ph.D.

**Scope and Objectives**

Computer science is concerned with the design, modeling, analysis, and applications of computer-related systems. Its study at UCLA provides education at the undergraduate and graduate levels necessary to understand, design, implement, and use the software and hardware of digital computers and digital systems. The programs provide comprehensive and integrated studies of subjects in computer system architecture, computer networks, distributed computer systems, programming languages and software systems, information and data management, artificial intelligence, computer science theory, computational systems biology and bioinformatics, and computer vision and graphics.

The undergraduate and graduate study and research projects in computer science are supported by significant computing resources. In addition to the departmental computing facility, there are over a dozen research laboratories specializing in areas such as distributed systems, multimedia computer communications, distributed sensor networks, VLSI systems, VLSI CAD, embedded and reconfigurable systems, computer graphics, bioinformatics, and artificial intelligence. Also, the Cognitive Systems Laboratory is engaged in studying computer systems that emulate or support human reasoning. The Biocybernetics Laboratory is devoted to multidisciplinary research involving the application of computer engineering and computer science methods to problems in biology and medicine.

The B.S. degree may be attained either through the Computer Science and Engineering major or through the Computer Science major described below.

In addition to the B.S. in Computer Science and Engineering and the B.S. in Computer Scie-
ence, HSSEAS offers M.S. and Ph.D. degrees in Computer Science, as well as minor fields for graduate students seeking engineering degrees. In cooperation with the John E. Anderson Graduate School of Management, the Computer Science Department offers a concurrent degree program that enables students to obtain the M.S. in Computer Science and the M.B.A. (Master of Business Administration).

**Department Mission**
The Computer Science Department strives for excellence in creating, applying, and imparting knowledge in computer science and engineering through comprehensive educational programs, research in collaboration with industry and government, dissemination through scholarly publications, and service to professional societies, the community, state, and nation.

**Computer Science and Engineering Undergraduate Program Objectives**
The computer science and engineering undergraduate program educational objectives are that our alumni (1) make valuable technical contributions to design, development, and production in their practice of computer science and computer engineering, in related engineering areas or application areas, and at the interface of computers and physical systems, (2) demonstrate strong communication skills and the ability to function effectively as part of a team, (3) demonstrate a sense of societal and ethical responsibility in their professional endeavors, and (4) engage in professional development or postgraduate education to pursue flexible career paths amid future technological changes.

**Computer Science and Engineering Undergraduate Program Objectives**
The computer science undergraduate program educational objectives are that our alumni (1) make valuable technical contributions to design, development, and production in their practice of computer science and related engineering areas or application areas, particularly in software systems and algorithmic methods, (2) demonstrate strong communication skills and the ability to function effectively as part of a team, (3) demonstrate a sense of societal and ethical responsibility in their professional endeavors, and (4) engage in professional development or postgraduate education to pursue flexible career paths amid future technological changes.

**Undergraduate Study**

**Computer Science and Engineering B.S.**
The ABET-accredited computer science and engineering curriculum at UCLA provides the education and training necessary to design, implement, test, and utilize the hardware and software of digital computers and digital systems. The curriculum has components spanning both the Computer Science and Electrical Engineering Departments. Within the curriculum students study all aspects of computer systems from electronic design through logic design, MSI, LSI, and VLSI concepts and device utilization, machine language design, implementation and programming, operating system concepts, systems programming, networking fundamentals, higher-level language skills, and application of these to systems. Students are prepared for employment in a wide spectrum of high-technology industries.

The computer science and engineering curriculum is also accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, (410) 347-7700.

**Preparation for the Major**
**Required: Chemistry and Biochemistry 20A;**
Computer Science 1, 31, 32, 33, 35L, 51A (or Electrical Engineering M16); Electrical Engineering 1, 2, 10; Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61; Physics 1A, 1B, 4AL, 4BL.

**The Major**

**Required: Computer Science 101, 111, 118, 131, 151B (or Electrical Engineering M116C), 152A (or Electrical Engineering M116L), 152B, 180, 181, Electrical Engineering 102, 110, 110L, 115A, 115C, Statistics 110A; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and three upper division computer science elective courses (12 units), one of which must be selected from Computer Science 143 or 161 or 174A. Electrical Engineering 103 may be substituted for one elective (credit is not given for both Computer Science 170A and Electrical Engineering 103), and either Computer Science 194 or one 4-unit 199 course may be applied as an elective by petition. For information on University and general education requirements, see the College and Schools section earlier in this catalog.

**Computer Science B.S.**
The computer science curriculum is designed to accommodate students who want professional preparation in computer science but do not necessarily have a strong interest in computer systems hardware. The curriculum consists of components in computer science, a minor or technical support area, and a core of courses from the social sciences, life sciences, and humanities. Within the curriculum, students study subject matter in software engineering, principles of programming languages, data structures, computer architecture, theory of computation and formal languages, operating systems, distributed systems, computer modeling, computer networks, compiler construction, and artificial intelligence. Majors are prepared for employment in a wide range of industrial and business environments.

The computer science curriculum is accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, (410) 347-7700.

**Preparation for the Major**

**Required: Chemistry and Biochemistry 20A;**
Computer Science 1, 31, 32, 33, 35L, 51A (or Electrical Engineering M16); Electrical Engineering 1, 31A, 31B, 32A, 32B, 33A, 33B, 61; Physics 1A, 1B, 4AL, 4BL.

**The Major**

**Required: Computer Science 101, 111, 118, 130 (or 152B), 131, 151B (or Electrical Engineering M116C), 152A (or Electrical Engineering M116L), 180, 181, Statistics 110A; three upper division science and technology courses (12 units) not used to satisfy other requirements, which may include three computer science courses, three courses to augment the technical breadth courses requirement, or three courses selected from one of the following: astronomy, atmospheric and oceanic sciences, biological chemistry, biomathematics, chemical and biomolecular engineering, chemistry and biochemistry, civil and environmental engineering, Earth and space sciences, economics, electrical engineering, information studies, linguistics, management, materials science and engineering, mathematics, mechanical and aerospace engineering, microbiology, immunology, and molecular genetics, molecular biology, molecular, cell, and developmental biology, physics — courses selected from outside the school must be approved by petition; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and six upper division computer science elective courses (24 units), two of which must be selected from Computer Science 143, 161, 174A and one of which must be from 112 or 170A or Electrical Engineering 103 (credit is not given for both Computer Science 170A and Electrical Engineering 103). Students who select Electrical Engineering 103 may not receive credit for Mathematics 151A under the science and technology electives; if students have not taken Computer Science 130, one elective course must be 132; and either Computer Science 194 or one 4-unit 199 course may be applied as an elective by petition. For information on University and general education requirements, see the College and Schools section earlier in this catalog.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnrnet.ucla.edu/gasala/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and web-
Upper Division Courses

101. Upper Division Computer Science Seminar. (1) Seminar; one hour. Introduction to department resources and principal topics and key ideas in computer science and computer engineering. Assignments given to bolster independent study and writing skills. Letter grading.

110. Probability and Stochastic Processes. (4) Lecture, four hours; discussion, two hours. Review of probability, stochastic processes, and statistical inference. Applications to computer science, engineering, and economics.


112. Computer System Modeling Fundamentals. (4) Lecture, four hours; outside study, eight hours. Requisite: Statistics 110A. Designed for juniors/seniors. Probability and stochastic process models as applied in computer science. Basic methodological tools include random variables and processes, Markov chains. Applications include probabilistic algorithms, theoretical reasoning, analysis of algorithms and data structures, computer architecture, operating system protocol and queueing models. Letter grading.

113. Introduction to Distributed Embedded Systems. (4) Lecture, four hours; laboratory, four hours; outside study, four hours. Requisites: courses 111, 118. Introduction to basic concepts needed to understand, design, and implement wireless distributed embedded systems. Topics include design implications of energy and otherwise resource-constrained nodes, distributed algorithms, localization and time synchronization, applications, and usage issues such as human interfaces, safety, and security. Heavily project based. Letter grading.

M117. Computer Networks: Physical Layer. (6) (Formerly numbered 117.) (Same as Electrical Engineering 117.) Lecture, four hours; discussion, four hours; outside study, 10 hours. Not open to students with credit for course 116. Communication in fundamental material science concepts underlying and supporting modern networks, with focus on physical and media access layers of network protocol stack. Systems include high-speed (e.g., fast and gigabit Ethernet), optical DWDM (dense wavelength division multiplexing), time division SONET networks, wireless LANs (IEEE802.11), and ad hoc wireless and personal area networks (e.g., Bluetooth). Experimental laboratory sessions included. Letter grading.

118. Computer Network Fundamentals. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 32, 33. Highly recommended: course 111. Designed for juniors/seniors. Introduction to design and performance evaluation of computer networks, including such topics as what protocols are, layered network architecture, Internet protocol architecture, network applications, transport protocols, routing algorithms and protocols, internet working, congestion control, and link layer protocols including Ethernet and wireless channels. Letter grading.

CM124. Computational Genetics. (4) (Same as Human Genetics CM124.) Lecture, three hours; discussion, one hour; outside study, eight hours. Preparation: one course in statistics course and familiarity with a programming language. Designed for undergraduate and graduate engineering students, as well as students from biological sciences and medical school. Introduction to current quantitative understanding of human genetics and computational interdisciplinary research in genetics. Topics include introduction to genetics, human population history, linkage analysis, association analysis, association study design, isolated and admixed populations, population substructure, human structural variation, model organisms, and genotyping technologies. Computational techniques include those from statistics and computer science. Concurrently scheduled with course CM224. Letter grading.

130. Software Engineering. (4) Lecture, four hours; laboratory, two hours; outside study, six hours. Requisite: course 32. Recommended: Engineering 183 or 185. Structured programming, program specification, program proving, modularity, abstract data types, composite design, software tools, software control systems, program testing, team programming. Letter grading.

131. Programming Languages. (4) Lecture, four hours; laboratory, two hours; outside study, six hours. Requisites: courses 32, 131, 181. Compiler structure: lexical and syntactic analysis; semantic analysis and code generation; theory of parsing. Letter grading.

132. Compiler Construction. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 32, 131, 181, Compiler structure: lexical and syntactic analysis; semantic analysis and code generation; theory of parsing. Letter grading.

133. Parallel and Distributed Computing. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 32, 131, 181, Compiler structure: lexical and syntactic analysis; semantic analysis and code generation; theory of parsing. Letter grading.

143. Database Systems. (4) Lecture, four hours; laboratory, two hours; outside study, six hours. Requisites: courses 32, 131, 181. Compiler structure: lexical and syntactic analysis; semantic analysis and code generation; theory of parsing. Letter grading.

151B. Computer Systems Architecture. (4) (Same as Electrical Engineering 151BC.) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 33, and M51A or Electrical Engineering 151M. Recommended: courses 111, and M51A or Electrical Engineering 151ML. Computer system organization and design, implementation of CPU datapath and control, instruction set design, memory hierarchy (caches, memory organization and management, input/output subsystems (bus structures, interrupts, DMA), performance evaluation, pipelined processors. Letter grading.

M152A. Introductory Digital Design Laboratory. (2) (Same as Electrical Engineering M116L.) Laboratory, four hours; outside study, two hours. Requisite: course M51A or Electrical Engineering M16. Hands-on design, implementation, and debugging of digital logic circuits, use of computer-aided design tools for schematic capture and simulation, implementation of complex circuits using standard logic array devices, and design projects. Letter grading.

152B. Digital Design Project Laboratory. (4) (Formerly numbered M152B.) Laboratory, four hours; discussion, two hours; outside study, six hours. Requisite: course M151B or Electrical Engineering M116C. Design and implementation of complex digital sub-systems using field-programmable gate arrays (e.g., processor, voice, graphics, communication processors, device controllers, and input/output interfaces). Students work in teams to develop and implement designs and to document and give oral presentations of their work. Letter grading.

161. Fundamentals of Artificial Intelligence. (4) Lecture, four hours; laboratory, two hours; outside study, six hours. Requisite: course 32. Introduction to fundamental problem solving and knowledge representation paradigms of artificial intelligence. Introduction to Lisp with regular programming assignments. State-space and problem reduction methods, brute-force and heuristic search, planning techniques, two-player games. Knowledge structures including predicate logic, production systems, semantic nets and primitives, frames, scripts. Special topics in natural language processing, expert systems, vision, and parallel architectures. Letter grading.


M171L. Data Communication Systems Laboratory. (2 to 4) (Same as Electrical Engineering M171L.) Laboratory, four to eight hours; outside study, two to four hours. Recommended preparation: course M152A. Limited to seniors. Interpretation of analog-signal aspects of digital systems and data communications through experience in using contemporary test instruments to generate and display signals in relevant laboratory setups. Use of oscilloscopes, pulse and function generators, baseband spectrum analyzers, desktop computers, terminals, modems, PCs, and workstations in experiments on pulse transmission impairments, waveforms and their spectra, modem and terminal characteristics, and interfaces. Letter grading.

174A. Introduction to Computer Graphics. (4) (Formerly numbered 174.) Lecture, four hours; discussion, two hours. Requisite: course 32. Basic principles behind modern two- and three-dimensional computer graphics systems, including complete set of steps that modern graphics pipelines use to create realistic images in real time. How to position and manipulate objects in scene using geometric and camera transformation techniques. How to create final image using perspective and orthographic transformations. Basics of modeling primitives such as polygonal models and implicit and parametric surfaces. Basic ideas behind color spaces, illumination models, shading, and texture mapping. Letter grading.

174B. Introduction to Computer Graphics: Three-Dimensional Photography and Rendering. (4) Lecture, four hours; discussion, two hours. Requisite: course M174A. Experiments on fundamental photographic properties and image-based rendering. How to use cameras and light to capture shape and appearance of real objects and scenes. Focus provides simple way to generate realistic photorealistic rendering of objects and characters to medicine (modeling of biological structures from imaging data), mixed reality (augmentation of video), and security (visual surveillance). Fundamental analytical tools for modeling and interfacing geometric (shape) and photometric (reflectance, illumination) properties of objects and scenes, and for rendering and manipulating novel views. Letter grading.

C174C. Computer Animation. (4) Lecture, four hours; discussion, two hours. Requisite: course 174A. Designed for juniors/seniors. Introduction to computer animation, including basic principles of character modeling, forward and inverse kinematics, forward and inverse dynamics, motion capture animation techniques, physics-based animation of particles and systems, and motor control. Concurrently scheduled with course CM274C. Letter grading.

180. Introduction to Algorithms and Complexity. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: course 32, and Mathematics 61 or 113. Designed for junior/senior Computer Science majors. Introduction to design and analysis of algorithms. Design techniques: divide-and-conquer, greedy method, dynamic programming; selection of prototypical algorithms; choice of data structures for flexibility; memory use and efficiency measures; time, space, upper, lower bounds, asymptotic complexity; NP-completeness. Letter grading.


183. Introduction to Cryptography. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Prerequisite: knowledge of probability theory. Requisite: course 180. Introduction to cryptography, computer security, and basic concepts and techniques. Topics include notions of hardness, one-way functions, hard-core bits, pseudorandom generators, pseudorandom functions and pseudorandom permutations, semantic security, public-key and private-key encryption, key agreement, homomorphic encryption, private information retrieval and voting protocols, message authentication, digital signatures, interactive proofs, zero-knowledge proofs, collision-resistant hash functions, commitment protocols, and two-party secure computation with static security. Letter grading.

M186A. Introduction to Cybernetics, Biomodeling, and Biomedical Computing. (2) (Formerly numbered M186A.) (Same as Biomedical Engineering M186A and Computational and Systems Biology M186A.) Lecture, two hours. Requisites: Mathematics 31A, 31B, Program in Computing 10A. Strongly recommended for students with potential interest in biomedical engineering, computational and biological systems. Letter grading.

186B. Computational Systems Biology: Modeling and Simulation of Biological Systems. (5) (Formerly numbered M186B.) (Same as Biomedical Engineering CM186B and Computational and Systems Biology M186B.) Lecture, four hours; laboratory, three hours. Corequisite: Electrical Engineering 102. Dynamic biosystems modeling and computer simulation methods for studying biological processes and systems at multiple levels of organization. Control system, multicompartmental, predator-prey, pharmacokinetic (PK), pharmacodynamic (PD), and other structural modeling methods applied to life sciences problems at molecular, cellular (biochemical pathways/networks), organ, and organismic levels. Both theory- and data-driven modeling, with focus on translating biological goals and and data into mathematical models and implementing them for simulation and analysis. Basics of numerical simulation algorithms, with modeling software exercises in class and PC laboratory assignments. Concurrently scheduled with course CM286B. Letter grading.

C186C. Biomodeling Research and Research Communication Workshop. (2 to 4) (Formerly numbered CM186C.) (Same as Biomedical Engineering CM186C and Computational and Systems Biology M186C.) Lecture, one hour; discussion, two hours; laboratory, one hour; outside study, eight hours. Requisite: course CM186B. Closely linked to interactive, hands-on and real research experience in active quantitative systems biology research laboratory. Direction on how to focus on topics of current interest in scientific community, appropriate for student interests and capabilities. Critiques of oral presentations and written progress reports explain how to proceed with search for research results. Major emphasis on effective research reporting, both written and oral. Concurrently scheduled with course CM286C. Letter grading.

188. Special Courses in Computer Science. (4) (Formerly numbered CM198.) Lecture, four hours; outside study, eight hours. Special topics in computer science, including computer science taught within an experimental or theoretical framework, such as those taught by resident and visiting faculty members. May be repeated once for credit with topic or instructor change. Letter grading.

194. Research Group Seminars: Computer Science. (4) Seminar, four hours; outside study, eight hours. Designed for undergraduate students who are part of research group. Discussion of research methods and current literature in field or of research of faculty members or students. Letter grading.

199. Directed Research in Computer Science. (2 to 8) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. Culminating paper or project required. May be repeated with credit; student petition available in Office of Academic and Student Affairs. Letter grading.

Graduate Courses

201. Computer Science Seminar. (2) Seminar, four hours; outside study, two hours. Designed for graduate computer science students. Seminars on current research topics in computer science. May be repeat- ed for credit. S/U grading.

202. Advanced Computer Science Seminar. (4) Seminar, four hours; outside study, eight hours. Preparation: completion of major field examination in computer science. Current computer science research topics into theory of, analysis and synthesis of, and applications of information processing systems. Each member completes one tutorial and one or more original projects. May be repeated for credit. Letter grading.

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211. Network Protocol and Systems Software Design for Wireless and Mobile Internet. (4) Lecture, four hours; outside study, eight hours. Requisite: course 118. Designed for graduate students. In-depth study of network protocol and systems software design in area of wireless and mobile Internet. Topics include (1) networking fundamentals: design philosophy of TCP/IP, layered protocols, and routing; network protocol design principles, (2) networking protocols: 802.11 MAC standard, packet scheduling, mobile IP, ad hoc routing, and wireless TCP; (3) mobile computing systems software: middleware, file system, services, and applications, and (4) topical studies: energy-efficient design, security, location management, and quality of service. Letter grading.


M213A. Embedded Systems. (4) (Formerly numbered 213.) (Same as Electrical Engineering M202A.) Lecture, four hours; outside study, eight hours. Requisite: course 111 and 118 or Electrical Engineering 132B. Designed for graduate computer science and electrical engineering students. Methodologies and technologies for design of embedded systems. Topics include hardware and software platforms for embedded systems, techniques for modeling and specification of system behavior, software organization, real-time operating system scheduling, real-time communication and packet scheduling, low-power battery and sensor-embedded systems, debugging, synchrononization, fault tolerance and debugging, and techniques for hardware and software architecture optimization. Theoretical foundations as well as practical design methods. Letter grading.

M213B. Distributed Embedded Systems. (4) (Same as Electrical Engineering M202B.) Lecture, four hours; outside study, eight hours. Requisites: courses 111, and 118 or Electrical Engineering 132B. Distributed for graduate computer science and electrical engineering students. Interdisciplinary course with focus on study of distributed embedded systems concepts needed to realize systems such as wireless sensor and actuator networks for monitoring and control of physical world. Topics include network self-configuration with localization and timing synchronization; energy-aware system design and operation; protocols for MAC, routing, transport, disruption tolerance; programming issues and models with language, OS, database, and middleware; in-network collaboration and computational distributed systems: such as coverage, connectivity, capacity, latency, techniques for exploitation and management of actuation and mobility; data and system integrity issues with calibration, compression, and security; and usage issues such as human interfaces and safety. S/U or letter grading.

214. Data Transmission in Computer Communications. (4) Lecture, four hours; outside study, eight hours. Requisite: course 112. Limited to graduate computer science students. Rate control: existing congestion, transmission, formats, rates, transductions; digital data transmission via analog signaling in computer communication; media characteristics, systems methodologies, performance analysis; modern design of physical interfaces in computer communication links; national/international standards; tests and measurements. Letter grading.

215. Computer Communications and Networks. (4) Lecture, four hours; outside study, eight hours. Requisite: course 112. Resource sharing; computer traffic characteristics; multiplexing; network structure, packet switching, and other switching techniques; ARPANET and other computer network examples; network delay and analysis; network design and optimization; network protocols; routing and flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modern, DLDC, HDLC, X.25, etc.; protocol verification; satellite; network architecture and control. Letter grading.

216. Distributed Multiaccess Control in Networks. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 112, 118. Select topics from the field of distributed control and access in computer networks, including terrestrial distributed computer networks; satellite packet switching; radio packet switching; local network architecture and control. Letter grading.

217A. Internet Architecture and Protocols. (4) Lecture, four hours; outside study, eight hours. Requisite: course 118. Focus on mastering existing core set of Internet protocols, including IP, core transport protocols, routing protocols, DNS, NTP, and security protocols such as DNSSEC, to understand principles behind TCP/IP; routing; transport; network; security protocols in the Internet; satellite packet switching; learn architecture, design ideas, and learn lessons from their operations. Letter grading.

217B. Advanced Topics in Internet Research. (4) (Formerly numbered 217.) Lecture, four hours; outside study, eight hours. Requisite: course 217A. Designed for graduate students. Overview of Internet development history and fundamental principles underlying TCP/IP protocol design. Discussion of current Internet research, including latest research results in routing protocols, transport protocols, network measurements, network security protocols, and clean-slate approach to network architecture design. Fundamental issues in network protocol design and implementations. Letter grading.

218. Advanced Computer Networks. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 112, 118, 119, 212B. Review of current literature in an area of computer system modeling an analysis in which instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with consent of instructor. Letter grading.

219. Current Topics in Computer System Modeling and Analysis. (2 to 12) Lecture, four hours; outside study, eight hours. Review of current literature in an area of computer system modeling analysis in which instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with consent of instructor. Letter grading.

M222. Control and Coordination in Economics. (4) (Same as Economics M222A.) Lecture, three hours; outside study, eight hours. Recommended preparation: appropriate mathematics courses. Designed for graduate economics and engineering students. Stabilization policies, short- and long-run dynamics and stability analysis; decentralization, coordination in teams; uncertainty equivalence and separation theorems; stochastic and learning models. Bayesian approach to price and output rate adjustment. S/U or letter grading.

CM224. Computational Genetics. (4) (Same as Human Genetics CM224.) Lecture, three hours; discussion, one hour; outside study, eight hours. Preparation: B or better in any programming language. Designed for undergraduate and graduate engineering students, as well as students from biological sciences and medical school. Introduction to current quantitative understanding of human genetics and computational interdisciplinary research in genetics. Topics include introduction to genetics, human population history, linkage analysis, association analysis, association study design, isolated and admixed populations, population substructure, human structural variation, model organisms, and genotyping technologies. Computational techniques include those from statistics and computer science. Concurrently scheduled with course CM124. Letter grading.

230A. Models of Information and Computation. (4) Lecture, four hours. Requisite: course 131. Introduction to static type systems and their usage in programming language design and software reliability. Operational semantics, simply-typed lambda calculus, type soundness proofs, types for mutable references, types for exceptions. Parametric polymorphism, let-bounds, and polymorphism, parametric type theory. Type theories for objects, subtyping, combining parametric polymorphism and subtyping. Types for modules, parametrized modules. Formal specification and implementation of a variety of type systems, as well as read-
234. Computer-Aided Verification. (4) Lecture, four hours. Requisite: course 181. Introduction to theory and practice of formal methods for design and analysis of concurrent and embedded systems, with focus on algorithmic techniques for checking logical properties of hardware and software systems. Topics include semantics of reactive systems, invariant verification, temporal logic, and model checking, theory of omega automata, state-space reduction techniques, compositional and hierarchical reasoning. Letter grading.

235. Advanced Operating Systems. (4) Lecture, four hours. Preparation: C or C++ programming experience. Requisite: course 111. In-depth investigation of operating systems issues through guided construction of research operating system for PC machines and consideration of recent literature. Memory management and protection, interrupts and traps, process interprocess communication, preemptive multitasking, file systems. Virtualization, networking, profiling, research operating systems. Series of laboratory projects, including extra challenge work. Letter grading.

236. Computer Security. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 111, 118. Based on material on computer security. Topics include basic principles and goals of computer security, common security tools, use of cryptographic protocols for security, security tools (firewalls, virtual private networks, encryption, anti-virus software), security assurance and testing, design of secure programs, privacy, applying security principles to realistic problems, and new and emerging threats and security tools. Letter grading.

239. Current Topics in Computer Science: Programming Languages and Systems. (2 to 12) Lecture, four hours; outside study, eight hours. Review of current literature in an area of computer science programming languages and systems in which instructor has developed special proficiency as a consequence of research interests. May be repeated for credit with topic change. Letter grading.

240A. Database and Knowledge Bases. (4) Lecture, four hours; outside study, eight hours. Requisite: course 143. Theoretical and technological foundation of Intelligent Database Systems, which merge database, knowledge-based systems, and advanced programming environments. Rule-based knowledge representation, spatio-temporal reasoning, and logic-based declarative querying/programming are salient features of this technology. Other topics include object-relational systems and data mining techniques. Letter grading.


241B. Pictorial and Multimedia Database Systems. (4) Lecture, three and one-half hours; discussion, 30 minutes; laboratory, one hour; outside study, seven hours. Requisites: courses 143, 241A. Multimedia data: alphanumeric, long text, images/pictures, video, and voice. Multimedia information systems requirements. Data models and accessing, querying, visual languages, and communication. Database design and organization, logical and physical. Search by content and indexing methods. Internet multimedia streaming. Data heterogeneity and distribution. Other topics at discretion of instructor. Letter grading.

244A. Distributed Database Systems. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 215 and/or 241A. File allocation, intelligent algorithms, transaction, on-line transaction processing, deadlock, and strong and weak concurrency control, commit protocols, semantic query answering, multidatabase systems, fault recovery techniques, network partitioning, examples, trade-offs, and design experiences. Letter grading.

245A. Intelligent Information Systems. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 241A, 255A. Knowledge discovery in databases knowledge base maintenance, knowledge base and database integration architectures, and scale-up issues and applications to cooperative database systems, intelligent decision support systems, and intelligent planning and scheduling systems. Introduction to and development of large-scale knowledge-base/database systems. Letter grading.

246. Web Information Management. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 112, 143, 180, 181. Designed for graduate students. Scale of Web data requires novel algorithms and principles for their management and retrieval. Study of Web characteristics and new management techniques needed to build computer systems suitable for Web environment. Topics include Web measuring techniques, large-scale data mining algorithms, effectiveness of Web search ranking algorithms, and query processing techniques on independent data sources. Letter grading.

249. Current Topics in Data Structures. (2 to 12) Lecture, four hours; outside study, eight hours. Requisite: course 143. Review of current literature in an area of computer science data structures in which instructor has developed special proficiency as a consequence of research interests. May be repeated for credit with topic change. Letter grading.

251A. Discrete Mathematics and Probability Theory. (4) Lecture, four hours; outside study, eight hours. Requisite: course M258A. LSI/VLSI design and applications. Series of labs that develop special proficiency in logical design techniques. Letter grading.

251B-M251C. LSI in Computer System Design. (4-4) Lecture, four hours; discussion, one hour; laboratory, four hours; outside study, three hours. Requisite: course M216A. LSI/VLSI design and applications. Series of labs that develop special proficiency in logical design techniques. Letter grading.


253C. Testing and Testable Design of VLSI Systems. (4) Lecture, four hours; outside study, eight hours. Requisite: course M51A. Detailed study of various problems in testing and testable design of VLSI systems, including fault modeling, fault simulation, testing for single stuck faults and multiple stuck faults, functional testing, design for testability, compression techniques, and built-in self-test. Letter grading.

254A. Computer Memories and Memory Systems. (4) Lecture, four hours; outside study, eight hours. Requisite: course 251A. Generic types of memory systems; control, access modes, hierarchies, and allocation. Computer systems. Characteristics, system organization, and device considerations of ferro memories, thin film memories, and semiconductor memories. Letter grading.

255A. Distributed Processing Systems. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 215 and/or 251A. Task partitioning and allocation, interprocess communications, task response time model, process scheduling, message passing protocols, replicated file systems, interface cache memory, actor model, fine grain multiprocessors, distributed operating system kernel, error recovery strategy, performance monitoring and measurement, scalability and maintainability, prototypes and commercial distributed systems. Letter grading.


M258A. Design of VLSI Circuits and Systems. (4) (Same as Electrical Engineering M216A.) Lecture, four hours; discussion, one hour; laboratory, four hours; outside study, three hours. Requisite: course M251A or Electrical Engineering M16, and Electrical Engineering 115A. Recommended: Electrical Engineering 115C. LSI/VLSI design and application in computer systems. Fundamental design techniques that can be used to implement complex integrated systems on a chip. Letter grading.

M258B-M258C. LSI in Computer System Design. (4-4) (Same as Electrical Engineering M216B-M216C.) Lecture, four hours; laboratory, four hours. Requisite: course M258A. LSI/VLSI design and application in computer systems. In-depth studies of VLSI architectures and VLSI design tools. In Progress (M258B) and S/U or letter (M258C) grading.
258E. Foundations of VLSI CAD Algorithms. (4) Lecture, four hours; outside study, eight hours. Preparation: one course in analysis and design of algorithms. Basic theory of combinatorial optimization for VLSI physical layout, including mathematical programming, network flows, matching, greedy and heuristic algorithms, and stochastic methods. Emphasis on practical application to computer-aided physical design of VLSI circuits at high-level phases of layout; partitioning, placement, graph folding, floorplanning, and global routing. Letter grading.

258F. Physical Design Automation of VLSI Systems. (4) Lecture, four hours; outside study, eight hours. Detailed study of various physical design automation problems of VLSI circuits, including logic partitioning, floorplanning, placement, global routing, channel and switchbox routing, planar routing and via minimization, compaction and performance-driven layout. Discussion of applications of a number of important optimization techniques, such as network flows, Steiner trees, simulated annealing, and generic algorithms. Letter grading.

258G. Logic Synthesis of Digital Systems. (4) Lecture, four hours; outside study, eight hours. Requirements: course 258F. Detailed study of various problems in logic-level synthesis of VLSI digital systems, including two-level Boolean network optimization; multilevel Boolean network optimization; technology mapping for standard cell designs and field-programmable gate-array (FPGA) designs; retiming for sequential circuits; and applications of binary decision diagrams (BDDs). Letter grading.

258H. Analysis and Design of High-Speed VLSI Interconnects. (4) Lecture, four hours; outside study, eight hours. Requirements: courses M258A, 258F. Detailed study of various problems in analysis and design of high-speed VLSI interconnects at both integrated circuit (IC) and packing levels, including interconnect capacitance and resistance, lossless and lossy transmission lines, cross-talk and power distribution, new models and models of interconnect topology and geometry optimization, and clocking for high-speed systems. Letter grading.

259. Current Topics in Computer Science: System Design/Architecture. (2 to 12) Lecture, four hours; outside study, eight hours. Review of current literature in an area of computer science system design in which instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change. Letter grading.


262C. Causal Inference. (4) Same as Statistics M241. Lecture, four hours; outside study, eight hours. Requirement: course 112 or equivalent probability theory course. Techniques of using computers to interpret, summarize, and form theories of empirical observations. Mathematical analysis of trade-offs between computational complexity, storage requirements, and precision of computerized models. Letter grading.

262Z. Current Topics in Cognitive Systems. (4) Lecture, four hours; outside study, eight hours. Requirements: 262F or 262X. Advanced topics for each offering announced in advance by department. Theory and implementation of systems which emulate or support human reasoning. Current literature and individual studies of artificial intelligence, knowledge-based systems, decision support systems, computational psychology, and heuristic programming theory. May be repeated for credit with topic change. Letter grading.

263A. Language and Thought. (4) Lecture, four hours; outside study, eight hours. Requirement: course 130 or 161. Introduction to natural language processing (NLP), with emphasis on semantics. Presentation of process models for variety of tasks, including question answering, paraphrasing, machine translation, word-sense disambiguation, narrative and editorial comprehension. Examination of both symbolic and statistical approaches to language processing and acquisition. Letter grading.

263B. Connectionist Natural Language Processing. (4) Lecture, four hours; outside study, eight hours. Requirement: course 151 or 163 or 263A. Examination of connectionist/ANN architectures designed for natural language processing. Issues include localist vs. distributed representations, variable binding, instantiation and encoding of meaning, acquisition of language and world knowledge (for instance, via back propagation in PDP networks and competitive learning in self-organizing feature maps), and grounding of symbols in sensory/motor experiences. Letter grading.

263C. Animats-Based Modeling. (4) Lecture, four hours; outside study, eight hours. Requirement: course 130 or 161 or 161. Animats are mobile sensing animals and software agents embedded in simulated worlds. Emphasis on modeling: goal-oriented behavior via neurocontrollers, adaptation via reinforcement learning, evolutionary programming, Animal models, foraging, finding, predation, navigation, predator avoidance, cooperative nest construction, communication, and parenting. Letter grading.

264A. Automated Reasoning: Theory and Applications. (4) Lecture, four hours; laboratory, four hours; outside study, four hours. Requirement: course 161. Introduction to theory and practice of automated reasoning using propositional and first-order logic. Topics include syntax and semantics of formal logic, algorithms for logical reasoning, including satisfiability and entailment; syntactic and semantic restrictions on knowledge bases; effect of these restrictions on expressiveness, compactness, and computational tractability; applications of automated reasoning to diagnosis, planning, design, formal verification, and reliability analysis. Letter grading.


267A. Neural Models. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Analysis of major connectionist computing paradigms and underlying models of biological and physical processes. Examination of past and current implementations of artificial neural networks along with their applications to associative knowledge processing, general multiassembler pattern recognition including speed and vision, and adaptive robot control. Students required to prepare a paper analyzing research in one area of interest. Letter grading.

267B. Artificial Neural Systems and Connectionist Computing. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Analysis of major connectionist computing paradigms and underlying models of biological and physical processes. Examination of past and current implementations of artificial neural networks along with their applications to associative knowledge processing, general multiassembler pattern recognition including speed and vision, and adaptive robot control. Students required to prepare a paper analyzing research in one area of interest. Letter grading.

267C. Causal Inference. (4) Seminar, two hours; outside study, six hours. Designed for students undertaking thesis research. Discussion of advanced topics and current research in computational neuroscience. Neural networks and connectionism as a paradigm for parallel and concurrent processing. Connectionism as a paradigm for perception, vision, multimodal sensory integration and robotics. May be repeated for credit. S/U grading.

267D. Seminar: Current Topics in Artificial Intelligence. (2 to 4) Seminar, to be arranged. Review of current literature and research practicum in an area of artificial intelligence in which instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change. Letter grading.


271C. Seminar: Advanced Simulation Methods. (2) Seminar, two hours; outside study, six hours. Requi-
site: consent of instructor. Discussion of advanced topics in simulation of systems characterized by ordinary and partial
differential equations. Topics include (among others) simulation languages, dataflow machines, array
processors, and advanced mathematical modeling
techniques. Topics vary each term. May be re-
peated for credit. S/U grading.

272. Advanced Discrete Event Simulation and Modeling Techniques. (4) Lecture, four hours; out-
side study, eight hours. In-depth study in discrete
event simulation and modeling techniques, including
building valid and credible simulation models, output
analysis of systems, comparisons of alternative sys-
tem configurations. Variance reduction techniques,
simulation models of computer systems and manu-
facturing systems. Letter grading.

273A. Digital Processing of Engineering and Sta-
tistical Data. (4) Lecture, four hours; outside study,
eight hours. Computer methods for processing engi-
neering and statistical data. Algorithms to evaluate re-
cursive filter functions, Fourier series, power spectral,
analysis correlation computations, and statistical test-
ing. Letter grading.

C274C. Computer Animation. (4) Lecture, four
hours; recitation, two hours. Requisite: course 174A.
Introduction to computer animation, including basic
principles of character model, forward and inverse
kinematics, forward and inverse dynamics, motion
capture animation techniques, physics-based anima-
tion of particles and systems, and motor control.
Concurrently scheduled with course C174C. Letter grad-
ing.

M276A. Pattern Recognition and Machine Learn-
ing. (4) (Same as Statistics M231.) Lecture, three
hours. Designed for graduate students. Fundamental
concepts, theories, and algorithms for pattern recog-
nition and machine learning that are used in comput-
er vision, image processing, speech recognition, data
mining, statistics, and computational biology. Topics
include Bayesian decision theory, parametric and
nonparametric learning, clustering, complexity (VC-
dimension, MDL, AIC), PCA/ICA/TCA, MDS, SVM,
boosting, S/U or letter grading.

276B. Structured Computer Vision. (4) Lecture,
four hours; outside study, eight hours. Designed for
graduate students. Methods for computer processing
of image data. Systems, concepts, and algorithms for
image analysis, radiologic and robotic applications.
Letter grading.

276C. Speech and Language Communication in
Artificial Intelligence. (4) Lecture, four hours; out-
side study, eight hours. Requisite: course M276A or
276B. Topics in human-computer communication: in-
teractions, spoken and written communication, sound
and symbol generation by humans and machines, se-
manics of data, systems for speech recognition and
understanding. Use of speech and text for computer
input and output in applications. Letter grading.

279. Current Topics in Computer Science: Meth-
odology. (2 to 12) Lecture, four hours; outside study,
eight hours. Review of current literature in an area of
computer science methodology in which instructor
developed special proficiency as a consequence of
research interests. Students report on selected
topics. May be repeated for credit with topic change.
Letter grading.

280A-280ZZ. Algorithms. (4 each) Lecture, four
hours; outside study, eight hours. Requisite: course
180. Additional requisites for each offering an-
nounced in advance by department. Selections from
design, analysis, optimization, and implementation of
algorithms; computational complexity and general
theory of algorithms; algorithms for particular applica-
tion areas. Subtopics of some current sections: Princi-
iples of Design of Algorithms (280A); Graphs and Net-
works (280B). May be repeated for credit with consent of instructor and with
topic change. Letter grading.

280AP. Approximation Algorithms. (4) Lecture, four
hours; outside study, eight hours. Requisite: course
180. Background in discrete mathematics helpful.
Theory and applications using approximation algo-

284A-284ZZ. Topics in Automata and Languages. (4
each) Lecture, four hours; outside study, eight hours.
Requisite: course 21A. Additional requisites for each
offering announced in advance. Study of finite
automata, pushdown automata, context-free languages
and their grammars, parsing, nondeterminism, develop-
ment of compiler systems; machine-based complexity. Subtopics of
some current and planned sections: Context-Free Languages (284A); Parsing Algorithms (284P). May be repeated for credit with consent of instructor and with

CM286B. Computational Systems Biology: Model-
ing and Simulation of Biological Systems. (5)
(Same as Biological Engineering CM276B) Lecture,
four hours; laboratory, three hours. Corequisite: Elec-
trical Engineering 102. Dynamic biosystems model-
ing and computer simulation methods for studying bi-
ological/biomedical processes and systems at multi-
ple levels of organization. Control system, multicompartamental, predator-prey, pharmacokinetic (PK), pharamacodynamic (PD), and other structural models applied to life sciences problems
at molecular, cellular (biochemical pathways/nets-
works), organ, and organismic levels. Both theory-
data-driven modeling, with focus on translating biomodeling goals and data into mathematical models
and implementing them for simulation and analysis.
Basis of numerical simulation algorithms, with mod-
eling software exercises in class and PC laboratory
assignments. Concurrently scheduled with course
CM186B. Letter grading.

CM286C. Biomodeling Research and Research
Communication Workshop. (2 to 4) (Formerly num-
cered CM286L.) (Same as Biomedical Engineering
CM276C) Lecture, one hour; outside study, two
hours; laboratory, one hour; outside study, eight hours.
Requi-
site: course CM286B. Closely directed, interactive,
and real research experience in active quantitative systems
modeling. Emphasis on student-selected topics and
how to focus on topics of current interest in scientific
community, appropriate to student interests and ca-

capabilities. Critiques of oral presentations and written
progress reports explain how to proceed with search
for research results. Major emphasis on effective re-
search reporting, both oral and written. Concurrently
scheduled with course CM186C. Letter grading.

287A. Theory of Program Structure. (4) Lecture,
four hours; outside study, eight hours. Requisite:
course 181. Models of computer programs and their
syntax and semantics; emphasis on programs and re-
cursive schemes; equivalence and correctness,
and transitivity of programs; expressive pow-
er of program constructs and data structures; select-
ed current topics. Letter grading.

288S. Seminar: Theoretical Computer Science.
(2) Seminar, two hours; outside study, six hours. Requi-
sites: courses 280A, 281A. Intended for students un-
taking thesis research. Discussion of advanced

topics and current research in such areas as algo-
rithms and complexity models for parallel and concur-
rent computation, and formal language and automata
theory. May be repeated for credit. S/U grading.

289A-289ZZ. Current Topics in Computer Theory.
(2 to 12 each) Lecture, four hours; outside study,
eight hours. Review of current literature in an area of
computer theory in which instructor has developed
special proficiency as a consequence of research in-

terests. Students report on selected topics. Letter grad-
ing.

289CO. Complexity Theory. (4) Lecture, four hours;
outside study, eight hours. Diagonalization, polynomi-
al-time hierarchy, PCP theorem, randomness and de-
mandomization, circuit complexity and limita-
tions to proving P does not equal NP, average-case

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M296A. Advanced Modeling Methodology for Dynamic Biomedical Systems. (4) (Same as Biomedical Engineering M296A and Medicine M270C) Lecture, four hours; outside study, eight hours. Requisite: Electrical Engineering 141 or 142 or Mathematics 115A or Mechanical and Aerospace Engineering 171A. Development of dynamic systems modeling methodology for physiological, biological, pharmacological, chemical, and related systems. Control system, multicompartamental, noncompartmental, and input/output models, linear and nonlinear. Emphasis on model applications, limitations, and relevance in biomedical sciences and other limited data environments. Problem solving in PC laboratory. Letter grading.

M296B. Optimal Parameter Estimation and Experiment Design for Biomedical Systems. (4) (Same as Biomedical Engineering M296B, and Medicine M270D) Lecture, four hours; outside study, eight hours. Requisite: course M296A or Biostatistics 295. Estimation methodology and model parameter estimation algorithms for fitting dynamic system models to biomedical data. Model discrimination methods. Theory and algorithms for designing optimal experiments for developing and quantifying models, with special focus on optimal sampling schedule design for kinetic models. Exploration of PC software for model building and optimal experiment design via applications in physiology and pharmacology. Letter grading.


M296D. Introduction to Computational Cardiology. (4) (Same as Biomedical Engineering M296D) Lecture, four hours; outside study, eight hours. Requisite: course CM186B. Introduction to mathematical modeling and computer simulation of cardiac electrophysiological process. Ionic models of action potential (AP): theory of AP propagation in one-dimensional and two-dimensional cardiac tissue. Simulation on sequential and parallel supercomputers: choice of numerical algorithms, to optimize accuracy and to provide computational stability. Letter grading.

298. Research Seminar: Computer Science. (2 to 4) Seminar, two to four hours; outside study, four to eight hours. Designed for graduate computer science students. Discussion of advanced topics and current research in algorithmic processes that describe and transform information: theory, analysis, design, efficiency, implementation, and application. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495B. Teaching with Technology. (2) Seminar, two hours; outside study, four hours. Limited to graduate Computer Science Department teaching assistants. Seminar for teaching assistants covering how technology can be used to aid instruction in and out of classroom. S/U grading.

497D-497E. Field Projects in Computer Science. (4-4) Fieldwork, to be arranged. Students are divided into teams led by instructor; each team is assigned an external company or organization which they investigate as a candidate for possible computerization, submitting a team report of their findings and recommendations. In Progress (497D) and S/U or letter (497E) grading.

596. Directed Individual or Tutorial Studies. (2 to 8) Tutorial, to be arranged. Limited to graduate computer science students. Petition forms to request enrollment may be obtained from assistant dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

597A. Preparation for M.S. Comprehensive Examination. (2 to 12) Tutorial, to be arranged. Limited to graduate computer science students. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations. (2 to 16) Tutorial, to be arranged. Limited to graduate computer science students. Petition forms to request enrollment may be obtained from assistant dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination. (1 to 16) Tutorial, to be arranged. Limited to graduate computer science students. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research for and Preparation of M.S. Thesis. (2 to 12) Tutorial, to be arranged. Limited to graduate computer science students. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation. (2 to 16) Tutorial, to be arranged. Limited to graduate computer science students. Petition forms to request enrollment may be obtained from assistant dean, Graduate Studies. S/U grading.

Computing, Program in

Conservation of Archaeological and Ethnographic Materials

Interdepartmental Program

College of Letters and Science

UCLA

A41 Fowler Building

951510

Los Angeles, CA 90095-1510

(310) 205-4907

fax: (310) 205-4723

e-mail: acor@ucla.edu

http://ioa.ucla.edu/conservation/

David A. Scott, Ph.D., Chair

Faculty Advisory Committee

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Lothar von Falkenhauen, Ph.D. (Art History)

Willemina Z. Wendrich, Ph.D. (Near Eastern Languages and Cultures)

Scope and Objectives

Students study for an M.A. degree in Conversation of Archaeological and Ethnographic Materials, with emphasis on the multiple values and meanings that archaeological and ethnographic artifacts may hold for society, and how they impact decisions on the conservation and use of those materials. In the conservation philosophy that underpins the program, there is a strong interdisciplinary component, essential to effective working practices in the future. The three-year graduate program is a collaborative venture with the Getty Trust and is based in new facilities at the Getty Villa site in Malibu.

The aim of the program is to provide students with a solid educational base and practical training in both archaeological and ethnographic materials, as well as an appreciation of the often complex issues related to significance, access, and use of these materials that can be very different from the criteria for conservation of fine art or historical materials. In the case of ethnographic materials especially, the program facilitates an understanding of the multiple values that artifacts hold for indigenous populations and fosters a sense of partnership with indigenous communities in relevant aspects of the conservation process.

The partnership between UCLA and the Getty in creating the program ensures that both a major research university and an institution with a major mandate for conservation of the artistic heritage of the world are working to create a rich and vibrant conservation training op-
opportunities. The program helps students develop working relationships with a wide array of colleagues in the Getty Conservation Institute, the J. Paul Getty Museum, and the UCLA Departments of Anthropology, Art History, Chemistry and Biochemistry, and Earth and Space Sciences, and the Interdepartmental Program in Archaeology.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Conservation of Archaeological and Ethnographic Materials Program offers a Master of Arts (M.A.) degree in Conservation of Archaeological and Ethnographic Materials.

Conservation of Archaeological and Ethnographic Materials

Graduate Courses

210. Scientific Methodologies for Conservation. (4) Lecture, three hours; laboratory, two hours. Preparation: general and organic chemistry, or inorganic and organic chemistry. Several basic scientific techniques employed for examination of archaeological and ethnographic artifacts. Introduction to analytical techniques, methods of dating artifacts, use of microscopy and multispectral imaging to record as much as possible from objects without sampling, use of infrared reflectography, inorganic and organic techniques of analysis used frequently in conservation studies, and case studies where these have been of use in conservation of artifacts. Letter grading.

215. Photographic and Graphic Documentation for Conservation. (4) Seminar, two hours; laboratory, three hours. Designed for graduate conservation students. Introduction to techniques and methods for photographic and graphic recording and documentation for conservation of artifacts, monuments, and sites enhancing descriptive documentation. Techniques and methods include multispectral imaging, X-ray radiography, rectified photography, photogrammetry, laser scanning, and computer graphic documentation such as AutoCAD and GIS. Letter grading.


218. Science of Conservation Materials and Methods II. (4) Lecture, two hours; discussion, one hour. Designed for graduate conservation students. Chemical processes and chemistry of materials used for conservation of archaeological sites and in conservation practices. Examination of remedial treatments of archaeological building materials and sites, including grouts, mortars for structural support, and inorganic and mineral treatments. Discussion of innovative materials such as sol-gel hybrids, self-adhesives, lightweight composite structural materials, and materials based on nanotechnology. Letter grading.

222. Conservation and Ethnography. (4) Laboratory, four hours. Designed for graduate conservation students. Introduction to work as conservators with indigenous peoples, housing cultural collections. Students learn different models for tribal museums and cultural centers, and importance of material selection and properties in baskets they are treating. Letter grading.

224. Issues in Preservation and Management of Archaeological and Cultural Sites. (4) Seminar, three hours. Designed for graduate conservation students. Cultural resource management, development of policies and legislation, international charters, and conventions by national and international agencies to reflect and protect these values. Knowledge and skills necessary in conservator work, such as understanding components involved in preservation and management of sites, ability to gather, synthesize, and contextualize information, and development of problem-solving, assessment, cross-disciplinary thinking, and decision-making skills. Letter grading.

230. Deterioration and Conservation of Inorganic Materials I: Ceramics and Glass. (4) Seminar, one hour; laboratory, two hours. Recommended requisite: Archaeology C210. Introduction to deterioration and conservation of ceramics and glass. Discussion of environmental parameters affecting survival of ceramics, types of decay processes that glass is subject to, and contamination. Examination of use of conservation materials in joining, gap-filling, and restoration of ceramics and experience in their use provided. Letter grading.

232. Deterioration and Conservation of Organic Materials I. (4) Seminar, one hour; laboratory, two hours. Requisites: Archaeology C210. How to recognize characteristic deterioration problems found in organic materials from archaeological and ethnographic contexts and introduction to typical treatments used historically and currently for these materials. Letter grading.


236. Deterioration and Conservation of Ancient Building Materials and Sites. (4) Seminar, two hours; laboratory, three hours. Designed for graduate conservation students. Causes and effects of deterioration of archaeological sites and archaeological materials and mosaics. Examination of degradation processes of porous materials, causes and sources of deterioration of buildings and archaeological sites, methodologies for environment monitoring and preventive measures and appropriate conservation materials and techniques for remedial treatments. Letter grading.

238. Deterioration and Conservation of Organic Materials II. (4) Seminar, one hour; laboratory, three hours. Requisites: course 232, Archaeology C210. Designed for graduate conservation students. How to recognize characteristic deterioration problems found in organic materials from archaeological and ethnographic contexts and introduction to typical treatments used historically and currently for these materials. Letter grading.

240. Principles of Preventive Conservation I. (4) Lecture, two hours; laboratory, one hour. Required of graduate conservation students. Primary concern with archaeological objects rather than with structures and sites. Introduction to environmental management and to some practical aspects of preventive conservation. Examination of some underlying issues, such as appropriateness and feasibility of prescriptive guidelines for environmental control. Letter grading.

242. Managing Collections for Conservators. (4) Lecture, two hours; activity, two hours. Designed for graduate conservation students. How conservators work together with curators, collections managers, mount makers, designers, and registrars to permit collections to be both accessed and preserved. Letter grading.

250. Ancient Building Materials and Sites: Technology and Characterization. (4) Seminar, two hours; laboratory, two hours. Designed for graduate conservation students. Study of building materials such as stone, brick, earthenware, lime, and gypsum. Discussion of physical, chemical, and mechanical properties of these building materials and their use in traditional constructions and monumental art in context of their geographical and chronological occurrences and ancient technological developments. Letter grading.


596. Directed Individual Studies. (4) Tutorial, seven hours. Limited to graduate conservation students. Individual guided studies that may include conservation research and/or surveys or treatment projects carried out at Villa laboratories or at local collection or analytical facility. To be arranged with program faculty members, and supervision may be shared between faculty members and outside specialists. Letter grading.

598. M.A. Thesis Preparation. (2 to 12) Tutorial, two hours; laboratory, one hour. Development of research paper on conservation topic or treatment-based investigation that can be theoretical in scope or practically oriented. Letter grading.

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School of Dentistry

UCLA

AO-1111 Dentistry

Box 951668

Los Angeles, CA 90095-1668

(310) 825-9799

http://www.dent.ucla.edu

No-Hee Park, D.D.S., M.S.D., Ph.D., Dean
Scope and Objectives
The UCLA School of Dentistry offers the following courses for general campus students. Dentistry 199 and 199H are individual special studies courses for UCLA undergraduates with definitive research interests and abilities applicable to dentistry. The subject areas include oral biology, clinical research, and dental health policy. Interested students should contact the associate dean of research at (310) 825-6401 to obtain the names and areas of interest of participating School of Dentistry faculty members.

Dentistry
Upper Division Courses
199. Individual Special Studies. (2 to 8) Studies in dentistry and related subject areas appropriate for the training of particular students, with required reading assignments or laboratory work leading to a final oral or written examination. P/NP or letter grading.

199H. Individual Special Studies (Honors). (2 to 8) Studies in dentistry and related subject areas appropriate for the training of particular students, with required paper submitted at end of course in addition to final examination (paper to be of publication quality as judged by course mentor). P/NP or letter grading.

Graduate Courses

M422. Health Policy Issues for Dental Professionals. (2) (Same as Health Services M448.) Lecture, two hours. Requisites: Biostatistics 100A, Epidemiology 100, Health Services 100. Current public health policy issues in dental health, including cost, financing, role of government, and quality assurance. S/U grading.

M433A. Case Studies in Dental Practice. (2) (Same as Health Services M448D.) Lecture, two hours. Provides students with practice methodology for evaluation of dental care settings. Didactic and field experience, providing foundation for evaluation of programs. S/U grading.

441C. Introduction to Health Care. (2) Lecture, two hours. Description and analysis of American dental care system and of historical, ethical, and legal perspectives. Assessment of how dentistry fits within general provision of healthcare services in America, with comparisons to dental care provisions in other countries. S/U grading.

Design | Media Arts
School of the Arts and Architecture
UCLA
2275 Broad Art Center
Box 951456
Los Angeles, CA 90095-1456
(310) 825-9007

fax: (310) 206-6676
e-mail: dmainfo@arts.ucla.edu
http://www.design.ucla.edu

Victoria Vesna, Ph.D., Chair
Professors
Rebecca Allen, M.S.
N. Katherine Hayles, Ph.D.
Erik I. Huhtamo, Licentiate in Philosophy
Robert A. Israel, M.F.A.
Rebeca Mendez, M.F.A.
Vasa V. Milich
Christian A. Moeller, Dipl. – ING
Jennifer J. Steinkamp, M.F.A.
Victoria Vesna, M.F.A., Ph.D.

Professors Emeriti
James W. Bassler, M.A.
William C. Brown, M.A.
Mitsuru Kataoka, M.A.
J. Bernard Kester, M.A.
Lionel J. March, Sc.D.
Alice E. McCluskey, M.A.
John A. Neuhart
Nathan H. Shapiro, Dottore in Architettura

Associate Professors
Mark H. Hansen, Ph.D.
C.E.B. Reas, M.S.

Assistant Professor
Ramesh Srinivasan, Ph.D.

Scope and Objectives
The Department of Design | Media Arts offers the Bachelor of Arts, Master of Arts, and Master of Fine Arts degrees in Design | Media Arts. The B.A. degree focuses on visual communication design, with emphasis on digital media. The M.A. and M.F.A. degrees focus on media arts. These uniquely challenging programs invite students to balance aesthetic sensibility with logical reasoning, formal theories with practical application, and contemporary thought with historical perspective.

The undergraduate program begins with the study of basic design elements and processes: form, color, drawing, letterforms and typography, motion, and interactivity. Historical perspectives and social issues are also introduced. At the upper division level, studio courses explore current uses of interactive media and new directions in visual communication design, including the study of time and motion, as well as virtual form and space in computer-generated environments. Through a balance of courses in theory, criticism, and practice, students develop an understanding of design principles. Most courses are taught as studios of no more than 20 students, which encourages individual growth and fosters a sense of community within the department.

The two-year Master of Arts (M.A.) program explores the history, theory, and criticism of technologically driven media arts and design, with focus on interactive works that span personal expression to public works. The required courses provide a solid foundation in the history of media arts and design and with contemporary work in process. Students interact and collaborate with their M.F.A. peers and acquire a broad interdisciplinary base that allows for many areas of concentration, including the history of technology and issues of representation, as well as training to curate media arts shows.

The two-year Master of Fine Arts (M.F.A.) program fosters mature, professional-quality work utilizing the most current technologies in the field of media arts. The program focuses on developing an individual thesis project that incorporates in-depth research and theoretical exploration of a topic, culminating in a final exhibition of work.

Facilities and equipment in the department enable students to create work in two, three, and four dimensions. They expand opportunities for students to develop interactive media applications in a networked environment and advanced computer graphics. The department's equipment combines high-end PC and Macintosh computers with facilities for sound and video editing.

The Department of Design | Media Arts reserves the right to hold for exhibition purposes examples of any work done in classes and to retain for the permanent collection of its galleries such examples as may be selected.

Undergraduate Study
Design | Media Arts B.A.
Preparation for the Major
Required: Design | Media Arts 10, 11A, 11B, 21, 22, 23, 24, 25, 28.

The Major
Required: Nine upper division courses, including Design | Media Arts C101, 104, 153A, 154A, 161A, four additional courses selected from C152A through 162, and a minimum of 12 additional upper division elective units selected from C106 through 199. By petition and with approval of the faculty advisor, nonmajor courses may be applied toward major electives.

It is recommended that students have each term's program approved by the departmental advisor.

Note: Consult the Schedule of Classes for courses limited to majors only.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Design | Media Arts offers Master of Arts (M.A.) and Master of Fine Arts (M.F.A.) degrees in Design | Media Arts.
Design | Media Arts

Lower Division Courses

1. Introduction to Digital Photography Workshop. (4) Studio, 30 hours. Limited to high school students. Basic and advanced photography skills using digital cameras. Alteration/manipulation of photos using techniques from latest version of Adobe Photoshop. Uploading of images on Web or in print. Production of digital and print portfolio of student work. Field trips to surrounding West Los Angeles locales to shoot photos. May be repeated for credit without limitation. Offered only as part of Summer Institute. P/NP grading.

2. Introduction to Web Design Workshop. (1) Studio, 30 hours. Limited to high school students. How Web design works: basic hand coding and creation of personalized homepages with Macromedia Director and Flash software. Photograph scanning and manipulation of images in Adobe Photoshop to incorporate student Web designs. Critique of various Web pages to analyze successful use of Web design and understand enormous potential of Internet. May be repeated for credit without limitation. Offered only as part of Summer Institute. P/NP grading.

3. Game Design and Three-Dimensional Animation Workshop. (4) Studio, 30 hours. Limited to high school students. Design and creation of student digital games, beginning with storyboard and learning how to bring game design to life. Creation and animation of traditional game characters and objects by using Maya, same software used by professional game developers. Analysis of popular games to understand what is involved in producing modern games. Introduction to professional game designer to help guide students in creating their own game designs. May be repeated for credit without limitation. Offered only as part of Summer Institute. P/NP grading.

4. Introduction to Digital Video Workshop. (1) Studio, 30 hours. Limited to high school students. Creation of storyboard for short documentary, commercial, or music video. Students shoot and edit their own work by learning fundamentals of preproduction and postproduction using latest digital software, Adobe Premiere and After Effects, to create their work. Burn-down of DVD of finished production. Visits from professional video producers to help guide students in creating their own videos. May be repeated for credit without limitation. Offered only as part of Summer Institute. P/NP grading.

5. Art, Science, and Technology. (5) Lecture, three hours; discussion, one hour; outside study, 11 hours. Exploration and survey of cultural impact of scientific and cultural innovations, technology-driven art inspired by science, and arts/science collaborative projects. Introduction to vast array of cutting-edge research taking place on campus; scientific guest lecturers. Emphasis on art projects that use technology and respond to new scientific concepts. P/NP or letter grading.

11B. Design History II. (5) Lecture, three hours; outside study, 12 hours. Enforced requisite: course 11A. Development of ideas and projects in design, with focus on graphic design primarily in the U.S. from 1900 to 1990. Beginning with proposition that there is no one way to practice or analyze contemporary design, lectures focus on evolution of range of issues that include role of designer, practice of design, and consumption of design. Design as art, service, science, politics, and other definitions of practice — and investigation of physical realizations of those practices as way to understand culturalities of design today. P/NP or letter grading.


22. Form. (4) Studio, six hours. Interrelation of two-dimensional surfaces and three-dimensional forms with traditional and experimental materials as a foundation for creativity; origination and solution of problems. P/NP or letter grading.

25. Typography. (4) Lecture/studio, four hours; lab work, 12 hours. Focus on three typographic basics: letter, text, and grid. Introduction to fundamentals of typography. Assignments designed to develop understanding of form, scale, and shape of letters as single elements and as texture in layout. Emphasis on grid (structure and layout) and information hierarchy to create successful typographic messages. P/NP or letter grading.

26. Motion. (4) Studio, six hours. Introduction and integration of traditional design tools, camera, and digital technologies for application to visual thinking and fundamentals of design. P/NP or letter grading.

28. Interaction. (4) Studio, six hours; outside study, six hours. Introduction to concept of interactivity and field of media art that follows history of computer as media for artistic exploration in relation to print, animation, and interactivity. Discussion of potential and ideas related to interactivity, with focus on required skills for creating interactive work. Development of programming skills in service of creating examples of media art. Concepts and skills taught enhance student ability to excel in future courses about Internet, animation, interactive media, and game design. Discussion and readings on four themes — form/programming, motion, interactivity/programming, and interface. P/NP or letter grading.

Upper Division Courses

C101. Media Arts: Introduction. (5) Formerly numbered 101.) Lecture, three hours; outside study, 12 hours. Limited to and required of Design | Media Arts majors. Survey of media arts, their history, aesthetics, and cultural roles from the late-19th century to the present. Investigation of media arts within broad historical and cultural framework. Discussion of parallels and links with other cultural forms, including history of technology and various art and design practices. Concurrently scheduled with course C201. P/NP or letter grading.

102. Introduction to Digital Image Creation and Manipulation. (5) Lecture, three hours; outside study, 12 hours. Overview of digital imaging technologies and its application in design, media arts, and entertainment through exploration of different content-based points of view. P/NP or letter grading.

104. Design and Society: Society and Design. (5) Lecture, three hours; outside study, 12 hours. Preparation: completion of preparation for major courses. Overview to nonmajors with consent of instructor. Historical and thematic examination of how design affects society from classical antiquity to the 20th century in order to understand historically how each type and application of design related to sociological context in which it existed. Consideration of how various design practices and techniques related to each other. P/NP or letter grading.

C106. Media Studies. (5) Lecture, three hours; outside study, 12 hours. Preparation: completion of preparation for major courses. Overview and contextual understanding of influences and origins of media, communication paradigms, and technologies of past 150 years through reading and discussion of theoretical and historical works. Concurrently scheduled with course C206. Letter grading.

C141. Programming Computer Applications in Architecture and Urban Design. (4) Lecture, three hours; outside study, nine hours. Introductory course in logic of computing through experiments in computer graphics programming. Investigation of both procedural and object-oriented programming paradigms. Concurrently scheduled with course CM241. P/NP or letter grading.

C142. Introduction to Geometric Modeling. (4) Lecture, three hours; outside study, nine hours. Required course, concurrent course C141, Survey of three-dimensional modeling, emphasis on implementation of three-dimensional solids constructions and editing operations. Basic representations and operations on shapes and solids. Concurrently scheduled with course CM242. P/NP or letter grading.

C143. User Interaction Techniques in Design. (4) Lecture, three hours; outside study, nine hours. Required course: C141 or knowledge of C++ programming language. Programming techniques for implementing modern computer-user interfaces, specifically looking at issues relevant to building software tools for computer-aided problem solving in architecture and design. Concurrently scheduled with course CM243. P/NP or letter grading.

150A-150B. Design | Media Arts Brand Laboratory. (5-5) Studio, six hours; outside study, nine hours. Enforced requisites: courses 25, 15A. Development of design research and strategy in areas of organization, culture, and identity. Study of how complex organizations are defined by their public identities and how those identities can be strategized and designed. Topics include following phases of brand identity development: research, brand strategy and planning, communication strategy, implementation guidelines, and development of communication material in all appropriate media (Web, print, and environment). P/NP or letter grading.

C152A. Programming Media I. (5) Studio, six hours; outside study, nine hours. Enforced requisite: course 25. Limited to majors. Introduction to computer programming within context of art and design. Exploration of conceptual space enabled by electronic media through exercises, presentations, discussions, and critiques. Weekly exercises balance concept and technique to reveal potential of computer as medium and tool. Experience with programming basics includes procedural and object-oriented programming, two- and three-dimensional graphics, file I/O, color models, and image processing. Concurrently scheduled with course C252A. Letter grading.

C152B. Programming Media II. (5) Studio, six hours; outside study, nine hours. Enforced requisites: courses 25, 15A. Development of design research and strategy in areas of organization, culture, and identity. Study of how complex organizations are defined by their public identities and how those identities can be strategized and designed. Topics include following phases of brand identity development: research, brand strategy and planning, communication strategy, implementation guidelines, and development of communication material in all appropriate media (Web, print, and environment). P/NP or letter grading.

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153A. Video I. (Formerly numbered 153.) Studio, six hours; outside study, nine hours. Preparation: completion of major courses. Use of video technology (video systems, cameras, displays, editing, and storage) to integrate image, sound, time, and motion. Emphasis on expression, continuity, and sequential patterns for video communication. P/NP or letter grading.

153B. Video II. (Formerly numbered 154.) Studio, six hours; outside study, nine hours. Prerequisite: course 153A. Use of video technology to create digital short film from design perspective. Emphasis on design theories behind production design, lighting, staging, camera movement and positioning, editing, sound, and marketing. May be repeated once for credit. P/NP or letter grading.

154A. Communication Design I. (Formerly numbered 156.) Studio, six hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisite: course C101 or 104 or C106. Focus on relationship of type to content, image, and material. Acquisition of knowledge of and sensitivity to typography in context of complex communication problems in print and digital media. Research, concept and content development, and articulation of methodology for visualization. P/NP or letter grading.

154B. Communication Design II. (Formerly numbered 157.) Studio, six hours; outside study, nine hours. Enforced requisite: course 154A. Focus on developing compelling messages and appropriate communication strategies. Development of coherent verbal and visual systems, research, concept and content development, and articulation of methodology for visualization across various media. May be repeated once for credit. P/NP or letter grading.

155. Dynamic Typography. (Formerly numbered 158.) Studio, six hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106, and 154A. Integration of print and digital information technology, with continued emphasis on fully integrating visual vocabulary with mastery of conceptual and creative procedures. P/NP or letter grading.

156A. Three-Dimensional: Design of Virtual Form. (Formerly numbered 193.) Seminar, six hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106, and 154A. Integration of virtual and multimedia environments, with continued emphasis on fully integrating visual vocabulary with mastery of conceptual and creative procedures. P/NP or letter grading.

156B. Three-Dimensional: Time and Motion in Virtual Space. (Formerly numbered 194.) Lecture, three hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106, and 154A. Extension of study of virtual three-dimensional form to include motion, time, and rhythm. Storyboard development, modeling of articulated characters and objects, virtual camera movement, and motion capture. May be repeated once for credit. P/NP or letter grading.

157A. Design for Environmental Communication. (Formerly numbered 195.) Seminar, six hours; studio, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106, and 154A. Introduction to environmental communication design through experience in the design studio. Focus on aesthetic issues concerning creation of design elements. Includes intersection of spatial dimension, human/environmental scale, motion, and time. Overview of history, technologies, and future of environmental graphics. P/NP or letter grading.

157B. Design for Environmental Communication II. (Formerly numbered 196.) Seminar, six hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106, and 154A. Extension of study of environmental design through experience in the design studio. Focus on aesthetic issues concerning creation of design elements. Includes intersection of spatial dimension, human/environmental scale, motion, and time. Overview of history, technologies, and future of environmental graphics. P/NP or letter grading.

158. Design for Environmental Communication. (Formerly numbered 193.) Seminar, six hours; studio, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106, and 154A. Introduction to environmental communication design through experience in the design studio. Focus on aesthetic issues concerning creation of design elements. Includes intersection of spatial dimension, human/environmental scale, motion, and time. Overview of history, technologies, and future of environmental graphics. P/NP or letter grading.

159. Senior Project. (Formerly numbered 197.) Seminar, six hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106, and 154A through 158. Limited to studio visits organized and conceptualized by senior students. Positonal research and development of design and production of body of work. May be repeated once for credit. Letter grading.

160. Special Topics in Area Studies. (Formerly numbered 198.) Seminar, six hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106. Selected topics in design and media arts explored through variety of approaches which may include projects, readings, discussion, research papers, and oral presentations. Topics to be announced in advance. May be repeated for credit with consent of adviser. S/U or letter grading.

161A. Creative Internet. (Formerly numbered 200.) Studio, six hours; outside study, nine hours. Preparation: completion of preparation for major courses. Enforced requisites: courses C101 or 104 or C106. Selected topics in conceptual and content development, and articulation of methodology for visualization through various media. May be repeated once for credit. P/NP or letter grading.

161B. Dynamic Internet. (Formerly numbered 201.) Studio, six hours; outside study, nine hours. Prerequisite: course 161A. Intermediate-level course exploring creative production through online environments to familiarize students with the conceptual and visual strategies used in the artistic studio and project development integrated into all aspects of the major. Letter grading.

161C. Networked Public Spaces. (Formerly numbered 202.) Studio, six hours; outside study, nine hours. Prerequisites: courses 161A, 161B. Advanced-level course exploring creative production through online environments to familiarize students with the conceptual and visual strategies used in the artistic studio and project development integrated into all aspects of the major. Letter grading.

162. Introduction to Sound, Recording, and Audio Design Techniques. (Formerly numbered 203.) Seminar, six hours. Enforced requisites: courses C101 or 104 or C106, and 154A. Limited to majors. Basic concepts pertaining to sound and digital audio; exploration of how sound impacts human perception. Emphasis on learning practical techniques in creating original sound assets for integration with other media. Topics include physics of sound, DAW (Digital Audio Workstation), recording tools and techniques, electronic sound synthesis, MIDI (Musical Instrument Digital Interface), digital audio formats and standards, how we hear, sound and impact on human orientation. Basic understanding of how to design and execute sound designs. Students learn techniques to create original sound design assets at an intermediate level. Letter grading.

163. Topics in Design. (2 to 8) Seminar, four hours. Examination by faculty members of specific problems relevant to design theory and performance. Topics announced in advance. May be repeated for credit with consent of adviser. Maximum 16 units. Letter grading.

164. Design Processes. (5) Lecture, four hours; outside study, nine hours. Enforced requisites: courses C101 or 104 or C106, and 154A. Advanced-level course exploring design through experience in the design studio. Focus on aesthetic issues concerning creation of design elements. Includes intersection of spatial dimension, human/environmental scale, motion, and time. Overview of history, technologies, and future of environmental graphics. P/NP or letter grading.

165. Mathematical Techniques in Design and Media Arts I. (4) Lecture, three hours. Designed for graduate design | media arts students. Overview of mathematical techniques used in design and computation theory. Sets, relations, posets, lattices, Boolean and Heyting algebras, formal languages and production systems. May be repeated for credit with consent of adviser. S/U or letter grading.

166. Mathematical Techniques in Design and Media Arts II. (4) Lecture, three hours. Designed for graduate design | media arts students. Overview of mathematical techniques used in design and computation theory. Sets, relations, posets, lattices, Boolean and Heyting algebras, formal languages and production systems. May be repeated for credit with consent of adviser. S/U or letter grading.
229. Advanced Seminar: Architectonics. (4) Seminar, three hours. Requisites: courses CM221, CM222, CM223, and CM226. Investigation in depth of an active research question in architectonics. Topics may focus on some aspect of proportion, symmetry, compati- bility, and order from historical and/or formal point of view. May be repeated for credit with consent of adviser. Letter grading.

CM241. Programming Computer Applications in Architecture and Urban Design. (4) (Same as Architecture and Urban Design M227A.) Lecture, three hours; outside study, nine hours. Introductory course in logic of computing through experiments in computer graphics programming. Investigation of both procedural and object-oriented approaches to programming. May be repeated for credit with consent of adviser. Concurrently scheduled with course C141. S/U or letter grading.

CM242. Introduction to Geometric Modeling. (4) (Same as Architecture and Urban Design M227B.) Lecture, three hours; outside study, nine hours. Requisite: course CM241. Survey of geometric and three-dimensional modeling, with emphasis on implementa- tion of three-dimensional solids constructions and editing operations. Representations of objects in terms of curves, surfaces, and solids and relationships on shapes and solids. May be repeated for credit with consent of adviser. Concurrently scheduled with course C142. S/U or letter grading.

CM243. User-Interaction Techniques in Design. (4) (Same as Architecture and Urban Design M227C.) Lecture, three hours; outside study, nine hours. Requisite: course CM241 or knowledge of C++ programming language. Programming techniques for implementing computer-aided design and user interfaces, specifically looking at issues relevant to building software tools for computer-aided problem solving in architecture and design. May be repeated for credit with consent of adviser. Concurrently scheduled with course C143. S/U or letter grading.

249. Advanced Seminar: Computer Applications. (4) Seminar, three hours. Requisite: course C141 or CM241 or Architecture and Urban Design M227A. Survey of various roles computers may play in design: development of new applications. Topics include representation, search, evaluation functions, and communication, and are repeated for credit with consent of adviser. S/U or letter grading.

C252A. Programming Media I. (5) Studio, six hours; outside study, nine hours. Limited to majors. Introduc- tion to computer programming within context of art and design. Explores computer concept space enabled by electronic media through exercises, presentations, discussions, and critiques. Weekly exercises balance concept and technique to reveal potential of computer as medium and tool. Experience with programming includes procedural and object-oriented program- ming, two- and three-dimensional graphics, file I/O, color models, and image processing. Concurrently scheduled with course C152A. Letter grading.

C252B. Programming Media II. (5) Studio, six hours; outside study, nine hours. Requisite: course C252A. Limited to majors. Computer programming to develop dynamic interactive art and design. Explo- ration of conceptual space to be enabled by electronic media and through exercises, presentations, discussions, and critiques, culminating in self-motivated final project. Prototyping with diverse software materials and advanced programming techniques. May be re- peated once for credit. Concurrently scheduled with course C152B. Letter grading.

254. Dynamic Media. (4) Lecture/studio, six hours. Designed for graduate design I media arts majors. Emphasis on interaction, dynamics, digital, and linear waves through integration of typographic, photography, video, graphics, animation, and sound. May be re- peated for credit with consent of adviser. Letter grading.


258. Current State of Technology. (4) Lecture/stu- dio, six hours. Designed for graduate design I media arts majors. Introduction to state-of-the-art software programs and techniques necessary for design of interac- tive, computer-based media. May be repeated for credit with consent of adviser. Letter grading.

M259. Data and Media Arts. (4) (Same as Statistics M237.) Studio, six hours. Requisites: courses 254, 256. Through expanding reach of telecommunica- tion networks, there is a general advancement of data col- lection technologies, almost every aspect of our lives can be "rendered" in data. Consumption of use of data in creation of media art and examination of each step in process of data collection, analysis, and repre- sentation. Topics include databases and data warehousing, exploratory analysis and visualization, clustering and pattern finding, sampling, and various data mining techniques. Exploration, through discussions, of fundamental concepts such as complexity and randomness. Techniques that organize data, search for patterns, and create meaningful and/or expressive repre- sentations. May be repeated for credit with consent of adviser. Letter grading.


270. Media Arts Theory. (5) Lecture, three hours. Enforced requisite: course C206. Media arts is rapidly emerging phenomenon within wider field of contem- porary art, yet has been theorized fairly little. While there are numerous books chronicling its past and present, there is much less writing about its theoretical and aesthetic underpinnings. Uncertain- ties begin with concept itself: what is actually meant by media arts? Letter grading.

271. Media Archaeology. (5) Lecture, three hours. Enforced requisite: course C206. Media archaeology is emerging approach within media studies, aiming to excavate little known or misrepresented media cultur- al phenomena of past, shedding light on apparatus that still remain present and filtered or suppressed by he- gemonic versions of media history. Letter grading.

272. Introduction to Art I. Science. (5) Seminar, three hours. Enforced requisite: course C206. For past 50 years artists have increasingly moved from being inspired by scientific innovation and discovery to actually collaborating with scientists and even re- siding and working in science laboratories. History of science in relation to artists' interpretation of scientific work to current works that are created in response to recent developments in biotechnology and nanotechno- logy. Letter grading.

287. Form and Structure. (2 to 8) Studio or studio/ seminar, to be arranged. Exploration of form, with em- phasis on expressive experimentation in materials and processes. May be repeated for credit with consent of adviser. Letter grading.

289. Special Topics in Design. (2 to 8) Seminar, to be arranged. Examination of specific problems rele- vant to design theory and performance. Topics an- nounced in advance. May be taken for a maximum of 8 units. Letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice person- nel employment as teaching assistant, associate, or fellow. Teaching apprenticeeship under active guide- ance and supervision of regular faculty member re- sponsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

401. Design I Media Arts Studio I. (2 to 8) Studio, to be arranged. Limited to first-year graduate design I media arts students. Introduction to advanced exper- imentation and integration of media, technologies, and concepts, with emphasis on development of design work of individual graduate students. May be repeat- ed for credit with consent of adviser. Letter grading.

402. Design I Media Arts Studio II. (2 to 8) Studio, to be arranged. Requisites: courses C206, 254, 256, 401. Continuation of advanced design research based on experimentation integrated into disciplined approach to design process. Focus on development of comprehensive body of work that forms basis of M.F.A. thesis exhibition. May be repeated for credit with consent of adviser. Letter grading.

495. Teaching Assistant Training Practicum. (2) Seminar, three hours; outside study, three hours. Fo- rum for first-year teaching assistants for discussion and exploration of teaching pedagogy and classroom mechanics. Problems and practices of teaching de- sign at college level, as well as role of teaching assis- tants within department. Designed to help new teach- ing assistants develop teaching skills and to orient them to department and University policies and re- sources. May not be applied toward degree require- ments. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. May be repeated for credit with consent of department. S/U grading.

598. M.A. Research and Thesis Preparation. (4 to 12) Tutorial, to be arranged. Designed for second-year M.A. students. May not be applied toward mini- mum graduate course or unit requirements for M.A. degree. May be repeated for credit. S/U grading.
College of Letters and Science and the School of the Arts and Architecture (e.g., anthropology, English, history, linguistics, psychology, and world arts and cultures) to provide a critical framework for questioning and connecting topics related to disability in these established disciplines.

Through a core course, carefully selected electives, a required two-term internship or research apprenticeship, and a senior capstone project, students in the minor obtain both breadth and depth in their understanding of the concept and practical implications of disability.

**Undergraduate Study**

**Disability Studies Minor**

To enter the minor, students must (1) have an overall grade-point average of 2.7 or better and (2) submit an application essay supporting their interest in pursuing the minor. To help plan the internship and course schedule, students are expected to select faculty sponsors with relevant expertise in the academic or service area related to disability studies in which they intend to concentrate. Applications are available at and must be filed with the College Academic Counseling Office, A316 Murphy Hall. For information and questions, e-mail disabilitystudies@college.ucla.edu or call (310) 825-3223.

**Required Upper Division Courses** (29 to 33 units): (1) Disability Studies 101, (2) two elective courses selected from Anthropology 147, M168, Community Health Sciences 100, 132, Education 132, English 180, Gerontology M119O, M140, History 179A, Honors College 142, Linguistics C135, Nursing M158, Psychiatry and Biobehavioral Sciences M180, Psychology M119O, 129C, 129F, 133I, M140, M180, Social Welfare M140, 162, Sociology 148, Spanish 165SL, (3) two-term internship or research apprenticeship — Disability Studies 195A and 195B, or 196A and 196B — in a community-based agency that provides services or support for persons with disabilities or in an institution or agency at the local, state, or federal level responsible for policy on disability issues or collaboration on a research project focused on an area of disability studies scholarship (a department-based 195 or 196 for two terms may be substituted by petition approved by the faculty advisory committee); students also enroll concurrently in Disability Studies 194 during one term of the internship/research, and (4) disability studies capstone requirement in which students enroll in either Disability Studies 198 or 199 or an approved department 198 or 199 for 6 to 8 units and complete a senior project or honors thesis on a disability studies topic.

No more than one upper division course may be applied toward both this minor and a major or minor in another department or program. All minor courses (except internships) must be taken for a letter grade, with an overall grade-point average of 3.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Disability Studies Upper Division Courses**

101. Perspectives on Disability Studies. (5) Seminar, three hours. Creation of critical framework for understanding concept of disability from sampling of disciplinary perspectives. Organized around productive and central tension in disability studies — between disability as lived subjective experience that is both individual and communal, and disability as objective, medical, legal, and sometimes stigmatized category. Students encouraged to make connections between units and to create their own perspectives on disability in field that defines itself by how it changes. Letter grading.

194. Reflection and Analysis Seminar. (2) Seminar, two hours. Corequisite: course 195A or 195B. Required of students pursuing Disability Studies minor. Integration of off-campus work with academic theories and concepts within field of disability studies. Students report on their internship experiences and analyze relationship between their internship and issues of policy, ethics, systemic responses to community needs, or personal and intellectual transformations. Letter grading.

195A-195B. Community Internship in Disability Studies I, II. (4-4) Tutorial, one hour; fieldwork, eight hours. Limited to juniors/seniors. Designed to provide academic context for off-campus work in one of three types of government or nonprofit settings: (1) direct service to disabled individuals or their families, (2) research related to disability studies, or (3) work on policy issues related to disability studies. Individual contract with supervising faculty member required. Letter grading. 195A. Students meet on regular basis with faculty sponsor to construct series of reading assignments that examine disability studies issues related to meaningful work at internship site, including analysis of issues such as history and development of public funded services, political policymaking process, legislation that organizes work of organization, ethics, or other interdisciplinary contemporary issues. 195B. Students meet on regular basis with faculty sponsor to construct series of reading assignments to be used in final proposal for capstone research project related to meaningful work at internship site.


198. Honors Research in Disability Studies. (6 to 8) Tutorial, one hour. Limited to juniors/seniors. Required capstone course to Disability Studies minor for students pursuing College Honors. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

199. Senior Project in Disability Studies. (6 to 8) Tutorial, one hour. Limited to juniors/seniors. Required capstone course to Disability Studies minor. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. Letter grading.

**Scope and Objectives**

The disciplines of geology, geochemistry, geophysics, paleobiology, and space physics are concerned with the structure and evolution of the solar system, Earth, and life: essentially, the physical environment and its interaction with biota. These studies entail the application of fundamental physics and chemistry to a broad subject area stretching from astronomy at one extreme to biology at the other. Areas which are emphasized at UCLA include isotopic and trace element analyses, petrology and mineralogy, sedimentology, paleobiology.
and organic geochemistry, structural geology and tectonophysics, seismology, the Earth's interior, planetary physics, and space plasmas. The variety of techniques applied lead to several concentrations within the five main disciplines. Students completing their studies with a B.S. or M.S. degree usually are employed by industry. Many are employed in environment-related activities; others are involved in mineral or oil exploration or in construction. Students attaining the Ph.D. degree are usually employed by universities or governmental and industrial research groups.

The Bachelor of Arts program in Earth and Environmental Science is intended to provide a broad background in Earth sciences that is especially appropriate for students intending to become K through 12 teachers in Earth, physical, or life sciences. It may also be of interest to students who plan careers in environmental sciences, law, government, business, journalism, public health, medicine, or dentistry. Those who intend to become professional geologists, geochemists, or geophysicists and/or to continue into graduate studies in Earth or space sciences are urged to pursue one of the B.S. degrees.

Undergraduate Study

Geology B.S.

Preparation for the Major

Required: Earth and Space Sciences 1 or 1F or 1H, 1A, 1B, 51, 51B, 61; Chemistry and Biochemistry 14A, 14B, 14CL, or 20A, 20B, and 20L; Life Sciences 1; Mathematics 3A, 3B, and 3C, or 3A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C; Civil and Environmental Engineering 15 or Mechanical and Aerospace Engineering 20 or Program in Computing 10A or knowledge of Fortran or C++ demonstrated by examination. All courses must be passed with a minimum grade of C−.

Transfer Students

Transfer applicants to the Geology/Engineering Geology major with 90 or more quarter units (60 semester units) must have completed one introductory Earth sciences course, two general chemistry courses with laboratory for majors, and one year of calculus. One introductory biology course with laboratory, one year of calculus-based physics with laboratory, and one introductory computer programming course are recommended.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Earth and Space Sciences 103A, 103B, 111, 112, 116, 121, 133, 135, and 137, 139, C141, 150, 152.

Geology/Paleobiology B.S.

Preparation for the Major

Required: Earth and Space Sciences 1 or 1F or 1H, 3, 16 or 17, 51A, 51B, 61; Chemistry and Biochemistry 14A, 14B, 14CL, and 14CL, or 20A, 20B, 20L, 30A, and 30L; Life Sciences 2, 3, 4; Mathematics 3A, 3B, and 3C, or 3A, 31B, and 32A; Physics 1A, 1B, and 4AL, or 6A and 6B. All courses must be passed with a minimum grade of C−.

Transfer Students

To be admitted as Geology/Paleobiology majors, transfer students with 90 or more quarter units (60 semester units) must have completed one introductory Earth sciences course, one introductory biology course with laboratory, two general chemistry courses with laboratory for majors, and one year of calculus. One calculus-based physics course with laboratory is recommended.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major


Geophysics/Applied Geophysics B.S.

Preparation for the Major

Required: Earth and Space Sciences 1 or 1F or 1H, 51A, 51B, 61; Chemistry and Biochemistry 20A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C, 4AL, 4BL; Civil and Environmental Engineering 15 or Mechanical and Aerospace Engineering 20 or Program in Computing 10A or knowledge of Fortran or C++ demonstrated by examination. All courses must be passed with a minimum grade of C−.

Transfer Students

Transfer applicants to the Geophysics/Applied Geophysics major with 90 or more quarter units (60 semester units) must have completed one introductory Earth sciences course, one general chemistry course with laboratory for majors, and one year of calculus. A second year of calculus, one year of calculus-based physics with laboratory, and one introductory computer programming course are recommended.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major


Geophysics/Geophysics and Space Physics B.S.

Preparation for the Major

Required: Earth and Space Sciences 1 or 1F or 1H; 9; Chemistry and Biochemistry 20A, 20B, 20L; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C, 4AL, 4BL, 17, 18L; Civil and Environmental Engineering 15 or Mechanical and Aerospace Engineering 20 or Program in Computing 10A or knowledge of
Fortran or C++ demonstrated by examination. All courses must be passed with a minimum grade of C–.

Transfer Students
Transfer applicants to the Geophysics/Geophysics and Space Physics major with 90 or more quarter units (60 semester units) must have completed one introductory Earth sciences course, one general chemistry course with laboratory for majors, and one year of calculus. A second year of calculus, one year of calculus-based physics with laboratory, and one introductory computer programming course are recommended.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Earth and Space Sciences 134, M140, 152, 153, 154, 155; Physics 105A, 105B, 110A, 110B, 112, 131; two upper division courses from the physical sciences, engineering, or mathematics (must be approved by the undergraduate adviser).

Students planning to do graduate work in specialized careers in Earth sciences should, when possible, take appropriate courses in departments outside the major in addition to those already specified. Suggested graduate programs for various fields of emphasis are available in the Student Affairs Office, 3683 Geology, and provide guidelines in selecting upper division courses.

Qualified undergraduate students may, with consent of their advisers and the instructor, take Earth and Space Sciences graduate courses numbered from 200A through 248.

Earth and Environmental Science B.A.

Preparation for the Major
Required: Earth and Space Sciences 1 or 1F or 1H, 5, 61; Chemistry and Biochemistry 14A, 14B, and 14BL, or 20A, 20B, and 20L; Life Sciences 1; Mathematics 3A, 3B, and 3C, or 31A and 31B; Physics 1A, 1B, and 4AL, or 6A, 6B, and 6C, or 6AH, 6BH, and 6CH. All courses must be passed with a minimum grade of C–.

Transfer Students
Transfer applicants to the Earth Sciences major with 90 or more quarter units (60 semester units) must have completed one introductory Earth sciences course, two general chemistry courses with laboratory for majors, and one year of calculus. One introductory biology course with laboratory and one year of calculus-based physics with laboratory are recommended.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Three courses from Earth and Space Sciences 111, 112, 116, 119; three additional upper division courses from Earth and Space Sciences other than 100; three courses from Geography 100 and 100A, 101 and 101A, 104, 105 and 105A, M107, M109, 110, 120, 121, 124, 125, M127, 131.

Honors in Geology or Geophysics
The honors program in geology or geophysics is intended to provide exceptional students an opportunity for advanced research and study under the tutelage of a faculty member. Requirements for admission to candidacy are the same as those required for admission to the Honors Programs of the College of Letters and Science. Qualified students wishing to enter the program must submit a completed application form to the departmental honors committee near the end of their junior year. Honors in geology or geophysics are awarded at graduation to those students who have a cumulative grade-point average of 3.5, have completed at least 90 graded units at the University of California, and have completed a minimum of two terms (8 units) of Earth and Space Sciences 198 leading to the preparation of a satisfactory honors thesis. Students demonstrating exceptional ability are awarded highest honors.

Geochemistry Minor
Geochemistry emphasizes use of minerals, magmas, elements, and isotopes to date events, determine rates, and track matter through its cycles in the planets and biosphere. These skills are valuable in environmental and natural-resource work and anthropology, as well as in studying the histories of the planets.

To enter the Geochemistry minor, students must have an overall grade-point average of 2.0 or better.

Required Lower Division Courses (12 units): Earth and Space Sciences 1, 51A, 51B.
Required Upper Division Courses (20 to 26 units): Two courses from Earth and Space Sciences 103A, 103B, 103C, 106 or 107 or 109 (whichever course was not applied above), 152, 153.
All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmqrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Earth and Space Sciences offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Geology, Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Geophysics, and Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Geophysics and Space Physics.
Earth and Space Sciences

Lower Division Courses

1. Introduction to Earth Science. (4) Lecture, three hours; laboratory, two hours. Not open to students with credit for or currently enrolled in course 1F, 1H, or 100. Elements of Earth science; study of Earth materials; nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology. Introduction to field study of selected problems in geologic history. P/NP or letter grading.

1F. Earth Science with Fieldwork. (5) Lecture, three hours; laboratory, two hours; two field days. Not open to students with credit for or currently enrolled in course 1, 1H, or 100. Elements of Earth science; study of Earth materials; nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology. Introduction to field study of selected problems in geologic history. P/NP or letter grading.

1H. Fundamentals of Earth Science. (4) Lecture, three hours; laboratory, two hours; two field days. Not open to students with credit for or currently enrolled in course 1, 1H, or 100. Elements of Earth science; study of Earth materials; nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology. Introduction to field study of selected problems in geologic history. P/NP or letter grading.

2. Geologic Maps. (4) Lecture, three hours; discussion, two hours; field trips. Geologic hazards and natural resources of greater Los Angeles region. Topics include Los Angeles geologic hazards such as earthquakes, landslides, and floods; Southern California oil fields; gold and gem mining in the region; local beach processes; and Los Angeles water resource problems. Field trips to San Andreas fault, California aqueduct, active landslides, and historic gold mines. P/NP or letter grading.

3. Perils of Space: Introduction to Space Weather. (4) Lecture, three hours; discussion, two hours; field trips. Geologic hazards and natural resources of greater Los Angeles region. Topics include Los Angeles geologic hazards such as earthquakes, landslides, and floods; Southern California oil fields; gold and gem mining in the region; local beach processes; and Los Angeles water resource problems. Field trips to San Andreas fault, California aqueduct, active landslides, and historic gold mines. P/NP or letter grading.

4. Blue Planet: Introduction to Oceanography. (5) Lecture, three hours; laboratory, two hours. Not open for credit to students with credit for or currently enrolled in course 1F, 1H, or 100. History of life on Earth as revealed through the fossil record. P/NP or letter grading.

5. Exploring Mars, the Red Planet. (4) Lecture, three hours; laboratory, two hours; field trips. Meteors and the solar system; meteoroids and comets; geologic exploration of Mars. P/NP or letter grading.

6. Earthquakes. (5) Lecture, three hours; laboratory, six hours. Preparation: one introductory high school or college physics course. Enforced requisites: course 1 or 1H. Recommended: completion of chemistry requirements. Principles of optical crystallography. Utilization of optical properties to identify nonopaque minerals in immersion media and in thin section. Study of common igneous, sedimentary, and metamorphic rocks in thin section.

7. Solar System and Planets. (4) Lecture, three hours; laboratory, two hours; one field trip. Designed for nonmajors. Exploration of biology, evolution, and extinction of dinosaurs and other plants and animals. P/NP or letter grading.

8. Natural History of Southern California. (5) Lecture, two hours; laboratory, three hours; five field weekends. Identification, distribution, diversity of native plants and animals; identification and interpretation of rocks, minerals, and geologic features and geologic history of physiographic regions of Southern California. Emphasis on field-based learning. P/NP or letter grading.

9. Earthquakes. (5) Lecture, three hours; discussion, one hour; two field days. Origin, evolution, distribution, and future of life on Earth and in universe, parallel major scientific initiative of NASA. Course material primarily from planetary and Earth science, paleontology and biology, astronomy, chemistry, and physics, with relatively little from mathematics. P/NP or letter grading.

10. Earthquakes. (5) Lecture, three hours; laboratory, six hours. Preparation: one introductory high school or college physics course. Enforced requisites: course 1 or 1H. Recommended: completion of chemistry requirements. Principles of optical crystallography. Utilization of optical properties to identify nonopaque minerals in immersion media and in thin section. Study of common igneous, sedimentary, and metamorphic rocks in thin section.

11. Stratigraphic and Field Geology. (6) Lecture, two hours; laboratory, three hours; fieldwork, one day per week. Enforced requisites: course 51B. Principles of stratigraphy; mapping of a selected area; preparation of a geologic report.


13. Biological and Environmental Geochemistry. (4) Lecture, three hours. Enforced requisites: Chemistry 14A and 14B (or 20A and 20B), Mathematics 3A, 3B, and 3C (or 31A and 31B). Recommended: at least one lower division Earth and space sciences course. Designed for junior/senior life and physical sciences students. Study of chemistry of Earth's surface environment and interplay between biology, human activity, and geology. Introduction to origin and composition of Earth, including atmosphere, crust, and hydrosphere. Examination of how these reservoirs are affected by biological cycles and feedbacks to biological evolution and diversity. Local and global-scale movements of biologically important elements like carbon, nitrogen, and phosphorus. Concurrently scheduled with course C213. P/NP or letter grading.

14. Paleontology. (4) Lecture, three hours; laboratory, six hours; field trips. Enforced requisites: Life Sciences 1 or 2. Review of major groups of fossil organisms and their significance in geology and biology. P/NP or letter grading.

15. Sedimentary Petrology. (6) Lecture, two to three hours; laboratory, six hours; field trips. Enforced requisites: course 51B. Principles of sedimentary geology; study of sedimentary particles and dynamics of depositional processes. Lectures focus on development of depositionarcy facies models, and laboratories emphasize recognition of sedimentary deposits from each major depositional facies. P/NP or letter grading.

16. Blue Planet: Introduction to Oceanography. (5) Lecture, three hours; laboratory, two hours. Not open for credit to students with credit for or currently enrolled in course 1F, 1H, or 100. History of life on Earth as revealed through the fossil record. P/NP or letter grading.

17. Earthquakes. (5) Lecture, three hours; laboratory, six hours. Preparation: one introductory high school or college physics course. Enforced requisites: course 1 or 1H. Recommended: completion of chemistry requirements. Principles of optical crystallography. Utilization of optical properties to identify nonopaque minerals in immersion media and in thin section. Study of common igneous, sedimentary, and metamorphic rocks in thin section.

18. Natural History of Southern California. (5) Lecture, two hours; laboratory, three hours; five field weekends. Identification, distribution, diversity of native plants and animals; identification and interpretation of rocks, minerals, and geologic features and geologic history of physiographic regions of Southern California. Emphasis on field-based learning. P/NP or letter grading.

19. Stratigraphic and Field Geology. (6) Lecture, two hours; laboratory, three hours; fieldwork, one day per week. Enforced requisites: course 51B. Principles of stratigraphy; mapping of a selected area; preparation of a geologic report.


21. Biological and Environmental Geochemistry. (4) Lecture, three hours. Enforced requisites: Chemistry 14A and 14B (or 20A and 20B), Mathematics 3A, 3B, and 3C (or 31A and 31B). Recommended: at least one lower division Earth and space sciences course. Designed for junior/senior life and physical sciences students. Study of chemistry of Earth's surface environment and interplay between biology, human activity, and geology. Introduction to origin and composition of Earth, including atmosphere, crust, and hydrosphere. Examination of how these reservoirs are affected by biological cycles and feedbacks to biological evolution and diversity. Local and global-scale movements of biologically important elements like carbon, nitrogen, and phosphorus. Concurrently scheduled with course C213. P/NP or letter grading.

22. Paleontology. (4) Lecture, three hours; laboratory, six hours; field trips. Enforced requisites: Life Sciences 1 or 2. Review of major groups of fossil organisms and their significance in geology and biology. P/NP or letter grading.

23. Sedimentary Petrology. (6) Lecture, two to three hours; laboratory, six hours; field trips. Enforced requisites: course 51B. Principles of sedimentary geology; study of sedimentary particles and dynamics of depositional processes. Lectures focus on development of depositionarcy facies models, and laboratories emphasize recognition of sedimentary deposits from each major depositional facies. P/NP or letter grading.

120. Rubey Colloquium: Major Advances in Earth Science. (4) Lecture, three hours. Designed for juniors/seniors. Lectures on major advances in Earth science offered by distinguished authorities (including regular faculty). Supervision of continuity and assessment of student performance by a faculty member. Content varies from year to year. If laboratory work is required, course 199 must be taken concurrently.

121. Advanced Field Geology. (8) Lecture, one hour (Spring Quarter); fieldwork, five weeks (Summer Quarter). Requisites: courses 61, 103A, 103B, 111, 112. Problems in field geology; preparation of geologic maps and cross-sections; preparation of written geologic reports in the field and written summary geologic report on the selected area. P/NP or letter grading.

125. Volcanoes. (4) Lecture, three hours; laboratory, three hours; field trip(s). Requisite: course 1 or 1F or 1H. Recommended: course 103A. Physics 1A or 1AH. Types of volcanism. Physics of magma chambers, volcanic plumbing, explosive and effusive eruptions as illustrated by historical examples. Practical methods of volcano monitoring, with field trip. P/NP or letter grading.

126. Advanced Igneous Petrology. (4) Lecture, three hours; laboratory, three hours; field trips. Requisite: course 103A. Understanding the genesis of igneous rocks based on geochemical, tectonophysical, and other geological evidence and principles. Concurrently scheduled with course C226. P/NP or letter grading.


133. Historical and Regional Geology. (4) Lecture, three hours; discussion, two hours; field trips. Requisite: course 111. Principles of historical geology. Physical evolution of Earth, especially North America. One area of Earth’s surface to be investigated in detail, with emphasis on its geologic evolution through time. P/NP or letter grading.

134. Computing in Earth and Space Sciences. (4) Lecture, three hours; laboratory, one hour. Preparation: knowledge of Fortran 90 or C++. Original programming and application of software to generate and test hypotheses with nonideal or incomplete data sets. Interpolation/extrapolation with graphics to generate hypotheses; forward modeling from fundamen- tal equations to explore implications; probabilistic testing of models against data. Examples and exercises from Earth and space sciences. Introduction to software used in research and industry. P/NP or letter grading.

135. Introduction to Applied Geophysics. (4) Lecture, three hours; laboratory, one hour. Preparation: knowledge of Fortran 90 or C++. Application of geophysical principles to soil physics and foundation engineering in light of geologic conditions, recognition, prediction, and remediation of subsidence, landslides, earthquakes, and other geologic aspects of urban planning and subsurface disposal of liquids and solid wastes. P/NP or letter grading.

136. Remote Sensing. (4) Lecture, three hours; discussion, one hour. Requisite: course 1 or 1F or 1H. Recommended: course 111. Principles and practice of soil mechanics and foundation engineering in light of geologic conditions, recognition, prediction, and remediation of subsidence, landslides, earthquakes, and other geologic aspects of urban planning and subsurface disposal of liquids and solid wastes. P/NP or letter grading.

138A. Applied Geophysics. (4) Lecture, three hours; laboratory, three hours; field trips. Preparation: knowledge of Fortran 90 or C++. Requisites: Mathematics 110B, Physics 1A, 1B, and 1C, and one course from: 1AH, 1BH, and 1CH). 4AL, 4BL. Not open for credit to students with credit for course 138C. Seismic reflection and refraction, Fourier analysis and deconvolution, vibrissages, synthetic seismograms, marine seismic, seismic interpretation, gravity and magnetic fields, inversion uniqueness and depth rules. P/NP or letter grading.


138C. Field Geophysics. (6) Lecture, three hours; discussion, one hour; laboratory, two hours; fieldwork, 10 hours. Requisite: course 135 or 136A. Application of seismic, gravimetric, magnetic, electrical, and other geophysical methods to geologic and engineering problems. Practical aspects of geophysical exploration, including planning, data collection, data reduction, and interpretation. Fieldwork on unsolved problems (week-long field trip). P/NP or letter grading.

137. Petroleum Geology. (4) Lecture, three hours. Requisite: course 135 or 136A. Techniques and applications to exploration for and production of natural gas and petroleum; techniques of surface and subsurface geology; problems of petroleum geology.

139. Engineering and Environmental Geology. (4) Lecture, three hours; discussion, one hour. Requisite: course 1 or 1F or 1H. Recommended: course 111. Principles and practice of soil mechanics and foundation engineering in light of geologic conditions, recognition, prediction, and remediation of subsidence, landslides, earthquakes, and other geologic aspects of urban planning and subsurface disposal of liquids and solid wastes. P/NP or letter grading.


141. Basin Analysis. (4) (Formerly numbered 141.) Lecture, three hours; laboratory, three hours. Requisite: course 111. Principles and practice of basin modeling, sediment provenance, tectonic settings. Letter or P/NP grading.


152. Physics of Earth. (4) Lecture, three hours; discussion, one hour. Requites: Mathematics 31A, 31B, Physics 1A or 1AH. Crust to core of Earth and physics used to explore it. Isostasy, plate tectonics, mantle convection and geodynamo as discovered with tools of elasticity, fluid mechanics, and thermodynamics. P/NP or letter grading.

153. Oceans and Atmospheres. (4) Lecture, three hours; discussion, one hour. Requisites: Mathematics 31A, 31B, 32A, Physics 1A, 1B, and 1C (or 1AH, 1BH, and 1CH). Physics and chemistry of Earth’s oceans and atmosphere; origin and evolution of planetary atmospheric cycles, atmospheric radiation and climate, energetics and dynamics of oceanic and atmospheric circulation systems. P/NP or letter grading.


155. Planetary Physics. (4) Lecture, three hours; discussion; one hour. Requisites: Mathematics 31A, 31B, 32A, Physics 1A, 1B, and 1C (or 1AH, 1BH, and 1CH). Formation of solar nebula; origin of planets and their satellites; comets, asteroids, and meteors; celestial mechanics and dynamics; physics of planetary interiors, surfaces, and atmospheres. P/NP or letter grading.

C160. Field Seminar. (2 to 6) Seminar, three hours; discussion; one hour; fieldwork, five to 20 days. Requisite: course 61. Field-based teaching and discussion forum which varies from focus in general geology through structure and tectonics, sedimentology, igneous and metamorphic petrology, volcanology or other subdisciplines as prescribed. May be repeated for credit. Concurrently scheduled with course C260. P/NP or letter grading.


184G. Field Geology for Graduate Students. (2 to 4) (Formerly numbered 195G.) Lecture, two hours; four to five field trips. Requisite: course 121. Required of new graduate students in geology program. Advanced techniques in field geologic mapping, exposing students to igneous, metamorphic, and sedimentary terranes with varying amounts of tectonism. May be repeated for credit. P/NP or letter grading.

193A-193B-193C. Undergraduate Journal Club Seminars: Earth and Space Sciences. (1-1-1) Seminar, one hour. Limited to undergraduate students. Study of current topics in Earth and space sciences, including participation in weekly department colloquium. May be repeated for credit. P/NP grading.

C194A-C194Z. Research Topics in Earth and Space Sciences. (1 each) Research group meeting, one to three hours. Designed for undergraduate Earth and space sciences students participating in research group. Advanced study and analysis of current topics in Earth and space sciences. Discussion of current research and literature in research specialty of faculty member teaching course. Concurrently scheduled with courses C296A-C296Z. P/NP grading.

Graduate Courses


C206. Physical Geochemistry. (4) Lecture, three hours. Requisites: course 51B. Basic principles of physical chemistry for geologic applications. Thermodynamics and kinetics of reactions among minerals, natural waters, and magmas; construction and interpretation of phase diagrams; case studies of important geochemical and environmental issues. Concurrently scheduled with course C106. Additional independent research project and oral presentation required of graduate students. S/U or letter grading.


210A. Advanced Thermochemistry. (4) Lecture, three hours: discussion, one hour. Designed for junior/senior and graduate physical and biological sciences students. Theoretical basis and application of thermochemistry: derivation of diffusion equation and methods of solution, relationship between heat and mass diffusion and their simultaneous solution, Boltzmann/Matano analysis, multidiffusion domain theory, biophysical applications. S/U or letter grading.

213. Biological and Environmental Geochemistry. (4) Lecture, three hours. Requisites: Chemistry 14A and 14B (or 20A and 20B), Mathematics 3A, 3B, and 3C (or 31A and 31B). Recommended: at least one lower-division course in Earth and space sciences courses. Intended for graduate life and physical sciences students. Study of chemistry of Earth’s surface environment and interplay between biology, human activity, and geology. Introduction to origin and composition of Earth, including atmosphere, crust, and hydrosphere. Examination of how these reservoirs are affected by biological cycles and feedbacks to biological evolution. Concurrently scheduled with course C113. S/U or letter grading.

M216. Evolutionary Biology. (4) Same as Ecology and Evolutionary Biology M200A.) Lecture, two hours: discussion, two hours. Current concepts and topics in evolutionary biology, including microevolution, speciation and species concepts, analytical bio- geography, adaptive radiation, mass extinction, community evolution, molecular evolution, and development of evolutionary thought. S/U or letter grading.

M217. Molecular Evolution. (4) (Same as Ecology and Evolutionary Biology M231.) Lecture, two hours: discussion, two hours. Series of advanced topics in molecular evolution, with special emphasis on molecular phylogenetics. Topics may include nature of genome, neutral evolution, molecular clocks, concerted evolution, molecular systematics, statistical tests, and phylogenetic algorithms. Themes may vary from year to year. May be repeated for credit. S/U or letter grading.

219. Planetary and Orbital Dynamics. (4) Planetary rotations, satellite orbits, and tidal dissipation; planetary orbital system; resonance effects and chaos; spin-orbit and orbit-orbit coupling; planetary rings.

220. Principles of Paleobiology. (4) Lecture/discussion, three hours. Limited to graduate science students. Open to qualified undergraduate biological and physical sciences students with consent of instructor. Current and classic problems in paleobiology, with emphasis on interdisciplinary problems involving aspects of biology, geology, organic geochemistry, and cosmology. Content varies from year to year. May be repeated for credit. S/U or letter grading.

221. Field Geology. (4) Lecture, one hour: discussion, one hour: fieldwork, 10 days. Requisites: course 121 or 184G. Planning, execution, and presentation of field studies other areas of Earth sciences. May be repeated for credit. S/U or letter grading.

222. Introduction to Seismology. (4) Lecture, three hours. Types of seismic waves; travel-time seismology; epicenter location; amplitude variations; seismograph theory; explosion seismology; seismology; focal conditions; surface wave analysis; microseisms and tsunamis.


225A. Physics and Chemistry of Planetary Interiors I. (4) Chemical compositions of Earth and planets: high-pressure and temperature effects, phase transitions, and equations of state; variations of density and temperature with depth; thermal and compositional evolution. S/U or letter grading.

225B. Physics and Chemistry of Planetary Interiors II. (4) Lateral inhomogeneities in Earth: seismic velocities, petrology, geothermal and gravitational variations; evidences of motion; remanent magnetism, seismic motions; postglacial rebound; plate tectonics; geology of mantle; thermal convection. S/U or letter grading.

C226. Advanced Igneous Petrology. (4) Lecture, three hours: laboratory, three hours: field trips. Requisite: course 103A. Designed for graduate students. Understanding the genesis of igneous rocks based on geochemical, tectonostratigraphic, and other geological evidence and principles. Concurrently scheduled with course C126. Graduate students required to read more recommended references, make class presentations on particular topics resulting from that reading, and lead seminar-type discussions on their selected topics. S/U or letter grading.
228. Introduction to Planetary Dynamics. (4) Lecture, three hours; laboratory/discussion, 90 minutes. Requisites: Physics 121B, 200C. Designed for graduate students. Basic principles of planetary dyna- mo generation. Planetary core dynamics and core convection; mean field dynamo theory; kinematic dynamo theory; survey of modeling techniques and re- sults. S/U or letter grading.


230. X-Ray Crystallography. (4) Lecture, three hours; laboratory, three hours. Requisite: course 51B. Point, translation, and space group symmetry, diffraction of X-ray, reciprocal lattice theory, single crystal X-ray methods, diffraction symmetry and elementary crystal structure analysis.

231. Crystal Chemistry and Structure of Minerals. (4) Lecture, three hours; laboratory, three hours. Requisite: course 51B. Binding, interatomic configura- tions, polyhedra, isotypes, isomorphism, thermal and positional disorder; survey of structures of common minerals, and relation of physical and chem- ical properties to structure.


234. Petrologic Phase Equilibria. (4) Lecture, three hours; discussion, three hours. Requisites: course 51B, Chemistry 110B. Principles governing homog- eneous and heterogeneous equilibria, with selected applications to mineral stability relations in igneous and metamorphic rocks (fractional crystallization, par- tial melting, hydrothermal solutions, element partitioning in coexisting liquids, and gas- phase partitioning); survey of structures of common minerals, and relation of physical and chem- ical properties to structure.

235A-235B-235C. Current Research in Geochemistry. (1-1-1) Limited to graduate Earth and space sciences students. Seminars presented by staff, outside speakers, and graduate students on current research in tectonics and/or sedimentology. May be repeated for credit. S/U grading.


242. Sandstone Petrology. (4) Lecture, two hours; laboratory, four hours. Requisite or corequisite: course 141. Petrographic study of sandstones, with emphasis on provenance, petrofacies, and paleotectonic reconstructions.


244. Tectonics of Sedimentary Basins. (4) Lecture, two hours; discussion, two hours; field trips. Requisites: courses 103B, 111. Theoretical, mathematical, and physical basis for studying sedimentary basins. Basin analysis, stratigraphy, paleoenviron- ments, and tectonostratigraphic analysis. Letter grading.

245A-245B-245C. Current Research in Tectonics. (1-1-1) Seminar, one hour. Limited to graduate Earth and space sciences students. Seminars presented by staff, outside speakers, and graduate students on current research in tectonics and/or sedimentology. May be repeated for credit. S/U grading.


248. Advanced Structural Geology. (4) Lecture, three hours; discussion, two hours. Requisite: course 111. Principles governing fracture, folding, and flow of rocks; solutions of structural problems at various scales; regional tectonic problems.


251. Seminar: Mineralogy. (4) Seminar, three hours. Examination of groups of rock-forming minerals (e.g., feldspar), integrating such aspects as crystal struc- ture, crystal chemistry, phase equilibria, and petro- genesis.

252. Seminar: Geochemistry. (4) Seminar, two hours; discussion, two hours. Phase equilibria under crustal conditions, chemistry of ocean waters, recent and ancient sediments, structures and chemistry of up- per mantle, geochronology, cosmochemistry, and cosmochemistry.

253. Seminar: Petrology. (4) Seminar, three hours. Problems of igneous or metamorphic petrology; methods of evaluating physical conditions of meta- morphism; diffusion in mineralogic systems; origin of ultramafic rocks and problems of the mantle; element fractionation among igneous rock-forming processes; other current subjects in the field. S/U or letter grading.

254. Seminar: Sedimentology. (4) Seminar, three hours. Processes of sediment transport and deposi- tion; deep sea sediments; deltas and estuaries; pe- trology of carbonates, clays, sandstones, and limestones; stratigra- phy; paleoenvironmental studies.

255. Seminar: Structural Geology and Tectonics. (4) Seminar, three hours. Field-based teaching and discus- sion forum which varies in focus from general geology through structural and tectonic, sedimentology, igne- eous and metamorphic petrology, volcanology, or other subdisciplines as prescribed. May be repeated for credit. Concurrently scheduled with course C160. S/U or letter grading.


260. Topics in Metastellar Plasma Physics. (4) Lectures, discussions, and exercises on specific advanced topics in magnetohydrodynamic plasma physics. Previous courses examined magnetic storms, mag- netospheric substorms, ultralow frequency waves, and adiabatic particle motion in Earth’s radiation belts.


263. Instrumentation, Data Processing, and Data Analysis in Space Physics. (4) Lecture, three hours. Principles, testing, and operations of magne- tometers and other instruments. Data processing, dis- play, and archiving. Time-series analysis techniques, including filtering. Fourier series, eigenanalysis, and power spectra.

270A-M270B-M270C. Seminars: Climate Dynam- ics. (2 to 4 each) (Same as Atmospheric and Ocean- ic Sciences M272A-M272B-M272C and Geography M270A-M270B-M270C.) Seminar, two hours. Archaeo- logical, geochronical, micropaleontological, and stratigraphic evidence for climate change throughout geologic past. Rheology and dynamics of climatic subsystems; atmosphere and oceans, ice sheets and marine ice, lithosphere and mantle. Climate of other planets. Modeling, simulation, and prediction of mod- ern climate on monthly-, seasonal-, and interannual time scale. May be repeated for credit. S/U or letter grading.

275. Geocomplexity and Earthquake Predictions. (4) Lecture, two hours; discussion, two hours. Under- standing and prediction of critical phenomena (de- fined as abrupt overall changes) in Earth’s crust, mathematical modeling and analysis of data from seismicity, remote sensing, and hydrology. Exten- sions to critical phenomena in engineering and socio- economic systems. Letter grading.


282. Seminar: Geophysics. (4) Seminar, two hours; discussion, two hours. Seismology, geophysical pros- pecting, electromagnetic prospecting. Selected topics in Earth physics. Content varies from year to year. May be repeated for credit.

M285. Origin and Evolution of Solar System. (4) (Same as Astronomy M285.) Dynamic problems of solar system from embryos and asteroid belt to planets, meteorites, and solar atmosphere: nucleosynthesis; solar origin, evolution, and termination; solar nebula, hydromagnetic processes, formation of planets and satellite systems. Content varies from year to year. May be repeated for credit. S/U grading.
M370A. Integrated Science Instruction Methods. (4) (Same as Chemistry M370A and Physics M370A.) Lecture, two hours: discussion, one hour; laboratory, one hour. Preparation: one introductory lower division year (including laboratory) each of chemistry, physics and physics and at least two Earth science courses, preferably one with field experience. Classroom management, lesson design, assessment, history of science education. S/U or letter grading.

M370B. Integrated Science Instruction Methods. (4) (Same as Chemistry M370B and Physics M370B.) Lecture, two hours: discussion, one hour; laboratory, one hour. Prerequisite: course M370A or Chemistry M370A or Physics M370A. Application of learning theory to science instruction and classroom management, including the use of technology, collaborative learning, classroom safety, ethical issues, field experiences, and professional development. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching Earth and Space Sciences. (2) Seminar, one hour; discussion, two hours. Classroom practice in teaching, with individual and group instruction on related educational methods, materials, and evaluation. Special emphasis on integration of technology in classroom. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Study and/or Research. (2 to 12) May be repeated. S/U or letter grading.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 8) S/U grading.


East Asian Studies

Interdepartmental Program
College of Letters and Science
UCLA
10373 Bunche Hall
Box 951487
Los Angeles, CA 90095-1487
(310) 206-6571
fax: (310) 206-3555
e-mail: undergrads@international.ucla.edu (undergraduate)
idprgds@international.ucla.edu (graduate)
http://www.international.ucla.edu/idps/

David C. Schaberg, Ph.D., Chair

Faculty Advisory Committee
Kathryn Bernhardt, Ph.D. (History)
William M. Bodiford, Ph.D. (Asian Languages and Cultures)
Chi-Fun Cindy Fan, Ph.D. (Geography)
Hui-Shue Lee, Ph.D. (Art History)
Namhee Lee, Ph.D. (Asian Languages and Cultures)
David C. Schaberg, Ph.D. (Asian Languages and Cultures)
Shu-mei Shih, Ph.D. (Asian Languages and Cultures, Comparative Literature)
Carol F. Sorgenfrei, Ph.D. (Theater)

Richard E. Strassberg, Ph.D. (Asian Languages and Cultures)
James Tong, Ph.D. (Political Science)

Scope and Objectives
East Asia is one of the most important and dynamic regions of the world today. With its ancient cultures, growing economies, technological progress, and increasing role in global affairs, the East Asian Studies major, an interdepartmental and interdisciplinary area studies program, is designed to provide students with comprehensive understanding of East Asia from historical and contemporary vantage points. Courses on China, Japan, and Korea allow majors to study regional phenomena from various national perspectives, while comparative or pan-East Asian coursework provides an in-depth knowledge of the region as a whole. Combining both social sciences and humanities approaches with language study, it is a highly flexible major that enables students to construct programs suited to a broad range of individual needs and career interests.

While students pursuing the East Asian Studies major are normally expected to select one country (China, Japan, or Korea) as a focus of their work, the strength of the program is the access it provides to an understanding of regional and global ties that characterize East Asia today.

Undergraduate Study
East Asian Studies B.A.

Two years of language, two preparation courses, and a total of 13 upper division courses are required. Students must take a minimum of nine courses in the area of their choice. The remaining four courses should be taken in another area of concentration within the major. No more than eight courses may be from a single department. Students should select the courses from the lists below. Courses on East Asia not listed below, offered only on a temporary basis, may also be applied toward the major.

China Concentration
Preparation for the Major
Required: Chinese 1, 2, 3, 4, 5, 6, History 11A or 11B, one lower division social sciences course in an area other than history (see the academic counselor for the list).

Transfer Students
Transfer applicants to the East Asian Studies (China) major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Chinese, one history of China course, and one lower division social sciences course in an area other than history.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/
adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major


Japan Concentration

Preparation for the Major

Required: History 9C, Japanese 1, 2, 3, 4, 5, 6, one lower division social sciences course in an area other than history (see the academic counselor for the list).

Transfer Students

Transfer applicants to the East Asian Studies (Japan) major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Japanese, one history of Japan course, and one lower division social sciences course in an area other than history. Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

Korea Concentration

Preparation for the Major

Required: Korean 1, 2, 3, 4, 5, 6, 50, one lower division social sciences course (see the academic counselor for the list).

Transfer Students

Transfer applicants to the East Asian Studies (Korea) major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Korean, one Korean civilization course, and one lower division social sciences course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major


Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The East Asian Studies Program offers the Master of Arts (M.A.) degree in East Asian Studies.

ECOLOGY AND EVOLUTIONARY BIOLOGY

College of Letters and Science

UCLA

2312 Life Sciences

Box 951606

Los Angeles, CA 90095-1606

(310) 825-3482

fax: (310) 206-3987

e-mail: biology@lifesci.ucla.edu

http://www.eeb.ucla.edu

Victoria L. Sork, Ph.D., Chair

Professors

Clifford F. Brunk, Ph.D.

Donald G. Guth, Ph.D.

Arthur C. Gibbon, Ph.D.

Elma González, Ph.D.

Malcolm S. Gordon, Ph.D.

Henry A. Hespenheide, Ph.D.

David K. Jacobs, Ph.D.

Glen M. MacDonald, Ph.D.

Peter M. Narins, Ph.D.

Peter N. Nonacs, Ph.D.

Philip W. Rundel, Ph.D.

Thomas B. Smith, Ph.D.

Victoria L. Sork, Ph.D.

Charles E. Taylor, Ph.D.

Blare Van Valkenburgh, Ph.D.

Robert K. Wayne, Ph.D.

Cheryl Ann Zimmer, Ph.D.

Richard K. Zimmer, Ph.D.

Professors Emeriti

Joseph Casciano, Ph.D.

Martin L. Cody, Ph.D.

Nicholas E. Collias, Ph.D.

Willard T. Ebersold, Ph.D.

Franz Engelmann, Ph.D.

William M. Hamner, Ph.D.

J. Lee Kavanau, Ph.D.

Austin J. MacInnis, Ph.D.

Leonard Muscatine, Ph.D.

Kenneth A. Nagy, Ph.D.

Park S. Nobel, Ph.D.

Richard W. Siegel, Ph.D.

Henry J. Thompson, Ph.D.

Eduardo Zeiger, Ph.D.

Associate Professors

Priyanga A. Amarasekare, Ph.D.

Daniel T. Blumenthal, Ph.D.

Peggy M. Fong, Ph.D.

Gregory F. Grether, Ph.D.

Richard R. Vance, Ph.D.

Assistant Professors

Jon E. Keeley, Ph.D.

Adjunct Professor

Joel W. Martin, Ph.D.

Xiaoming Wang, Ph.D.

Adjunct Associate Professors

Ines Horovitz, Ph.D.

Seth D. Riley, Ph.D.

Raymond M. Sauvajot, Ph.D.

Ronald R. Swaisgood, Ph.D.

Angel A. Valdes Gallego, Ph.D.

Scope and Objectives

Organismic biology touches every aspect of modern life, and understanding how living organisms are adapted to their environments is the major challenge of the discipline. To meet this challenge, the Department of Ecology and Evolutionary Biology offers undergraduate and graduate instruction at all levels of biology — from regulatory and physiological processes within organisms through the natural ecology and behavior of living organisms and to the population and community dynamics of multiple species. All of these subject areas address practical problems facing the world today, and all influence human decisions on matters ranging from conservation of the environment to advancement of medical science.

The Bachelor of Science degrees combine essential background studies in mathematics, chemistry, and physics with a general introduction to all of the biological subjects, as well as advanced in-depth exposure to some of them. The Master of Arts and Ph.D. degrees provide opportunities for advanced, concentrated study. The Master of Arts degree requires, in addition to specified coursework, completion of either a comprehensive examination or the
performance of original research culminating in a thesis. The Ph.D. degree requires independent and innovative research that ultimately results in a dissertation.

**Undergraduate Study**

Students may earn a Bachelor of Science degree in one of four different majors within the department: Biology (general biology); Ecology, Behavior, and Evolution; Marine Biology; and Plant Biology. The majors build on similar lower division introductory courses and differ primarily in the upper division requirements. The Biology major is designed for students who desire exposure to a wide range of biological subjects. The remaining three majors — Ecology, Behavior, and Evolution, Marine Biology, and Plant Biology — provide more specialized instruction and strong preparation for employment or subsequent graduate study in the respective disciplines.

**Biology B.S.**

The Biology major is designed for students with a broad interest in biology who desire to pursue careers in a wide range of biological and related fields. It provides excellent background preparation for postgraduate training in medicine and other health sciences, in tracks leading to academic and public service careers in biology, in biological industries, and even in nonbiological careers such as business, agriculture, and law. Emphasis is on breadth of training to expose students to all levels of modern biology.

**Preparation for the Major**

**Life Sciences Core Curriculum**

*Required:* Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C; Statistics 13.

All core curriculum courses must be passed with a grade of C— or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade below C— in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

**Transfer Students**

Transfer applicants to the Biology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

Students must complete the following courses:

1. At least 8 units from Ecology and Evolutionary Biology 100, 109, 116, 120, 121
2. At least 8 laboratory units from Ecology and Evolutionary Biology 101, 103, 105, 109, 110, 111, 112, 113A, 114A, 115, 117, 128, 134A, 136, 162, 170, 181 (4 units from the Field Biology Quarter or Marine Biology Quarter may be applied, and one course from Microbiology, Immunology, and Molecular Genetics 101L, Molecular Cell, and Developmental Biology 104, 120L, Physiological Science 107, or 166 may be included)
3. At least 8 units from Ecology and Evolutionary Biology C119, 122, 129, 133, 135, 137, M139, 146, 151A, 168, 198A and 198B, 199 (4 units), Molecular Cell, and Developmental Biology 138, 165A (8 units from the Field Biology Quarter or Marine Biology Quarter may be included, and any departmental course not applied under item 1 or 2 above may be applied in this category)
4. Chemistry and Biochemistry 153A, 153L
5. At least 12 units from the following: Anthropology 120 and/or one course from 124, 124P, 127P, or 128A; Atmospheric and Oceanic Sciences M105 (or Ecology and Evolutionary Biology M139) or one course from 102, 103, 104, or 130; Biomathematics 110 and/or Biostatistics 100B; chemistry (except Chemistry and Biochemistry 193A through 199); Earth and Planetary Sciences 116, Earth and Evolutionary Biology 187, 188, 198A and 198B, 199 (4 units), Geography 112 and/or one course from 108 or 111; Human Genetics C144 or one course from Life Sciences 100HA, 100HB, or 100HC, mathematics (except Mathematics 105A, 105B, 106, 191 through 199), microbiology, immunology, and molecular genetics (except Microbiology, Immunology, and Molecular Genetics 193A through 199C), molecular, cell, and developmental biology (except Molecular, Cell, and Developmental Biology 188 through 199D), Neuroscience M101A, M101B, M101C, 102, M130, M148, physics (except Physics 190 through 199), physiological science (except Physiological Science 191 through 199), Psychology 115 (any course not applied under item 1, 2, or 3 above may be applied in this category).

A maximum of 8 units of the Ecology and Evolutionary Biology 198 series or 4 units of Ecology and Evolutionary Biology 199 may be applied toward the major. Credit for 199 courses from other departments may not be applied.

Courses applied toward requirements for preparation for the major and the major must be taken with a grade of C— or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade below C— in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

**Ecology, Behavior, and Evolution B.S.**

The Ecology, Behavior, and Evolution major is appropriate for students preparing for graduate study in ecology, behavior, and evolution or for employment in areas such as environmental biology, animal behavior, conservation, teaching, museum work, and governmental positions dealing with environmental issues of wide importance and impact. A strong field component involving study in terrestrial and marine locales such as coastal, desert, and mountain environments in California and the Southwest and in the Neotropics is required.

**Preparation for the Major**

**Life Sciences Core Curriculum**

*Required:* Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A (31A, 31B, and 32A must be taken to satisfy the calculus requirement); Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C; Statistics 13.

All core curriculum courses must be passed with a grade of C— or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade below C— in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

**Transfer Students**

Transfer applicants to the Ecology, Behavior, and Evolution major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

*Required:* One morphology and systematics course (Ecology and Evolutionary Biology 103, 105, 110, or 130); one physiology course (Ecology and Evolutionary Biology 146, 162, or Physiological Science 166); three ecology, behavior, and evolution courses (Ecology and
Evolutionary Biology C119, 120, 122, 129, 135; one field quarter consisting of two to four courses from the Field Biology Quarter (FBQ), Marine Biology Quarter (MBQ), or equivalent; Chemistry and Biochemistry 153A, 153L; two additional upper division courses in chemistry, ecology and evolutionary biology (except Ecology and Evolutionary Biology 192A, 192B, 195), geography, geology, mathematics (except Mathematics 106), microbiology, or physics (recommended: taxon-oriented courses such as Ecology and Evolutionary Biology 111, 112, 113A, 114A, 115; other courses in ecological, behavioral, and evolutionary processes such as Ecology and Evolutionary Biology 116, 117, 122, M127, 128, 134A, in addition to courses listed above).

Courses offered as part of the Field Biology Quarter (FBQ) are open to all qualified students, but strict priority is given to students who are Ecology, Behavior, and Evolution majors, are graduating seniors, have taken a broad range of ecology, behavior, and evolution coursework, and have maintained a good grade-point average.

Courses applied toward requirements for preparation for the major and the major must be taken for a letter grade. Ecology, Behavior, and Evolution majors must earn a C– or better in each course taken as preparation for the major, and at least a 2.0 (C) overall average in all courses applied toward the major.

As requisites for the Marine Biology Quarter, students must have a 3.0 overall grade-point average and have taken Statistics 13. Preference for the Marine Biology Quarter is given to Ecology, Behavior, and Evolution and Marine Biology majors. It is strongly recommended that students complete Ecology and Evolutionary Biology 109 prior to applying for the Marine Biology Quarter. Consult the Undergraduate Advising Office for all requirements for the Marine and Field Biology Quarters.

**Marine Biology B.S.**

The Marine Biology major is designed for students who wish to specialize in the area of marine sciences. Completion of this major provides students with both an excellent background in biology and specialization in various disciplines such as oceanography, subtidal and intertidal ecology, and physiology of marine organisms. Graduates are well prepared for postgraduate opportunities in the marine sciences, many other areas of biology, and medicine. The major provides valuable field experience with concomitant individual research opportunities in marine biology.

**Preparation for the Major**

**Life Sciences Core Curriculum**

**Required:** Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C; or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C; Earth and Space Sciences 15 or Atmospheric Sciences 1; Statistics 13.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade below C– in two core curriculum courses, either in separate courses or replications of the same course, are subject to dismissal from the major.

**Transfer Students**

Transfer applicants to the Marine Biology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

Students must complete the following courses:

1. Ecology and Evolutionary Biology 109
2. At least 4 laboratory units from Ecology and Evolutionary Biology 101, 105, 110, 136, 170, 181
3. At least 4 marine organismic biology or physiology units from Ecology and Evolutionary Biology 101 (unless taken under item 2), 105 (unless taken under item 2), 107, 112, 128, 137, 162, 168, 170 (unless taken under item 2), Physiological Science 166
4. At least 4 ecology and behavior units from Ecology and Evolutionary Biology 100, 116, C119, 122, 129, 136
5. At least 4 evolution units from Ecology and Evolutionary Biology 120, 121
6. One field quarter consisting of four courses from the Marine Biology Quarter (MBQ) or equivalent field studies given elsewhere (for a 16-unit equivalent, see undergraduate adviser)

7. One additional physical, chemical, or geological oceanography course from Atmospheric and Ocean Sciences 102, 103, 104, M105 (or Ecology and Evolutionary Biology M139), 130, Chemistry and Biochemistry 103, 153A, Earth and Space Sciences 100, 116, 119, C141, 153, Geography 100, 101, 103, M106, 123, 130, 166, 169, Mechanical and Aerospace Engineering 103, 150A
8. One additional course from item 3, 4, 5, 6, or 7 not applied above

Courses applied toward requirements for preparation for the major and the major must be taken for a letter grade. Marine Biology majors must earn a C– or better in each course taken as preparation for the major, and at least a 2.0 (C) overall average in all courses applied toward the major.

As requisites for the Marine Biology Quarter, students must have a 3.0 overall grade-point average and have taken Statistics 13 or equivalent. Preference for the Marine Biology Quarter is given to Ecology, Behavior, and Evolution and Marine Biology majors. It is strongly recommended that students complete Ecology and Evolutionary Biology 109 prior to applying for the Marine Biology Quarter. Consult the Undergraduate Advising Office for all requirements for the Marine and Field Biology Quarters.

**Plant Biology B.S.**

The Plant Biology major prepares students for postgraduate programs and careers in plant biology, including environmental biology, ecology, agricultural sciences, plant physiology, and cellular biology. Students select key courses to obtain a sound, broad foundation in plant biology, learning state-of-the-art research techniques. They are also given opportunity to participate in individual supervised research projects using plants as experimental organisms.

**Preparation for the Major**

**Life Sciences Core Curriculum**

**Required:** Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C; Statistics 13.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade below C– in two core curriculum courses, either in separate courses or replications of the same course, are subject to dismissal from the major.

**Transfer Students**

Transfer applicants to the Plant Biology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admissions Guide at http://www.admissions.ucla.edu/prospect/
The Major

Required: Chemistry and Biochemistry 153A, Ecology and Evolutionary Biology 146 or 162; one laboratory course (Ecology and Evolutionary Biology 101, 103, 105, 110, M158, 162, or Physiological Science 166); one plant morphology or anatomy course (Ecology and Evolutionary Biology 101 or 103); two molecular or cellular plant biology courses (Ecology and Evolutionary Biology 121, Molecular, Cell, and Developmental Biology C141, C150, M170); one ecology or evolution course (Ecology and Evolutionary Biology 120, 122, 128, or 130); one field quarter course involving research in plant biology (Ecology and Evolutionary Biology 118, 124, 128, or 148) or a laboratory internship (Ecology and Evolutionary Biology 192A, 192B, 195) which requires a written paper on some aspect of plant research; two additional upper division courses in chemistry, computer science, ecology and evolutionary biology (except Ecology and Evolutionary Biology 192A, 192B, 195), geography, microbiology, or molecular, cell, and developmental biology (except Molecular, Cell, and Developmental Biology 192A, 192B).

A maximum of 8 units of the Ecology and Evolutionary Biology 198 series or 4 units of Ecology and Evolutionary Biology 199 may be applied toward the major. Credit for 199 courses from other departments may not be applied. Courses applied toward requirements for preparation for the major and the major must be taken for a letter grade. Plant Biology majors must earn a C– or better in each course taken as preparation for the major, and at least a 2.0 (C) overall average in all courses applied toward the major.

Field Biology

The department offers two quarter-long programs of advanced courses in field biology: the Field Biology Quarter (FBQ) and the Marine Biology Quarter (MBQ). These programs focus on the biology of organisms living in their natural environments, emphasize independent student research projects, and take place at field sites away from the UCLA campus. The course composition varies somewhat from year to year, but each program always carries 16 units of course credit. The Field Biology Quarter involves some combination of Ecology and Evolutionary Biology 103, 113B, 114B, 115, 118, 124, 125, 126, 132, and 134B. The Marine Biology Quarter includes some combination of Ecology and Evolutionary Biology 102, 106, 123, 147, 148, 163, 164, and 165. The Field and Marine Biology Quarters occur during Fall and Spring Quarters. To participate, students must enroll in all courses in the respective program. Participants in both programs are selected by personal interview during Fall or Winter Quarter. Information and applications are available in the Undergraduate Advising Office.

Honors Program

An overall grade-point average of 3.4 and a 3.4 in the major are required for graduation with honors. Highest honors are awarded to majors who have a GPA of 3.6 overall and a 3.6 in the major at graduation and who have successfully completed Ecology and Evolutionary Biology 198A and 198B.

Computing Specialization

Majors in Biology, Ecology, Behavior, and Evolutionary Biology, and Plant Biology may select a specialization in Computing by (1) satisfying all the requirements for a bachelor’s degree in the specified major, (2) completing Program in Computing 10A, 10B, 10C, 30, and 60, and (3) completing one course from Computer Science CM186B, Geography 168, Psychology 186A, or 186B. A grade of C– or better is required in each course, with a combined grade-point average in the specialization of at least 2.0. Students must petition for admission to the program and are advised to do so after completing Program in Computing 10B (petitions should be filed in the Undergraduate Advising Office). Students graduate with a bachelor’s degree in their major and a specialization in Computing.

Conservation Biology Minor

The Conservation Biology minor is designed for students who wish to augment their major program of study with courses addressing issues central to the conservation and sustainability of biodiversity and natural ecosystem processes. The minor seeks to provide students with a greater depth of experience and understanding of the role that science can play in developing conservation policy.

To enter the minor, students must (1) be in good academic standing (2.0 grade-point average or better), (2) have completed Life Sciences 1, Ecology and Evolutionary Biology 100, and 116 (or Environment 121) with minimum grades of C or better, and (3) file a petition in the Undergraduate Advising Office, 2325 Life Sciences. All degree requirements, including the specific requirements for this minor, must be fulfilled within the unit maximum set forth by the College of Letters and Science.

Non-life sciences majors wishing to minor in Conservation Biology should be aware that preparation courses in chemistry, life sciences, mathematics, and physics are requisites to some of the upper division courses accepted for the minor.

Required Lower Division Course (5 units): Life Sciences 1.

Required Upper Division Courses (28 units minimum): Ecology and Evolutionary Biology 100, 116 (or Environment 121), and four to six courses from 101, 103, 105, 109, 111, 112, 114A, 122, 129, 151A, 154, 176, 180.

No more than two upper division required courses may be applied toward both this minor and a major or minor in another department or program, and at least 16 units applied toward the minor must be taken in residence at UCLA. Transfer credit for any of the above is subject to departmental approval; consult the undergraduate counselors before enrolling in any courses for the minor.

All minor courses must be taken for a letter grade, with a minimum grade of C (2.0) in each and an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasasa/library/pgmreqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Ecology and Evolutionary Biology offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Biology.

Ecology and Evolutionary Biology

Lower Division Courses

10. Plants and Civilization. (4) Lecture, three hours; demonstration, one hour. Designed for nonmajors. Origin of crop plants; man’s role in development, distribution, and modification of food, fiber, medicinal, and other plants in relation to their natural history. P/NP or letter grading.

11. Biomedical Research Issues in Minority Communities. (5) Discussion, four hours. Limited to 30 students. Discussions and student presentations on biomedical research as it affects minority communities, with emphasis on methodology, design, consequences, and ethics of current research. Discussion leaders provide information on preparation and training for research careers. P/NP or letter grading.

12. Biodiversity and Extinction: Crisis and Conservation. (4) Lecture, three hours; discussion, one hour. Examination of ecological and evolutionary principles necessary to understand nature and importance of worldwide environmental crisis. Research by students of specific conservation issues and presentation of results to class. P/NP or letter grading.

13. Evolution of Life. (4) Lecture, three hours; discussion, one hour. Not open to life sciences majors. Limited to 100 students. Introduction to biology within framework of evolutionary theory. Relationships of evolutionary thought to other areas of knowledge and society. Natural selection and origin of variation examined in context of genetics, molecular biology, physiology, phylogeny, population dynamics, behavior, and ecology. Emphasis on critical role of historical processes. P/NP or letter grading.
21. Field Biology. (4) Lecture, three hours; discussion, two hours, or field trips, three to four hours. Recommended: Courses 15. Not open for credit to students with credit for course 122 or Life Sciences 1. Introduction to natural history of Western North America, especially Southern California, classification, distribution, and ecology of common plants and animals. P/NP or letter grading.

25. Marine Biology. (5) Lecture, three hours; discussion, two hours; field trips, two hours. Not open for credit to students with credit for Earth and Space Sciences 15. Physical and chemical processes that take place in oceans, with emphasis on their effects on organisms. P/NP or letter grading.

50. Desert Life. (4) Lecture, three hours; laboratory, two hours. Introduction to fundamental structural, physiological, and behavioral features of desert organisms, with special emphasis on deserts of Western North America. P/NP or letter grading.

95. Lower Division Internship in Biology. (4) Tutorial/fieldwork, three hours per week per unit. Internship course for lower division students to be supervised by Center for Community Learning, fieldwork site, and faculty advisor. Consult Undergraduate Office for more information. May be repeated twice. Individual contract with supervising faculty member required. P/NP grading.

97. Variable Topics in Ecology and Evolutionary Biology. (1 to 4) Seminar, three to 12 hours. Current issues in ecology and evolutionary biology. Consult Schedule of Classes for topics and instructors. May be repeated for credit with consent of instructor. P/NP or letter grading.

Upper Division Courses

100. Introduction to Ecology and Behavior. (5) Lecture, three hours; laboratory, two hours. Required: Life Sciences 1. Not open for credit to students with credit for course 118, C119, 122 through 125, 129, 132 through 134B, 136, or 151B. Introduction to methods and topics in ecology and behavior. Growth and regulation of populations, organization of communities and ecosystems, biogeography, and behaviors animals use to find food, choose mates, and interact in social groups. Understanding scientific method, critical evaluation of research papers, and development of scientific writing skills. Letter grading.

101. Marine Botany. (6) Formerly numbered 101A.) Lecture, four hours; laboratory, six hours; three to four field trips. Required: Life Sciences 1. Introduction to biology and ecology of marine plants, including algae, sea grasses, and mangroves, with focus on form and function of marine plants and their ecological role in different marine habitats and ecosystems. Letter grading.


103. Plant Evolution and Systematics. (5) Lecture, three hours; laboratory, three hours; field trip. Required: Life Sciences 1. Evolution, systematics, morphology, principles of taxonomy, phytogeography, phylogenetic analysis, speciation, and natural history of plants. Letter grading.


106. Experimental Marine Invertebrate Biology. (4 or 6) Lecture, two hours; laboratory, 12 hours. Required: courses 105. Physiological Science 166 (may be taken concurrently). Offered either as a six-unit quarter-long course or as a four-unit Marine Biology Quarter course. Advanced course of natural history, physiology, biochemistry of invertebrates, with emphasis on independent laboratory and field investigations. P/NP or letter grading.

107. Evolution, Development, and Function of Invertebrate Animals. (5) Formerly numbered C107. Lecture, three hours; laboratory, three hours; three weekend field trips. Required: course 105 or completion of Marine Biology Quarter. Advanced invertebrate biology course exploring evolutionary relationship of animal groups and evolution of marine species, comparative development and developmental genetics of invertebrate form, and form and function as they relate to marine invertebrates. Letter grading.


110. Vertebrate Morphology. (6) Lecture, three hours; laboratory, five hours; required: Life Sciences 1. Study of vertebrate morphology, function, and evolution from viewpoint of comparative anatomy of adult forms, biomechanics, development, and paleontology. Laboratory study of selected vertebrates. Letter grading.

111. Biology of Vertebrates. (5) Lecture, three hours; laboratory, three hours; four one-to-two day field trips. Required: Life Sciences 1. Adaptations, behavior, and ecology of vertebrates. Letter grading.


113A. Herpetology. (5) Lecture, three hours; laboratory, three hours; field trips, one and one half days per term. Required: Life Sciences 1. Recommended: course 100. Vertebrate zoology course restricted to biology of reptiles and amphibians of the world, covering current systematics, ecology, behavior, morphology, and physiology of these animals. Letter grading.

113B. Field Herpetology. (8) Required: Life Sciences 1. Recommended: courses 100, 111. Two to three weeks; five hours; field trips, one and one half days per term. Required: Life Sciences 1. Recommended: course 100. Vertebrate zoology course restricted to biology of reptiles and amphibians of the world, covering current systematics, ecology, behavior, morphology, and physiology of these animals. Letter grading.

114A. Ornithology. (5) Lecture, three hours; laboratory, three hours; field trips. Required: Life Sciences 1. Recommended: course 100. Systematics, distribution, physiology, behavior, and ecology of birds. Letter grading.

114B. Field Ornithology. (8) Required: Life Sciences 1. Recommended: courses 100, 111. Two weeks of off-campus research projects followed by two-week lecture course and offered only as part of Field Biology/Quarter. Biology, particularly ecology and behavior, of birds in their natural habitats. Students carry out supervised research projects, then write up and orally present their results in seminar fashion. Letter grading.

114A. Ornithology. (5) Lecture, three hours; laboratory, three hours; field trips. Required: Life Sciences 1. Recommended: course 100. Systematics, distribution, physiology, behavior, and ecology of birds. Letter grading.


116. Conservation Biology. (4) Lecture, three hours; discussion, two hours. Required: Life Sciences 1. Recommended: open for credit to students with credit for Environment 121. Study of ecological and evolutionary principles as they apply to preservation of genetic, species, and ecosystem diversity. Discussion topics focus on interactions of science, policy, and economics in conserving biodiversity. Oral and written student presentation on specific conservation issues. Letter grading.

117. Evolution of Vertebrates. (5) Lecture, three hours; laboratory, three hours. Required: course 110. Recommended: one general geology course. Fossil record of the evolution of vertebrates, with emphasis on paleobiology and morphology of tetrapods. P/NP or letter grading.

118. Plant Adaptations. (8) Lecture, one hour; field trip, 10 hours. Required: course 100. Five-week course offered only as part of Field Biology Quarter. Field-oriented introduction to mechanisms by which vascular plants adapt themselves to their abiotic and biotic environments using community, population, and ecophysiological levels of integration. Letter grading.

119. Mathematical Ecology. (6) Lecture, three hours; laboratory, two hours. Required: Mathematics 32A. Recommended: course 122, Life Sciences 1. Analytical and numerical exploration of differential equation models to study properties and dynamics of individual organisms, single-species populations, multispecies communities, and integrated ecosystems in natural and disturbed environments. Formal instruction in Mathematica software used to provide powerful and versatile tool to solve diverse quantitative problems in ecology and life and physical sciences. Concurrently scheduled with course C219. Letter grading.

120. Evolution. (4) Lecture, three hours; discussion, two hours. Required: Life Sciences 1, 2, 3, 4, Mathematics 3A and 3B, or 31A. Designed for departmental majors specializing in environmental and population biology. Introduction to mechanisms and processes of evolution, with emphasis on natural selection, population genetics, speciation, evolutionary rates, and patterns of adaptation. P/NP or letter grading.

121. Molecular Evolution. (4) Lecture, three hours; discussion, one hour. Required: Life Sciences 3, 4. Molecular biology, with emphasis on evolutionary aspects. DNA replication, RNA transcription, protein synthesis, gene expression, and molecular evolution. Letter grading.

122. Ecology. (4) Lecture, three hours; discussion, two hours. Required: course 100, Life Sciences 1, Mathematics 3B or 31A. Highly recommended: Mathematics 31B, 32A. Required for departmental majors specializing in environmental and population biology. Introduction to population and community ecology, with emphasis on growth and distributions of populations, interactions between species, and structure, dynamics, and functions of communities and ecosystems. P/NP or letter grading.

123. Marine Ecology. (4 or 8) Lecture, five hours; laboratory, 15 hours. Required: courses 100, 122. Offered either as an 8-unit quarter-long course or as a 4-unit five-week intensive course given off campus as part of Marine Biology Quarter. Survey of current topics in marine ecology, including analysis of primary research literature combined with field study of ecology of marine organisms, populations, communities, and ecosystems. Original research project required. Letter grading.

124. Field Ecology. (4 or 8) Lecture, two hours; laboratory, or field trip, 10 hours. Required: course 100, Life Sciences 1. Recommended: courses 111, 120, 122. Offered either as a 4-unit quarter-long course with weekend field trips or as a single field trip conducted between quarters, followed by lectures and tutorials for three weeks. When course is given as part of Field Biology Quarter, it is a 4-unit course and lasts for five weeks. Field and laboratory research in ecology; collection, analysis, and write-up of numerical data, with an emphasis on design and execution of field studies. Letter grading.
125. Tropical Animal Communication. (4 or 8) (Formerly numbered C125.) Requires: course 100, Life Sciences 1, Mathematics 3C or 32A. Recommended: course 129. Offered either as 4-unit quarter-long course or as 8-unit Field Biology Quarter course. Four-unit course has lecture, three hours; discussion, two hours. Animal communication behavior, tropical vertebrate biology, and evolution of information processing. Course covers same basic lecture material in five or six intensive weeks, followed by extended field trips where students do individual projects in animal communication. Letter grading.

126. Behavioral Ecology. (4 or 8) (Formerly numbered C126.) Requires: course 100, Life Sciences 1, Mathematics 3C or 32A. Recommended: course 129. Offered either as 4-unit quarter-long course or as 8-unit Field Biology Quarter course. Four-unit course has lecture, three hours; discussion, three hours. Animal communication behavior, island biogeography, and evolution of social behavior. Eighty-unit course covers same basic lecture material in five intensive weeks, followed by extended field trip where students do individual projects in behavioral ecology. Letter grading.

M127. Soils and Environment. (5) (Same as Environmental M127 and Geography M127.) Lecture, five hours; discussion, one hour; field trips. General treatment of soils and environmental implications: soil development, worldwide distribution of soil orders; physical, chemical, hydrologic, and biological properties; water use, erosion, and pollution; management of soils as related to plant growth and distribution. P/NP or letter grading.

128. Plant Physiological Ecology. (5) Lecture, three hours; laboratory, three hours; one-two day field trip. Requires: Life Sciences 1, Physics 1C and 4BL, or 6C or 6CH. Study of plant/environment interactions under natural conditions. Transpiration and photosynthesis, leaf temperatures, and water movement in soil/plant/atmosphere continuum. Letter grading.

129. Animal Behavior. (4) Lecture, three hours; discussion, two hours. Requires: course 100, Life Sciences 1. Introduction to behavioral ecology. Methods and results of evolutionary approaches to study of animal behavior, including foraging strategies, social competition, sexual selection, mating systems, cooperation, and social organization. Letter grading.


132. Field Behavioral Ecology. (6) Lecture, two hours; laboratory, one hour; field trips. Requires: course 100, Life Sciences 1. Recommended: course 129. Five-week course offered only as part of Field Biology Quarter. Field research in behavioral ecology, emphasizing animal communication. Design and execution of individual and small group field projects during extended field trip. Letter grading.

133. Elements of Theoretical and Computational Biology. (4) Lecture, three hours; laboratory, two hours; discussion, one hour. Requires: Life Sciences 1, 2, 3, 4, Mathematics 3A, 3B, and 3C, or 31A and 31B. Strongly recommended: elementary statistics course. Introduction of basic core mathematical ideas and models necessary to understand contemporary ecology and evolutionary biology. Population ecology and growth, community ecology, population genetics, natural selection, P/NP or letter grading.

146. Physicochemical Biology. (4) Lecture, three hours; discussion, one hour. Requires: Life Sciences 1, 2, 3. Physiological 1C or 4BL, or Comp 6C or 6CH. Physicochemical analysis of physiology of cells and organisms, with emphasis on membranes, thermodynamics of solute and water movement, light absorption, and subcellular energy transduction. Letter grading.

134A. Physiological Ecology of Desert Animals. (5) (Formerly numbered C134A.) Lecture, three hours; laboratory, two hours; two-day field trips per term. Requires: Life Sciences 1. Recommended: course 126. Soils and Environment. Five-week intensive course takes place in an arid environment and requires same basic weekly lecture material in five intensive weeks, followed by extended field trips where students do individual projects in physiological ecology. Letter grading.

134B. Field Physiological Ecology of Desert Animals. (8) Field course. Requires: Life Sciences 1. Recommended: course 100. Two weeks of off-campus research projects with two-week lecture course (four hours per day) and offered only as part of Field Biology Quarter. Consideration of physiological, behavioral, morphological, and ecological mechanisms desert animals use to enhance their survival in an arid habitat. Students carry out supervised research projects, then write up and orally present their results in comprehensive fashion. Letter grading.


136. Ecology, Behavior, and Evolution Laboratory. (6) Lecture, four hours; laboratory, eight hours; field trips, six and one half days per term. Requires: course 100, Life Sciences 1, Mathematics 3C or 32A. Strongly recommended: course 120 or 122 or 129. Designed for Ecology, Behavior, and Evolution majors. Laboratory and field exercises on population genetics, plant and animal populations, adaptations, competition, predation; behavioral interactions; species’ diversity and distribution. Methodological aspects from theoretical models and computer simulations to laboratory and garden experiments to fieldwork. Mandatory field trips, including two weekend trips. Letter grading.

137. Chemical Communication. (4) Lecture, three hours; discussion, one hour. Requires: Chemistry 1A, 1B, 1BL, 1C, 1CL, 1D, 20A, 20B, 20C, 30AL, 30B, and 30BL. Life Sciences 1, 2, 3. Chemical signals are most important means by which organisms communicate. Exploration of how chemicals are produced, transported, and sensed. Behavior of microbes, plants, and animals. Synthetic approach, with emphasis on applications to cell biology, physiology, ecology, and marine science. P/NP or letter grading.

M139. Introduction to Chemical Oceanography. (4) (Same as Atmospheric and Ocean Sciences M105.) Lecture, three hours. Introductory course for physical sciences, life sciences, and engineering majors interested in oceanic environment. Chemical composition and behavior of the physical, chemical, and biological processes governing this composition in the past and present. Cycles of major and minor oceanic constituents, with focus on those that are most important for life (i.e., carbon, nitrogen, phosphorus, silicon, and oxygen). Investigation of primary production, export production, remineralization, diagenesis, air-sea gas exchange processes. Letter grading.

M145. Advanced Paleontology. (4) (Formerly numbered CM145.) Same as Earth and Space Sciences M118.) Lecture, three hours. Requires: course 110 or 117 or Earth and Space Sciences 116. Consideration of major factors that have influenced history of life, including analytical approaches to analyzing patterns in fossil record, nutrient cycle of rock record, and contribution of data from stable isotopes, functional morphology, phylogeny, and developmental biology. P/NP or letter grading.

147. Biological Oceanography. (5) Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Requires: Chemistry 1A, 1B, and 1BL, or 20A, 20B, 20C, 30AL, 30B, and 30BL. Life Sciences 1, 3. Highly recommended: course 111. Survey of “higher” vertebrates living in marine habitats, including data analysis and labeling of seascapes, seabirds, and marine mammals. Laboratory emphasizes observational and experimental approaches to study of morphology, systematics, ecology, and behavior of local marine species and marine science center. Letter grading.


151A. Tropical Ecology. (4) (Formerly numbered C151A.) Lecture, three hours; discussion, two hours. Requires: Life Sciences 1. Broad introduction to biodiversity, community structure, and dynamics and ecosystems of range of tropical forest habitats. Discussion of such topics as biogeography, forest structure, plant growth forms, animal communities, herbivory, forest dynamics, and disturbance regime. Letter grading.

151B. Field Tropical Ecology. (8) (Formerly numbered C151B.) Lecture, three hours; fieldwork, five hours. Requires: course 100, Life Sciences 1. Two weeks of off-campus research projects followed by two-week lecture course and offered only as part of Field Biology Quarter. Introduction to biodiversity, community structure, and dynamics and ecosystem function in tropical forest habitats. Letter grading.

154. California Ecosystems. (5) Lecture, three hours; laboratory or field trip, four hours. Requires: Life Sciences 1. Recommended: course 100. Introduction to structure, biodiversity, and dynamics of California ecosystems, with focus on Southern California, and impact of human activities on these systems. P/NP or letter grading.

M158. Cell Biology. (6) (Same as Physiological Science M158.) Lecture, three hours; laboratory, six hours. Requires: Chemistry 1A, 1B, and 1BL, or 20A, 20B, 20C, and 30AL. Life Sciences 1, 3. Cell biology of eukaryotic cells, with emphasis on correlation of structure and function at molecular, organellar, and cellular levels. Letter grading.

160. Introduction to Plant Biology. (4) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 162. Introduction to aspects of plant biology. Topics include plant body, reproduction, plant diversity, gene expression, and basic plant function. Letter grading.

162. Plant Physiology. (6) Lecture, four hours; laboratory, four hours. Requires: Life Sciences 1, 2, 3. Basic aspects of plant function, including photoschem- ical, biochemical, and physiological aspects of photosynthesis. Carbon and nitrogen metabolism and its regulation; organellar interactions and compartmentation; Water relations, ion transport, flowering, hormone action, and plant responses to stress. Letter grading.

163. Biology of Marine Tetrads. (5) Five-week intensive course. Lecture, five hours; laboratory and field work, 15 hours. Requires: Chemistry 1A, 1B, and 1BL, or 20A, 20B, 20C, and 30AL. Life Sciences 1, 3. Highly recommended: course 111. Survey of “higher” vertebrates living in marine habitats, including data analysis and labeling of seascapes, seabirds, and marine mammals. Laboratory emphasizes observational and experimental approaches to study of morphology, systematics, ecology, and behavior of local marine species and marine science center. Letter grading.

165. Ecological Physiology of Marine Vertebtrates. (4) Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Requisite: Chemistry 14B and 14BL, or 20B and 30AL. Life Sciences 1, 3. Recommended: Mathematics 3C or 32A, Physics 1C and 4BL, or 6C or 6CH. Introduction to physiological adaptations of marine vertebrates to major physicochemical variables in the oceans of the world and to major marine habitats. Given off campus at a marine science center. Letter grading.

168. Marine Phytoplankton Physiology. (4) Lecture, three hours; discussion, one hour. Requisites: Life Sciences 1, 2. Key physiological processes, with emphasis on photosynthesis, carbon and nutrient uptake, mineralization, and toxin production of key components of marine phytoplankton, such as cyanobacteria, diatoms, dinoflagellates, and coccolithophores. Letter grading.

170. Animal Environmental Physiology. (6) Lecture, three hours; laboratory, six hours. Requisites: Chemistry 14B, Life Sciences 1, 2, 3, 4, Mathematics 3C or 32A, Physics 1C and 4BL, or 6C or 6CH. Not open for credit to students with credit for Physiological Science 166. Designed for Ecology, Behavior, and Evolution majors. Introduction to physiology (function) of animals' organs and organ systems, with emphasis on environmental interactions and ecological adaptations. Letter grading.


180. Seminar: Biology and Society. (2) (Formerly numbered 188.) Seminar, two hours. Investigations and discussions of current socially important issues involving substantial biological considerations, either or both as background for policy and as consequences of policy. May be repeated once for credit with instructor change. Letter grading.

181. Parasitology. (6) Lecture, three hours; laboratory, six hours. Requisites: Life Sciences 1, 3. Introduction to principles, biology, and evolution of infectiousness, symbiosis, and parasitism, emphasizing protozoan and helminth parasites, including those of man. Letter grading.

187. Variable Topics in Ecology and Evolutionary Biology. (4) Lecture, three hours; discussion, one hour. Requisites: Life Sciences 1, 2, 3, 4. Investigates, discussion, and study of current important issues involving substantial biological considerations in ecology and evolutionary biology. Contact Undergraduate Advising Office for current topics. P/NP or letter grading.

188. Special Courses in Ecology and Evolutionary Biology. (2) Seminar, two hours. Departmentally sponsored experimental or temporary courses, such as those taught by visiting faculty members. May be repeated for credit. P/NP or letter grading.

190. Research Colloquia in Evolutionary Biology. (1) Seminar, one hour. Designed to bring together students undertaking supervised tutorial research in seminar setting with one or more faculty members to discuss their own work or related work in discipline. Led by one supervising faculty member. P/NP grading.

191. Variable Topics Research Seminars: Ecology and Evolutionary Biology. (4) (Formerly numbered 197.) Seminar, three hours. Seminar on current issues in research in evolutionary biology. Consult Schedule of Classes for topics and instructors. If content is approved in advance by Undergraduate Advising Office, undergraduate departmental majors may petition to use course to satisfy or partially satisfy an elective requirement. May be repeated for credit with consent of instructor. P/NP or letter grading.

192A-192B. Undergraduate Assistant in Ecology and Evolutionary Biology. (4-2) Limited to juniors/seniors. Training and supervised practicum for advanced undergraduate students in assisting with courses related to biology. Students assist in preparation of materials and development of innovative programs with guidance of faculty members in small course settings. Consult Undergraduate Advising Office for further information. May not be applied toward course requirements for departmental majors. May be repeated for credit. P/NP grading. 192A. (Formerly numbered 192.) Seminar, 12 hours; 192B, six hours.

194A. Research Group or Internship Seminars: Access to Research Careers. (2) (Formerly numbered Organismic Biology 194.) Seminar, six hours. Designed for seniors/juniors in research traineeships or those who have strong commitment to pursue graduate studies in molecular, biochemical, physiological, or biomedical fields. Weekly presentation and discussion of paper selected from current literature. May be repeated for credit. No more than four units may be applied toward departmental majors. Letter grading.

194B. Research Group or Internship Seminars: Ecology and Evolutionary Biology. (2) Seminar, six hours. Designed for undergraduate students who are part of research group or internship. Discussion of research methods and current literature in field of or research, faculty adviser. Consult Undergraduate Advising Office for more information. Students meet on regular basis with instructor and provide periodic reports of their experience. May not be applied toward requirements for departmental majors. May be repeated twice for credit. Individual contract with supervising faculty member required. P/NP grading.

196. Research Apprenticeship in Ecology and Evolutionary Biology. (2 to 4) Tutorial, six to 12 hours. Internship course for juniors/seniors to be supervised by Center for Community Learning, fieldwork site, and faculty advisor. Consult Undergraduate Advising Office for more information. Students meet on regular basis with instructor and provide periodic reports of their experience. May not be applied toward requirements for departmental majors. May be repeated twice for credit. Individual contract with supervising faculty member required. P/NP grading.

196A-196B. Honors Research in Ecology and Evolutionary Biology. (4 each) (Formerly numbered 190A-190D.) Tutorial, 12 hours. Limited to juniors/seniors. Supervised individual research designed to broaden and deepen students' knowledge of some phase of biology. Must be taken with Ecology and Evolutionary Biology Department faculty for at least two terms and for a total of at least 8 units. Eight units may be applied toward departmental majors. Individual contract required. In Progress (196A) and letter (196B) grading. Students may elect to enroll in additional research through courses 198C and 198D (letter grading). Report on progress must be presented to undergraduate adviser each term a 198 course is taken.

199. Directed Research in Ecology and Evolutionary Biology. (2 to 4) Tutorial, six to 12 hours. Preparation: submission of written proposal outlining study or research to be undertaken. Studies to involve laboratory or field-related research, not literature surveys or library research. Proposal to be developed in consultation with instructor and submitted for approval to undergraduate adviser before first day of instruction begins in that term. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. At end of term, culminating report describing progress of study or research and signed by student and instructor must be presented to undergraduate adviser. Only one 199 course may be applied toward departmental majors. Individual contract required. Letter grading.

Graduate Courses

M200A. Evolutionary Biology. (4) (Same as Earth and Space Sciences M216.) Lecture, two hours; discussion, two hours. Current concepts and topics in evolutionary biology, including microevolution, speciation and species concepts, analytical biogeography, adaptive radiation, mass extinction, community evolution, molecular evolution, and development of evolutionary thought. S/U or letter grading.

M200B. Ecology. (4) Lecture, two hours; discussion, two hours. Principles and topics in ecology. Topics may include island biogeography, disturbance ecology, chemical ecology, and physiological ecology. S/U or letter grading.

M200C. Animal Behavior. (4) Lecture, two hours; discussion, one hour; laboratory, six hours; experimental project. Designed for graduate students. Structure, reproduction, life histories, and behavior of marine algae, with emphasis on physiological ecology and biochemistry. Techniques in culture and physiological, ecological, and biochemical investigation of algae. Given off campus at a marine science center.

M204. Advanced Biology of Algae. (4) Lecture, four hours; discussion, one hour. Consideration of current research in experimental phytoplankton. Topics include discussion of appropriate aspects of chemical and physical oceanography and limnology; algal physiology; biochemistry, physiological ecology, and algal processes in ocean and freshwater habitats.

M205. Marine Invertebrate Biology. (4) Lecture, four hours; laboratory, eight hours. Functional morphology, life histories, and systematics of marine invertebrates of all major and most minor taxa; emphasis on the living animal and its habitat. Given off campus at a marine science center.

M206. Advanced Ichthyology. (4) Lecture, three hours; laboratory, three hours. Requisite: course 111 or 112. Advanced study of various aspects of fish biology. Theme varies from year to year. May be repeated for credit.

M208. Advanced Vertebrate Morphology. (4) Lecture, two hours; laboratory, eight hours. Prerequisite: course 110: Emphasis on a functional approach to evolution of vertebrate locomotor, feeding, and circulatory systems. Laboratory includes comparative and experimental analyses of morphological adaptation. Independent project required. May be repeated once for credit.

M209. Behavior of Arthropods. (4) Lecture, three hours; discussion, one hour. Advanced study of topics in behavior of terrestrial arthropods, including communication, feeding, reproductive, and social behavior. Emphasis on both taxonomic and adaptive approaches toward understanding behavior. Independent project required. S/U or letter grading.
210. Advanced Ornithology. (4) Lecture, two hours; laboratory, two hours; fieldwork, two hours. Requires: course 114A. Advanced study of topics in modern avian biology. Emphasis on experimental approaches to investigations of physiology (energetics, nutrition, osmoregulation), ecology (population and community organization), and behavior (foraging, breeding, sociability). S/U or letter grading.


217. Marine Ecology. (4) Lecture, four hours; discussion, one hour. Designed for graduate students. Structure, diversity, and energetics of marine communities; behavior, population dynamics, and biogeography of component species; associated oceanography and geology. Given off campus at a marine science center.


M231. Molecular Evolution. (4) (Same as Earth and Space Sciences M217.) Lecture, two hours; discussion, two hours. Series of advanced topics in molecular evolution, with special emphasis on molecular phylogeny of plants and animals in the context of the overall model of evolution. May be repeated for credit. S/U or letter grading.

232. Advanced Ecology. (4) Lecture, three hours; discussion, one hour; field trip, three hours. Requires: course 122. Concepts and topics in ecology, evolutionary or behavioral ecology, or theoretical ecology. Topics vary from year to year and may include island biogeography, tropical biology, biodiversity, modeling in ecology, habitat selection, community structure and organization, and evolution of reproductive rates. May be repeated for credit. S/U or letter grading.

235. Population Genetics. (4) (Formerly numbered C235.) Lecture, three hours; discussion, one hour. Basic principles of genetics of population, dealing with genetic structure of natural populations and mechanisms of evolution. Equilibrium conditions and forces altering gene frequencies, polygenic inheritance, molecular evolution, and methods of quantitative genetics. S/U or letter grading.


M238. Ocean Biogeochemical Dynamics and Climate. (4) (Same as Atmospheric and Oceanic Sciences M235.) Lecture, three hours. Interaction of ocean biogeochemical cycles with the physical climate system. Biogeochemical processes controlling carbon dioxide and oxygen in oceans and atmosphere over timescales from a few million years to a few years. Anthropogenic perturbation of global carbon cycle and climate. Response of ocean ecosystems to past and future global changes. Use of isotopes to study ocean biogeochemical cycles and climate. Interactions between biogeochemical cycles on land and in ocean. S/U or letter grading.

240. Physiology of Marine Animals. (4) Lecture, four hours; discussion, one hour. Designed for graduate and advanced undergraduate students. Letters and reviews. Mechanisms of evolution. Equilibrium conditions and work in marine molecular biology. Topics vary from year to year in areas such as behavior, ecology, and evolution. S/U or letter grading.

241. Animal Communication. (4) Lecture, three hours; discussion, one hour. Requires: Mathematics 3C or 32A, and Physics 1C and 4BL, or 6C or 6CH. Physical properties of animal signals and physiological mechanisms underlying their generation and reception. Lectures treat signal analysis, signal transmission, and receptor design in light of constraints placed on each of the sensory modalities. Examples of communication include visual, auditory, chemical, electrical, and magnetic cues, with emphasis on biological adaptations for efficiency signaling species-specific information. S/U or letter grading.

244. Advanced Insect Physiology. (4) Lecture, two hours; discussion, one hour; laboratory, two hours. Detailed consideration of current problems in insect physiology, with advanced laboratory. S/U or letter grading.

247. Advanced Plant Biology. (4) Lecture, three hours; discussion, two hours; requisites: course 162 or Molecular, Cell, and Developmental Biology C141. Open to undergraduates with consent of instructor. Designed to expose first-year graduate students to topics of current interest in plant biology. Subjects include plant genetics, growth and development, organelle structure, development and function, and plant-specific metabolic processes (photosynthesis, nitrogen fixation, metabolism of small molecules). S/U or letter grading.

250. Professional Skills for Biological Research. (2 to 3 Seminar, two hours. Preparation, writing, and submission of research proposals. Collection and management of research data, preparation of scientific presentations, review of literature, and publishing strategies. Optional field trip during some years for 1 extra unit. S/U or letter grading.

251. Seminar: Systematics. (2) Discussion, two to four hours; prerequisite: course 123 and an advanced course in systematic biology, including methods development and specific applications in studies of phylogeny. Theme varies from year to year. May be repeated for credit.


255. Seminar: Invertebrate Zoology. (2) Seminar, two hours. S/U or letter grading.

259. Seminar: Herpetology. (2) Discussion, three hours. Seminar on current approaches to herpetology. May be repeated for credit. S/U or letter grading.


263. Seminar: Population Genetics. (2 or 4) Discussion, three to six hours. Seminar on topics of current interest in population genetics, such as kin selection, sociobiology, cultural evolution, conservation genetics, etc.

264. Seminar: Stomatal Function. (4) Seminar, two hours; discussion, two hours. Open to undergraduates with consent of instructor. Structure and function of guard cells; gas exchange; environmental and hormonal regulation of responses; sensory transduction; stomatal adaptations.


269. Seminar: Animal Ecology. (2) Discussion, three hours. Advanced study of specific topics in animal ecology and related fields. May be repeated for credit.

270. Seminar: Environmental Physiology. (2) Seminar, two hours. S/U or letter grading.


273. Seminar: Entomology. (2) Discussion of specific topics in entomology and related fields. Main theme varies from year to year; may be repeated for credit.


279. Seminar: Evolutionary Biology. (2) Seminar, two hours. Requires: course M231. Emphasis on a particular issue in evolutionary biology, varying in topic from year to year. Topics may vary from year to year. May be repeated for credit. S/U or letter grading.

M286. Seminar: Statistical Problem Solving for Population Biology. (2) (Same as Statistics M286.) Seminar, two hours. Designed for graduate students. Statistical solutions to complex data analysis and/or experimental design problems encountered by biologists in their research. S/U or letter grading.


M290. Seminar: Comparative Physiology. (2) (Same as Physiological Science M290.) Seminar, two and one-half hours. Discussion of specific topics in comparative physiology of animals. Topics vary from year to year, with emphasis on systems physiology, neuroethology, or behavioral physiology. S/U or letter grading.

291. Seminar: Physiology and Biochemistry of Arthropods. (2) Seminar, two hours. S/U or letter grading.

296. Seminar: Integrative Biology — Cellular, Organismic, and Population. (1 to 4) Discussion, three hours. Advanced study and analysis of current topics in cellular, organismic, and population biology. Discussed and read recent research and literature in research specialty of faculty member teaching course. S/U grading.

297. Selected Topics in Ecology and Evolutionary Biology. (1 to 4) Seminar, one to three hours. Advanced study and analysis of topic in research interests in ecology and evolutionary biology. Consult Schedule of Classes for topics and instructors. May be repeated for credit with consent of instructor. S/U or letter grading.

299. Seminar: Parasitology. (2) Seminar, two hours. S/U or letter grading.
375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Preparation for Teaching Biology in Higher Education. (2) Seminar, to be arranged. Designed for graduate students. Study of problems and methodologies in teaching biology, which includes workshops, seminars, apprentice teaching, and peer observation. S/U grading.

496. Preparation for Teaching Biology in Higher Education. (2) Designed for graduate students. Strongly recommended as sequel to course 495 discussions on teaching, theory, and development of advanced skills. Study of methods and approaches to teaching of specific areas in biology, with emphasis on laboratory teaching, instructor/student interaction, and undergraduate motivation. S/U grading.

596. Directed Individual (or Tutorial) Studies. (2 to 12) Tutorial, to be arranged. Letter grading.

596F. Directed Individual (or Tutorial) Studies. (2 to 8) Tutorial, to be arranged. Given off campus at a marine science center.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 12) Tutorial, to be arranged. May not be applied toward M.A. or Ph.D. course requirements. S/U grading.


ECONOMICS

College of Letters and Science

UCLA

8283 Bunche Hall

Box 951477

Los Angeles, CA 90095-1477

(310) 825-1011

fax: (310) 825-9528

http://www.econ.ucla.edu

Gary D. Hansen, Ph.D., Chair
Roger E. Farmer, Ph.D., Vice Chair
Lee E. Ohanian, Ph.D., Vice Chair

Professors

Andrew G. Atkeson, Ph.D. (Stanley M. Zimmerman Endowed Professor of Economics and Finance)
Moshe Buchinsky, Ph.D.
Harold Linh Cole, Ph.D.
Janet Currie, Ph.D. (Charles E. Davidson Professor of Economics)
Michael R. Darby, Ph.D. (Warren C. Cordner Professor of Money and Financial Markets)
Sebastian Edwards, Ph.D. (Henry Ford II Professor of International Management)
Bryan C. Ellikson, Ph.D.
Roger E. Farmer, Ph.D.
Timothy J. Grooteloos, Ph.D.
Jinyong Hahn, Ph.D.
Gary D. Hansen, Ph.D.
Arnold C. Harberger, Ph.D.
Hugh A. Hopenhayn, Ph.D.
V. Joseph Hotz, Ph.D.
Ekaterni Kyriazidou, Ph.D.
Deepak K. Lai, D.Phil. (James S. Coleman Professor of International Development Studies)
Naomi R. Lamoreaux, Ph.D.
Edward E. Leamer, Ph.D. (Chauncey J. Medberry Professor of Management)
Kathleen M. McCarty, Ph.D.
Lee E. Ohanian, Ph.D.
Joseph M. Ostrov, Ph.D.

Scope and Objectives

The economics undergraduate program is designed for students who wish to gain a thorough understanding of both empirical and theoretical approaches to economics. Emphasis is on economic principles applied to resolving interpersonal conflicts of interest and coordinating productive activity in a world of scarce resources. Because students must gain a thorough theoretical and technical competence before extensive study of the applied specializations in the discipline, the analytic core of the major in Economics is closely structured. Some courses are appropriate for nonmajors, but the curriculum is most suitable for students who wish to make the study of economics the primary focus in their undergraduate education.

The undergraduate major provides analytical training in reference to socioeconomic phenomena and provides an excellent theoretical background for those pursuing graduate education in economics, law, political economy, public administration, journalism, social welfare, architecture and urban planning, and education. The graduate program is designed primarily for students pursuing the Ph.D. degree. The doctorate is awarded to those students who have achieved the level of study and training required for a professional economist. The degree recognizes students’ ability to make scholarly contributions in their fields of specialization and to undertake advanced research in those areas.

Undergraduate Study

Economics B.A.

Admission

Application for the major should be filed at the undergraduate counselors office in 2263 Bunche Hall. To apply, students must have completed at least 72 quarter units (but no more than 137 quarter units), one 12-unit term in residence in regular session at UCLA, and all courses listed under Preparation for the Major. In addition, they must be enrolled in UCLA regular session at the time of application.

Preeconomics Major

While students are completing the lower division preparation courses for the major, they may be classified as Preeconomics majors.

Preparation for the Major

Required: Economics 1, 2, 11, 41; one Writing II course or English Composition 129B; Mathematics 31A, and 31B or 31E. All courses must be taken for a letter grade. A 2.0 (C) grade is required in each premajor course. To enter the major, students must have a minimum 2.5 grade-point average in the economics and mathematics preparation courses and a GPA of at least 2.0 in any upper division courses taken for the major before applying.

Repetition of more than one preparation course or of any preparation course more than once results in automatic denial of admission to the major.

Transfer Students

Transfer applicants to the Economics major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one microeconomics course, one macroeconomics course, two calculus courses from the mathematics/physical sciences sequence, and one English critical reading and writing course.

Transfer students are required to take Economics 41 at UCLA rather than prior to transfer.

Transfer credit for any of the above is subject to department approval; consult an undergraduate counselor before enrolling in any courses for the major.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Nine upper division courses in economics which must include Economics 101, 102, and one course from at least three different fields in economics selected from the major fields list below. All courses must be taken for a letter grade. Economics 100, 110, and 120
may not be included among the nine upper division courses. One or two of the nine courses may be selected from Management 120A, 120B, 130A, 130B.

To graduate, students must have at least a 2.0 grade-point average in their upper division major courses, with grades of C– or better in Economics 101 and 102. Transfer credit is subject to department approval; consult an undergraduate counselor before enrolling in any courses for the major.

**Major Fields**

Economic theory (courses 101, 102, 105AH, 105BH, 106G, 106F, 107, 138, 139, 187); statistics, mathematical economics, and econometrics (courses 103, 141A, 141B, 141C, 142, 143, 144, 145, 146, 147A, 147B, 148); economic development (courses 111, 112); international economics (courses 121, 122); public finance (courses 130, 133, M134A, 134B, M135, M136); regional economics (course 137); labor economics (courses 150, 151, 152); money and banking (courses 106F, 160, 161); government and industry (courses 106E, 106I, 170, 171, 172); economic institutions (courses 106H, 180, 181A, 181B, 183).

**Economics B.A./Applied Economics M.S. Dual Program**

An intercampus dual degree program has been established between UCLA and UC Santa Cruz that allows students to obtain a B.A. in Economics from UCLA and an M.S. in Applied Economics from UC Santa Cruz in five years. Consult the economics undergraduate counselor for additional information.

**Business Economics B.A.**

The B.A. program offers a major for students seeking a business orientation in their study of economics. It does not replicate the traditional undergraduate business school curriculum. Instead, it offers a more tightly focused curriculum that is guided by the rigorous logic and integrative perspective of economics. It is designed to prepare students for graduate education in business, economics, and law. The program requires students to include specific courses offered by the department and the John E. Anderson Graduate School of Management (see The Major).

**Admission**

Enrollment in the program is limited. Applications for admission are handled exclusively by the Department of Economics. To apply, students must have completed at least 72 quarter units (but no more than 137 quarter units), one 12-unit term in residence in regular session at UCLA, and all courses listed under Preparation for the Major. In addition, they must have (1) a minimum 3.0 (B) overall average in all preparation courses except the writing course, and (4) have a minimum 2.0 (C) grade-point average in their upper division courses taken for the major before applying (Economics 101 applies on the major preparation grade-point average).

Note: The requisite grade-point averages plus completion of the preparation for the major courses do not guarantee admission to the program. Admission is on a competitive basis, using the above qualifications as minimum standards for consideration.

**Prebusiness Economics Major**

While students are completing the preparation courses for the major, they may be classified as Prebusiness Economics majors. (Transfer students who wish to enter UCLA as Prebusiness Economics majors must meet the admission screening requirements. For information, contact the Office of Undergraduate Admissions and Relations with Schools.)

**Preparation for the Major**

*Required:* Economics 1, 2, 11, 41, 101; one Writing II course; Management 1A, 1B; Mathematics 31A, and 31B or 31E. All courses must be taken for a letter grade.

Repetition of more than one preparation course or of any preparation course more than once results in automatic denial of admission to the major.

**Transfer Students**

Transfer applicants to the Business Economics major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one microeconomics course, one macroeconomics course, two calculus courses from the mathematics/physical sciences sequence, one English critical reading and writing course.

Transfer students are required to take Economics 41 at UCLA rather than prior to transfer.

Transfer credit for any of the above is subject to department approval.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

*Required:* Economics 102, 103, and at least two courses from 106 series; three other upper division courses in economics in at least two different fields (Economics 100, 110, and 120 may not be included as electives); four upper division courses from Management 108, 120A, 120B, 122, 123, 124, 126, 127A, 127B, 130A, 130B, 140. Transfer credit for any of the major courses is subject to department approval. Consult an undergraduate counselor before enrolling in any courses for the major.

To graduate, students must have a minimum 2.0 grade-point average in their upper division major courses, with at least a C– in each course. (Economics 101 applies on the preparation for the major, therefore requiring a minimum grade of C.) All upper division major courses must be taken for a letter grade.

**Economics/International Area Studies B.A.**

The B.A. program is for students who wish to attain specialized knowledge of a particular geographical area in addition to the economics analysis provided by the major. It should be useful to those who plan careers in international business or government service. The department encourages participation in the University of California Education Abroad Program or other recognized international study programs. Experience in foreign firms or institutions would be an advantage but yields no academic unit credit toward the major.

**Admission**

Qualified students must apply for the major through the undergraduate counselors office in 2263 Bunche Hall. To apply, students must have completed at least 72 quarter units (but no more than 137 units), one 12-unit term in residence in regular session at UCLA, and all courses listed under Preparation for the Major (except for the second year of foreign language). In addition, they must be enrolled in UCLA regular session at the time of application. All courses must be completed for a letter grade. A minimum 2.0 (C) grade is required in each premajor course, with a combined 3.0 GPA in the economics and mathematics courses. Students must also have a 2.0 (C) grade-point average in their upper division courses taken for the major before applying. Language course preparation need not be completed at the time of admission but must be completed before preparing the research paper required in Economics 199B. The program as a whole must be approved by an Economics Department counselor before students are admitted to the major.

**Preeconomics/International Area Studies Major**

While students are completing the preparation courses for the major, they may be classified as Preeconomics/International Area Studies majors.

**Preparation for the Major**

*Required:* Economics 1, 2, 11, 41, 101, 102; Mathematics 31A, and 31B or 31E. Students also must complete at least the first year (or equivalent) of the two required years of a modern foreign language which is spoken in the geographical area of their major concentration.

Repetition of more than one preparation course or of any preparation course more than once results in automatic denial of admission to the major.

**Transfer Students**

Transfer applicants to the Economics/International Area Studies major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one mi-
croecconomics course, one macroeconomics course, two calculus courses from the mathe-
matics/physical sciences sequence, and one year of a modern foreign language related to the
geographical concentration.

Transfer students are required to take Economics 41 at UCLA rather than prior to transfer.

Transfer credit for any of the above is subject to department approval; consult an undergradu-
ate counselor before enrolling in any courses for the major.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: A total of 12 upper division courses selected from economics and the approved
noneconomics courses listed below for the concentration. Eight economics courses are
required, including Economics 103, 121, 122, 199B, and four economics courses from at
least two different fields (selected from the ma-
jor fields listed under the Economics major).

Economics 101 and 102 (which are required
for the premajor) cannot be used to satisfy this
requirement; Economics 100, 110, and 120
may not be included as electives. The four re-
main ing upper division courses are social sci-
cences courses related to the concentration and
must be chosen from the approved courses
listed below. Students are required to include
selections from at least two different depart-
ments. Economics 199B must be completed in
the last year before graduation and includes
the preparation of a research paper on the
Economy of the country or region of the con-
centration. In addition, students must show
two-year proficiency (or equivalent) in a mod-
ern foreign language related to their concentra-
tion. The noneconomics courses, the research
paper, and the language learned must show
consistency of purpose.

One or two courses from Management 120A,
120B, 130A, 130B may be substituted for one
or two of the economics electives.

To graduate, students must achieve a mini-
mum 2.0 grade-point average for both eco-
nomics and noneconomics courses, with a
grade of C– or better in each course. All major
courses must be taken for a letter grade.

Major Concentrations

When students declare the major, they must
also select a concentration that includes a geo-
ographical area where the foreign language they
have taken is spoken. They must complete four
of the approved noneconomics courses listed,
including courses from at least two different de-
partments. Students may not use courses that
are not on their concentration list unless they
have petitioned and received approval in ad-
vance. Consult an undergraduate counselor in
2263 Bunche Hall about the petition process.

East Asia
Languages: Chinese, Japanese, Korean
Approved Noneconomics Courses: Anthropol-
ogy 175S, 175T, Chinese C175, Geography
186, History 169A, 169B, 170A, 170B, 170D,
172A, 172B, 172C, 173A, 176A, 176B, Japa-
nese 175, Korean 175, 180A, 180B, 180C, Po-
litical Science 135, 136, 159A, 159B, 160, So-
ciology M153, 179

Europe
Languages: French, German, Italian, Portu-
guese, Spanish
Approved Noneconomics Courses: French
109, 130, Geography 183, German 100A, 100B,
100C, History 114A, 120A, 120B, 121A,
121C through 121F, 122A through 122F, 124A,
124B, 124C, 125A, 125B, 125C, 126, 128A,
136C, 137A, 137B, Italian 102B, Political Sci-
ence 127A, 152A, 152B, 152C, 153A, 153B,
154, 156B

Latin America
Languages: Portuguese, Spanish
Approved Noneconomics Courses: Geography
181, 182A, 182B, History 157A, 159, 160B,
162A, 162B, 162C, Political Science 130, 131,
154A, 154B, Sociology 186

Middle East
Languages: Arabic, Hebrew, Persian, Turkish
Approved Noneconomics Courses: Geography
187, History 105C, 105A, 108B, Jewish Stud-
ies 142, Political Science 132A, 157, Sociology
187, Turkic Languages 180

Former Soviet Union
Languages: Armenian, Russian
Approved Noneconomics Courses: History
107A, 107B, 107C, 107E, 120A, 120B, M127A
through 127D, Political Science 128A, 128B,
156A, Turkic Languages 180

Individual Concentration
Language, geographical area, and noneco-
nomics courses to be approved in advance by
the economics/international area studies facul-
ty adviser

Mathematics/Economics

B.S.
See the Mathematics/Economics listing for a
description of the major.

Honors Program

The departmental honors program is open to
majors in Economics, Business Economics,
and Economics/International Area Studies who
have a cumulative grade-point average of at
least 3.5 in the major and in all courses taken
at UCLA prior to application.

To qualify for departmental honors at gradu-
ation, students must (1) select at least seven of
the required upper division economics courses
from the approved list designated for depart-
mental honors, (2) complete a two-term senior
thesis acceptable to the departmental honors
committee in Economics 198A and 198B, and
(3) complete the major requirements with at
least a 3.5 grade-point average in the econom-
ics courses. Highest honors are awarded at the
discretion of the departmental honors commit-
tee based on grade-point average and quality
of the senior thesis.

Economics 198A and 198B, the courses re-
quired for thesis preparation, may be counted
as upper division courses toward the field in
which the thesis is written (for purposes of sat-
fying the requirements for the major). Further
information and application forms are available
from an undergraduate counselor in 2263 Bunche Hall.

Computing Specialization

Majors in Economics, Business Economics,
and Economics/International Area Studies
may select a specialization in Computing by (1)
satisfying all the requirements for a bachelor's
degree in the specified major, (2) completing
Program in Computing 10A, 10B, Mathematics
61 or 113, and two courses from Program in
Computing 10C, 15, 20A, 20B, 30, 40A, 60,
and (3) completing at least two courses from
Economics 103, 106P, 141A, 141B, 141C, 143,
147A, 147B, 151, with the additional provision
that the courses taken must make substantial
use of computers. A grade of C– or better is re-
quired in each course, with a combined grade-
point average of at least 2.0. Students gradu-
ate with a bachelor's degree in their major and
a specialization in Computing.

Graduate Study

Official, specific degree requirements are de-
tailed in Program Requirements for UCLA
Graduate Degrees, available at the Graduate
Division website, http://www.gdnet.ucla.edu/
gasa/library/pgmrqintro.htm. In many cases,
more detailed guidelines may be outlined in
announcements, other publications, and web-
sites of the schools, departments, and pro-
grams.

Graduate Degrees

The Department of Economics offers Master of
Arts (M.A.) and Doctor of Philosophy (Ph.D.)
degrees in Economics.

Economics

Lower Division Courses

1. Principles of Economics. (4) Lecture, three
hours; discussion, one hour. Not open to students
with credit for course 100. Introduction to principles
of economic analysis, economic institutions, and issues
of economic policy. Emphasis on allocation of re-
sources and distribution of income through the price
system.
2. Principles of Economics. (4) Lecture, three hours; discussion, one hour. Not open to students with credit for course 1, 2, or 5. Principles of economics with an introduction to microeconomic and macroeconomic analysis, economic institutions, and issues of economic policy. Emphasis on aggregate economics, including national income, monetary and fiscal policy, and international trade. Prerequisite: completed introductory calculus sequence.

5. Introductory Economics. (4) Lecture, three hours. Not open to students with credit for course 1, 2, or 100. Principles of economics as tools of analysis. Presentation of a set of concepts with which to analyze a wide range of social problems that economic theory illuminates. May not be used to fulfill entrance requirements for any Economics Department major.

11. Microeconomic Theory. (4) Lecture, three hours; discussion, one hour. Enforced requisites: courses 1, 2, or course from Mathematics 31B, 31BH, 31E, 32A. Laws of demand, supply, returns, and costs; price and output determination in different market situations.

41. Statistics for Economists. (4) Lecture, three hours; discussion, one hour. Not open to students with credit for Statistics 11. Introduction to probability and statistics for economists, with emphasis on rigorous argument. Letter grading.

Upper Division Courses

100. Economic Principles and Problems. (4) Lecture, three hours. Designed for juniors/seniors. Not open to students with credit for course 1, 2, or 5. Principles of economics with application to current economic problems. May not be used to fulfill entrance requirements for any Economics Department major.

101. Microeconomic Theory. (4) Lecture, three hours; discussion, one hour. Requisite: course 11. Theory of factor pricing and income distribution; general equilibrium; implications of pricing process for optimum allocation of resources; interest and capital.


103. Introduction to Econometrics. (5) Lecture, three hours; discussion, one hour. Requisites: courses 11 and 41 or Statistics 11 or 100A. Introduction to theory and practice of econometrics, with goal to make students effective consumers and producers of empirical research in economics. Emphasis on intuitive understanding rather than on rigorous arguments; concepts illustrated with applications in economics. P/NP or letter grading.

105AH. Topics in Microeconomics (Honors). (4) Lecture, three hours. Requisite: course 101. Designed for departmental honors program students. Introduction to Walrasian and Nash equilibrium, modeling of selected applied topics such as peak load pricing, pricing of externalities, strategic pricing.


106E. Economics of Entrepreneurship. (4) Lecture, three hours. Requisite: course 101. Enrollment priority to Business Economics majors. Application of economic principles to the analysis of managing new businesses — combining elements of strategy, marketing, and entrepreneurial finance courses. Examination of both strategic decisions of entrepreneurs (pricing, advertising, entry) and more practical issues (funding, business plans, patents). Letter grading.


106G. Introduction to Game Theory. (4) Lecture, three hours; discussion, one to two hours (when scheduled). Requisite: course 101. Enrollment priority to Business Economics majors. Introduction to basic ideas of game theory and strategic thinking. Discussion of ideas such as dominance, backward induction, Nash equilibrium, commitment, credibility, asymmetric information, and signaling, with applications to examples from economics, politics, business, and other real-life situations. Letter grading.


106V. Investments. (4) Lecture, three hours. Requisite: course 102. Recommended: course 106F. Enrollment priority to Business Economics majors. Introduction to principles investment and portfolio theory. Topics include optimal portfolio construction, fixed income analysis, option pricing theory, and active portfolio management. P/NP or letter grading.

107. History of Economic Theory. (4) Lecture, three hours. Requisite: completed survey of economic theory including microeconomic principles from Grecian antiquity to the early 20th century, concentrating on the 18th and 19th centuries; special attention to selected writers, including Adam Smith, Ricardo, Malthus, Hume, Smith, Malthus, Ricardo, Marx, marginalists, and Marshall.

110. Economic Problems of Underdeveloped Countries. (4) Lecture, three hours. Requisite: course 1 or 100. Limited to non-Economics Department majors. Not open for credit to students with credit for course 111 or 112. Survey of major issues of development economics. Economic structure of low-income countries and primary causes for their limited economic growth. Economic goals and policy alternatives open to their leaders. Possible roles of developed countries. May not be applied toward any Economics Department major.

111. Theories of Economic Growth and Development. (4) Lecture, three hours. Requisite: course 11. Growth models, theory of production under constraints, relative factor prices and their impact on choice of technology, role of the market, economic planning in less developed areas.


113. Gender and Development in Globalizing World. (4) Seminar, three hours. Requisites: courses 11 or 101, 102. Critical examination of theoretical debates and discussion of empirical evidence on issues pertaining to current debates on gender, globalization, and development. Topics include household economics; bargaining and gender relations; paid and unpaid labor; gender differences in wages and employment; trade, multinational and feminization; structural adjustment and poverty; gender and development economics with analysis of major issues of international commercial and monetary policy confronting national and international agencies. May not be applied toward any Economics Department major. P/NP or letter grading.

120. International Economics. (4) (Formerly numbered 190.) Lecture, three hours. Requisite: course 1 or 100. Limited to non-Economics Department majors. Not open to students with credit for course 121 or 122 or former course 191 or 192. General introduction to international economics, based on examination of theory of trade and means and significance of balance of payments, with analysis of major issues of international commercial and monetary policy confronting national and international agencies. May not be applied toward any Economics Department major. P/NP or letter grading.

121. International Trade Theory. (4) (Formerly numbered 191.) Lecture, three hours; discussion, one hour. Requisite: course 101. Not open to students with credit for course 120 or former course 190. Theories of international trade. Intra-country, inter-country, terms, val- ues, and gains of trade. Effects of tariff, quantitative restrictions, and international integration. Effects of free and restricted trade on economic welfare and political stability. P/NP or letter grading.

122. International Finance. (4) (Formerly numbered 192.) Lecture, three hours; discussion, one hour. Requisite: course 102. Not open to students with credit for course 120 or former course 190. emphasis on interpretation of balance of payments and adjustment to national and international equilibria through changes in price levels, exchange rates, and national income. Other major topics include interna- tional payments, determination of exchange rates under various monetary standards, capital movements, exchange controls, and international monetary organiza- tion. P/NP or letter grading.

C125A-C125B-C125C. Seminars: International Economics. (4-4-4) Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in international economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented and discussed, by visiting experts, UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses C285A-C285B-C285C. P/NP or letter grading.

130. Public Finance. (4) Lecture, three hours. Requisites: courses 11, 101, 130. Division of functions and revenues between state and local govern- ments; revenues, expenditures, and indebtedness of these governments. Analyses of state and local tax systems.

M134A. Environmental Economics. (4) (Formerly numbered 134A.) (Same as Environment M134.) Lecture, three hours. Requisite: course 41 or Statistics 12 or 13, and course 101 (may be waived with con- sent of instructor). Introduction to major ideas in natu- ral resources and environmental economics, with emphasis on designing incentives to protect environ- ment. Highlights important role of using empirical data to test hypotheses about pollution’s causes and consequences. P/NP or letter grading.
134B. Economics of Environmental Regulation. (4) Lecture, three hours; discussion, one hour. Requi- site: course 141A. Social choice theory, efficiency, and markets, public goods and externalities, property rights, Pigouvian fees, marketable permits, legal solu- tions, risk and uncertainty, international and interre- gional competition, economy-wide effects of environ- mental regulations, and formal environmental de- mand theory. P/NP or letter grading.

M135. Economic Models of Public Choice. (4) (Same as Political Science M105.) Lecture, three or four hours; discussion, one hour (when scheduled). Preparation: any lower division political science course. Enforced requisite: course 11. Designed for juniors/seniors. Analysis of methods and conse- quences of various methods of decision making in political institutions. Topics include free-rider problem, voting and majority choice, demand revelation, and consequences of arriving at collective decisions through po- litical mechanisms. P/NP or letter grading.


137. Introduction to Urban and Regional Econom- ics. (4) (Formerly numbered 120.) Lecture, three hours. Requisite: course 11. Survey of broad range of policy and theoretical issues that are raised when economic analysis is applied in urban setting. Topics include urbanization and urban growth, housing mar- kets, location decisions of households and firms, transportation, urban labor markets, and local public sector. P/NP or letter grading.


139. Economics of Energy. (4) (Formerly num- bered 188B.) Seminar, three hours. Requisite: course 102. Topics include pricing and taxation of exhaustible resources, interactions between energy and econo- my, environmental impact, and oil price controls, oil debt and balance of payments, energy conserva- tion, and future technologies. Letter grading.

141A. Mathematical Finance A. (5) Lecture, three hours; computer laboratory, one hour. Requisite: course 11, or consent of instructor. Mathematics 104A or 160A. Introduction to financial models, continuous time asset pricing, and term structure of interest rates. P/NP or letter grading.

141B. Mathematical Finance B. (5) Lecture, three hours; computer laboratory, one hour. Requisite: course 141A. Capital asset pricing model, multiperiod discrete-time security market model, efficient mar- kets, dynamic spanning and market completeness, mathematical models of options, futures, and deriva- tives. P/NP or letter grading.

141C. Mathematical Finance C. (5) Lecture, three hours; computer laboratory, one hour. Requisite: course 141B. Models of term structure of interest rates, interest rate derivatives, optimal consumption and in- vestment. Equity premium puzzle, bubbles. P/NP or letter grading.

142. Probabilistic Microeconomics. (4) Lecture, three hours. Requisite: course 101. Combination of basic probability introduced in Statistics 11 with micro- economic models presented in courses 11 and 101 in order to explain phenomena such as insurer- assured, job search, and stock market behavior. Optimal production and consumption under uncertainty. Re- view of probability and introduction to alternative measures of risk and risk aversion. P/NP or letter grading.

143. Applied Regression Analysis. (4) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisite: course 103. Not open to students with credit for course 147B. Estimation and inference in multiple regression model; violations of assumptions of classical model (heteroskedasticity, unobserved heterogeneity, measurement error); intro- duction to limited dependent variable and time-series models. Emphasis on applications of regression anal- ysis and interpretation. P/NP or letter grading.


145. Topics in Mathematical Economics. (4) Le- cture, three hours. Requisite: course 101. Possible top- ics include game theory; competitive equilibrium anal- ysis; examination of market failure and role for market intervention. P/NP or letter grading.

146. Linear Models in Economics. (4) Lecture, three hours. Preparation: one linear or matrix algebra course. Not open to students with credit for Mathematics 164 or Electrical Engineering 136. Pos- sible topics include duality theory of linear program- ming and simplex algorithm, input/output analysis, and two-person zero-sum games. P/NP or letter grading.


147A. Introduction to Econometric Theory. (4) Lecture, three hours; discussion, one hour; laborato- ry, one hour. Requisites: course 103. Mathematics 115A. Introduction to econometric theory using linear algebra; estimation and inference in classical regres- sion, generalized classical regression model; intro- duction to time series and simultaneous equations models. Emphasis on theoretical analysis and com- putational aspects. P/NP or letter grading.

147B. Applications of Econometrics. (4) Lecture, three hours. Requisite: course 147A. Econometric models and data; forecasting, policy analysis, estima- tion of simultaneous equations models, applications of econometrics. Major original econometric paper re- quired.


151. Topics in Labor Economics. (4) Lecture, three hours. Requisite: course 101. Selected topics in labor theory; income distribution; business cycles and un- employment; investments in human capital and life cycles; migration; labor markets; marriage and di- vorce, etc. P/NP or letter grading.

152. Trade Unions and Professional Associations. (4) Lecture, three hours. Comparative behavior of unions and professional associations; criteria for wage maximization; quantification of gains; analysis of legal framework applying to such organizations.

C156A-C156B-C156C. Seminars: Labor Econom- ics. (4-4-4) Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in labor economics for ad- vanced undergraduate and graduate students. Intro- duction to graduate-level research in this field. Different topic each week, with presentation and discus- sion of new papers. Research in progress presented, discussed, and critiqued by visiting experts, UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses 2C26A-C2C6B. P/NP or letter grading.


C166A-C166B-C166C. Seminars: Monetary Eco- nomics/Macroeconomics. (4-4-4) Seminar, three hours. Requisites: courses 101, 102. Limited to seniors. Overview of most current developments in monetary economics and macroeconomics for advanced under- graduate and graduate students. Introduction to grad- uate-level research in this field. Different topic each week, with presentation and discussion of new pa- pers. Research in progress presented, discussed, and critiqued by visiting experts, UCLA faculty mem- bers, and advanced graduate students. Concurrently scheduled with courses 2C26A-C2C6B. P/NP or letter grading.


171. Industrial Organization: Theory and Tactics. (4) Lecture, three hours. Requisite: course 11. Study of pricing and output decisions of firms under condi- tions that are less than perfectly competitive or monopoly; theories of oligopoly and monopolistic competition; in- formation costs and advertising; examination of pricing practices such as price discrimination, tie-in selling, predatory pricing, and resale price maintenance.


C176A-C176B-C176C. Seminars: Industrial Orga- nization. (4-4-4) Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in industrial organization for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discus- sion of new papers. Research in progress presented, discussed, and critiqued by visiting experts, UCLA faculty members, and advanced graduate stu- dents. Concurrently scheduled with courses 2C27A-C2C7B-C2C7C. P/NP or letter grading.


C186A-C186B-C186C. Seminars: Economic History. (4-4-4) Lecture, three hours. Limited to seniors. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses C246A-C246B-C246C. P/NP or letter grading.

187. Upper Division Research Seminar: Applications of Economic Theory. (4) (Formerly numbered 188C-188Z.) Seminar, three hours. Requires: courses 11, 101, 102. Limited to senior and graduate students usually write research paper on topic selected in consultation with instructor. P/NP or letter grading.

195A-195B. Community or Corporate Internships in Economics I, II. (2-4) (Formerly numbered 1991.) Lecture, three hours. Requires: course 11. Limited to junior/senior Economics, Business Economics, Economics/International Area Studies, and Mathematics/Economics majors. Internship to be supervised by Center for Community Learning and Economics Department. Further supervision to be provided by business or entity for which student is doing internship. Students meet on regular basis with instructor and provide periodic reports of their experience. May not be applied toward major requirements. Only 8 units from courses 195A and 195B may be applied toward undergraduate degree. Individual contract with supervising faculty member required. P/NP grading.

198A. Honors Research in Economics I. (4) (Formerly numbered 198AH.) Tutorial, three hours. Requires: courses 11, 101, 102. Limited to senior departmental honors program students. First term of two-term sequence in which students develop honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. In Progress grading (credit to be given only on completion of course 198B).

198B. Honors Research in Economics II. (4) (Formerly numbered 198BH.) Tutorial, three hours. Requires: course 198A. Limited to senior departmental honors program students. Second term of two-term sequence in which students complete honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

199A. Directed Research in Economics. (4) (Formerly numbered 199H.) Tutorial, three hours. Requires: courses 11, 101, 102. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. May be repeated twice but may be applied only once toward major requirements. Individual contract required. P/NP or letter grading.


Graduate Courses

Foundations of Economics

200. Mathematical Methods in Economics. (4) Lecture, three hours. Should be taken prior to enrollment in course 201A. Examination of mathematical methods used in graduate-level courses in microeconomics, macroeconomics, and quantitative methods. Topics include real analysis, linear algebra and matrices, calculus of one and several variables, optimization, convex analysis, and dynamic and dynamic optimization. S/U grading.

200B. Mathematical Methods in Economics II. (4) Lecture, three hours. Topics may be selected to be taken prior to or concurrent with course 201B. Linear algebra and its application to linear difference equations, Basic real analysis, normed vector space/Banach space, Hahn/Banach theorem, Schauder fixed point theorem, and theory of correspondences. S/U grading.

201A-201B-201C. Microeconomics. (4-4-4) Lecture, three hours. S/U or letter grading.


202A-202B-202C. Macroeconomics. (4-4-4) Lecture, three hours.


203A. Probability and Statistics for Econometrics. (4) Lecture, three hours. Provides statistical tools necessary to understand econometric techniques. Random variables, distribution and density functions, sampling, estimators, estimation techniques, hypothesis testing, and statistical inference. Use of econometric problems and examples. S/U or letter grading.


204A-204Z. Applications of Econometric Theory. (4 each) Lecture, three hours. S/U or letter grading: M204L-M204M-M204N. Seminars: Pharmaceutical Economics and Policy. (1-1-2) (Same as Health Services M204A-M204B-M204C.) Seminar, three hours every other week for three terms. Seminars on courses 201A, 201B, 201C, Health Services M236. Limited to graduate public health and economics students. Various topics in economics of pharmaceutical industry, including rates of innovation, drug regulation, and economic impact of pharmaceuticals. In Progress (M204L, M204M) and S/U or letter (M204N) grading.

204R. Preparation: completion of first-year microeconomics and graduate econometrics courses. In past decades economists have learned remarkable amount about how society works. Increased understanding has come about through application of distinctively economic methods of research — explicit mathematical models and econometric statistical techniques — to topics such as healthcare, crime, education, and immigration. Taken together this work has led to increased understanding of inequality, how to measure it, and what causes inequality. Study of this work, with focus on two important influences on inequality — economic growth and regions in which knowledge is accumulating most rapidly. S/U grading.

205. Economic Modeling. (4) Lecture, three hours. Development of modeling skills by considering a sequence of economic issues (e.g., peak load pricing, regulation, monopoly, capital asset pricing, Pareto efficiency). Emphasis on multivariable constrained optimization, S/U or letter grading.

207. History of Economic Thought. (4) Lecture, three hours. Topics from classical economics, including work of Smith, Ricardo, and Mill, and developments from the 1870s, including contributions of major figures of the marginalist revolution, the socialist controversy, and history of welfare economics. S/U or letter grading.

M208. Introduction to Demographic Methods. (4) (Same as Biostatistics M209, Community Health Sciences M208, and Sociology M213A.) Lecture, four hours. Preparation: one introductory statistics course. Introduction to methods of demographic analysis. Topics include demographic rates, standardization, decomposition of differentials, life tables, survival analysis, cohort analysis, birth interval analysis, models of population growth, stable populations, population projection, and demographic data sources. Letter grading.
Economic Theory

211A-211B. Economics of Uncertainty, Information, and Games. (4-4-4) Lecture, three hours. Preparation: introductory probability. Requisite: course 201C. The course discusses decision making under uncertainty, applied to topics such as asset pricing models, adverse selection, moral hazard, bargaining, signaling, auctions, and search. S/U or letter grading.

212A-212Z. Topics in Advanced Theory. (4 each) Lecture, three hours. Preparations required. Course 212C. Selected advanced theoretical topics of current interest and introduction to modern mathematical economics, including general equilibrium theory and game theory. S/U or letter grading.

214A-214Z. Topics in Mathematical Economics. (4 each) Lecture, three hours. Requisites: courses 212A, 212B. Current research in mathematical economics. Content varies. Ordinarily only two courses in this sequence given every year. May be repeated for credit. S/U or letter grading.

214A. General Equilibrium Theory. Requisite: course 210C. Core convergence theorems, cooperative and noncooperative approaches to competitive equilibrium theory, perfectly competitive equilibria, the no-surplus condition, and applications to mechanism theory and incomplete market models.

214B. Game Theory. (Same as Mathematics M261 and Political Science M208A.) Lecture, three hours. Designed for graduate economics, mathematics, and political science students. Bargaining theory, the core, the value, other solution concepts. Applications to oligopoly, general exchange and production economies, and allocation of joint costs.

215A. Topics in Applied Game Theory. (4) (Same as Political Science M208B.) Lecture, three hours. Preparation: calculus or introductory probability. Designed for graduate economics and political science students. Survey and applications of major solution concepts to models of bargaining, oligopoly, cost allocation, and voting power. S/U or letter grading.

218A-218B-218C. Workshops: Economic Theory and Mathematical Economics. (4-4-4) Lecture, three hours. Workshops for predissertation and dissertation writers. Discussion of advanced topics and recent developments in game theory, information and uncertainty, and general equilibrium theory. Presentation of recent papers published and unpublished in economic theory as well as research of instructor and students. In-class presentation expected. S/U or letter grading.


221B. Monetary Economics II. (4) Lecture, three hours. Emphasis on theoretical, historical, and policy aspects of monetary economics. Financial intermediation, bank panics, asset price volatility, game theoretic models of policy, inflation, implication of monopolistic competition, search and coordination failures, central bank operations, and evolution of monetary institutions. S/U or letter grading.


221D. Monetary Economics IV. (4) Lecture, three hours. Requisites: courses 220A, 220B, 220C. Emphasis on applied macroeconomics, with topics changing from year to year. Students select a particular data set to study. Each week class studies an article from recent work in applied macroeconomics or applied econometrics which teaches a technique or suggests a theoretical restriction on the data. Subgroups of students report back the technique on their selected data set. S/U or letter grading.

222A-222Z. Topics in Monetary Economics. (4 each) Lecture, three hours. Current research in monetary economics. Content varies. May be repeated for credit. S/U or letter grading.

222A. Control and Coordination in Economics. (4) (Same as Computer Science M222.) Lecture, three hours. Recommended preparation: appropriate mathematics course. Designed for graduate economics and engineering students. Stabilization policies, short- and long-run dynamics and stability analysis; decentralization, coordination in teams; certainty equivalence and separation theorems; stochastic and learning models. Bayesian approach to price and output rate adjustment. S/U or letter grading.

226A-226B-226C. Seminars: Monetary Economics/Macroeconomics. (4-4-4) Seminar, three hours. Seminar for economics and political science graduate students. Survey and applications of major solution concepts to models of bargaining, oligopoly, cost allocation, and voting power. S/U or letter grading.

228A-229B-229C. Seminars: Monetary Economics. (4-4-4) Seminar, three hours. Workshops for predissertation and dissertation writers. Literature surveys or research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, advanced graduate students. Concurrently scheduled with courses C166A-C166B-C166C. S/U or letter grading.

228B-229B-229C. Seminars: Monetary Economics. (4-4-4) Seminar, three hours. Workshops for predissertation and dissertation writers. Literature surveys or research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, advanced graduate students. Concurrently scheduled with courses C166A-C166B-C166C. S/U or letter grading.

Econometrics


232A. Bayesian Econometrics. (Same as Political Science M208E.) Subjective probability, introduction to decision theory, Bayesian analysis of regression, sensitivity analysis, simplification of models, criticism.

233A. Series Models. Stationary stochastic processes, Box-Jenkins methods, spectral analysis, forecasting, rational expectation models, analysis of macroeconomic data.


Economic History

241. Economic History of Western Europe. (4) Lecture, three hours. Designed for graduate students. Seminar on European economic history, with emphasis on evolution of institutions and growth. Serfdom, medieval agriculture and the agricultural revolution, demographics, industrial revolution, imperial expansion, and decline of Britain. S/U or letter grading.


246A-246B-246C. Seminars: Economic History. (4-4-4) Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topics each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses C186A-C186B-C186C. S/U or letter grading.

247A-247B-247C. Workshops: Economic History. (4-4-4) Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topics each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses C186A-C186B-C186C. S/U or letter grading.


249A-249B-249C. Von Grepp Workshop: History of Entrepreneurship in the U.S. Economy. (4-4-4) Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by visiting experts, UCLA faculty members, graduate students. S/U grading.
Public Finance
251A. Theory and Policy of Taxation. (4) Lecture, three hours. Examination of influence of taxation on economic efficiency and incidence of taxation in first part of course; design of tax systems and tax bases in second part of course. S/U or letter grading.

251B. Cost-Benefit Analysis of Public Projects and Programs. (4) Lecture, three hours. Requisite: course 251A. Presentation of those aspects of applied capital theory that are relevant in decisions concerning investment projects in first part of course. Differences between social and private benefits and costs (shadow prices) for foreign exchange, capital, and labor, with applications to public investment decisions, in second part of course. S/U or letter grading.

252. Economics of Federalism. (4) Lecture, three hours. Theories of perfect games and social organization. Role of government, collective goods, collective defense, local public goods, spillovers, and intergovernmental relations. S/U or letter grading.


254A-254B-254C. Workshops: Public Economics. (4-4-4) Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by graduate students, UCLA faculty members, visiting experts. S/U grading.

Labor Economics
261A-261B. Labor Economics I, II. (4-4) Lecture, three hours. S/U or letter grading.


261B. Requisite: course 261A. Models of life-cycle learning and work behavior, with particular emphasis on recent literature examining labor force behavior and experience of women.

262A-262Z. Topics in Labor Economics. (4 each) Lecture, three hours. Current research in labor economics. Content varies. May be repeated for credit. S/U or letter grading.

C266A-C266B-C266C. Seminars: Labor Economics. (4-4-4) Seminar, three hours. Designed for pre-dissertation and dissertation writers. Overview of most current developments in labor economics for advanced graduate and undergraduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and critiqued by visiting experts, UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses C176A-C176B-C176C. S/U grading.

Industrial Organization

271A. Major economic aspects of property rights system. The first of two parts, comparing and contrasting the market compared from perspective of alternative arrangements for allocating resources. Traditional problems of competition, monopoly, and industrial concentration. Brief analysis of these problems of antitrust policy bearing on industrial structure.

271B. Requisite: course 271A. Study of firm organization and pricing under conditions of less than perfect competition; information costs and advertising; economic and legal analysis of marketing practices such as discrimination, tie-in selling, resale price maintenance, exclusive dealing, and territorial arrangements.


272A-272Z. Topics in Industrial Organization. (4 each) Lecture, three hours. Current research in industrial organization. Content varies. May be repeated for credit. S/U or letter grading.

273A. Public Utility Regulation. (4) Lecture, three hours. Theory, practice, and consequences of regulation in electric power, gas, water, telecommunications, broadcasting, and other regulated industries. Experiences of unregulated monopoly and public enterprises by way of contrast. S/U or letter grading.

C276A-C276B-C276C. Seminars: Industrial Organization. (4-4-4) Seminar, three hours. Designed for pre-dissertation and dissertation writers. Overview of most current developments in industrial organization for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and critiqued by visiting experts, UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses C176A-C176B-C176C. S/U grading.

278A-278B-278C. Proseminars: Industrial Organization and Regulation. (4-4-4) Seminar, three hours. Quarterly seminar for presentation and discussion of new papers. Research in progress presented, discussed, and critiqued by visiting experts, UCLA faculty members, advanced graduate students. Research paper required. S/U or letter grading.


Also see Management 262 (pricing policy)

International Economics


282A-282Z. Topics in International Economics. (4 each) Lecture, three hours. Current research in international economics. Content varies. May be repeated for credit. S/U or letter grading.


Development Economics

286B. Cost-Benefit Analysis of Development Projects. (4) Lecture, three hours. Requisite: course 286A. Methodology for evaluating investment projects, with special attention to types of issues that arise in developing countries. Discussion of social versus private evaluation criteria; applications to highway, electricity, and irrigation projects. S/U or letter grading.

287A-287Z. Topics in Development Economics. (4 each) Lecture, three hours. Current research in development economics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.


287B. Economic Development in East Asia. Recent economic history of East Asia, focusing on postwar development of Japan, Korea, and China. Emphasis on role of international investment and trade, especially with the U.S., in area’s economic development.

287C. Topics in Economic Development. Designed for graduate students. Topics in monetary and exchange rate policy in developing countries. Students expected to develop analytical tools and underlying policy issues.


Urban Economics


293A-293Z. Topics in Urban Economics. (4 each) Lecture, three hours. Current research in urban and regional economics. Content varies. Serves as forum for presentation of papers on urban economics by students, UCLA faculty members, and visitors. May be repeated for credit. S/U or letter grading.

C296A-C296B-C296C. Seminars: Asset Pricing. (4-4-4) Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in asset pricing theory for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts. UCLA faculty members, and advanced graduate students. Concurrently scheduled with courses C146A-C146B-C146C. S/U grading.

298A-298B-298C. Prospectives: Asset Pricing. (4-4-4) Seminar, three hours. Quarterly seminars for predissertation and dissertation writers on empirical issues in area of asset pricing, broadly defined. Presentation of work-in-progress or background material for proposed dissertation topics which are discussed and criticized by faculty members and fellow students. Presentation or research paper required. S/U grading.

Special Studies

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching College Economics. (2) Seminar, one hour; laboratory, three hours. Designed for graduate students. Required of all new teaching assistants. Classroom practice in teaching, with individual and group instruction on related educational methods, materials, and evaluation. May be repeated for credit. S/U grading.

596. Individual Study. (2 to 8) Directed individual study or research. S/U grading.


EDUCATION

Graduate School of Education and Information Studies

UCLA Office of Student Services 1009 Moore Hall Box 951521 Los Angeles, CA 90095-1521 (310) 825-8326 fax: (310) 794-4732 e-mail: info@gseis.ucla.edu http://www.gseis.ucla.edu

Sandra Graham, Ph.D., Chair Patricia M. McDonough, Ph.D., Vice Chair

Professors


Professors Emeriti


Richard C. Williams, Ph.D. Charles Z. Wilson, Ph.D. Merlin C. Wittrock, Ph.D.

Associate Professors


Assistant Professors

Robert Cooper III, Ph.D. Noel D. Enesty, Ph.D. José-Felipe Martínez, Ph.D. Rashmita S. Mistri, Ph.D. Ernest Morrell, Ph.D. Edith Mukudi Omwami, Ph.D. John S. Rogers, Ph.D. José Luis Santos, Ph.D. Richard L. Waggoner, Ph.D. Jeffrey J. Wood, Ph.D.

Adjunct Professors


Adjunct Associate Professors

Diane Durkin, Ph.D. Philip Ender, Ph.D. Linda F. Rose, Ph.D.

Adjunct Assistant Professors

Bruce L. Barbée, Ed.D. Jennifer McCormick, Ph.D.

Scope and Objectives

As one of the top-ranked public graduate programs in education in the nation, the Department of Education is guided by a commitment to integrate theory and practice and to improve educational policy and practice, which attracts prominent scholars and is internationally recognized for its research centers in urban education, higher education, child development, and urban education. Whether students choose to pursue a Ph.D., an Ed.D., a master's degree, or a services or instructional credential, they graduate with a broad understanding of educational theory and tested practice.

Undergraduate Study

Education Studies Minor

The Education Studies minor is intended to address the diverse information needs of the UCLA undergraduate community to (1) allow students to learn more about the multitude of contemporary professional research issues confronting the field of education, (2) understand the complex interactions between the legal, social, political, and economic forces that influence and shape educational policies in America, (3) provide an introductory course sequence for students who wish eventually to pursue careers in education either as teachers or researchers, and (4) provide an analysis of current educational practices by which UCLA students can become better consumers of ed-
Graduate Degrees, available at the Graduate education academic adviser in the Office of Student Services, 1009 Moore Hall, http://www.gseis.ucla.edu/~edminor/. Transfer students must have completed one minor course and have one minor course in progress. Applicants are expected to be committed to inquiry of issues central to educational research and practice. Students must follow the program of study in effect at the time of their admission. Students completing their sophomore year are encouraged to apply.

**Required Upper Division Courses (32 units minimum):** A minimum of four core courses selected from Education M108, 120 through 133, and M194A, M194B, M194C (to be taken concurrently with either M182A, M182B, M182C or M183A, M183B, M183C) and three elective courses selected from 80, 92A through 92F, M102, M103, M112, 140, 141, 142, 143, 144, 146A, 146B, M148, 162, CM178/CM178L, 185, 191A through 191X, 192A/170A, 192B/170B, 196C.

Only one course from Education 80 and 92A through 92F may be applied toward the elective requirement. Courses CM178/CM178L, 192A/170A, and 192B/170B must be taken concurrently.

All minor courses must be taken for a letter grade. Successful completion of the minor is indicated on the transcript and diploma.

**Graduate Study**

Official, specific degree requirements are detailed in **Program Requirements for UCLA Graduate Degrees**, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Education offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Education, Master of Education (M.Ed.) degree, Doctor of Education (Ed.D.) degree, and Doctor of Philosophy (Ph.D.) degree in Special Education (with California State University, Los Angeles).

One articulated degree program (Education M.Ed./Latin American Studies M.A.) and one concurrent degree program (Education M.Ed., M.A., Ed.D., or Ph.D./Law J.D.) are also offered.

### Education

#### Lower Division Courses

10. **Introduction to Humanities, Social Sciences, and Scientific Inquiry.** (4) Lecture, 30 hours; laboratory, 8 hours. Introduction to range of critical concepts in humanities, social sciences, and hard sciences. Use of multicultural texts that represent variety of genres and disciplines to develop critical reading and writing skills. Development of scientific inquiry skills relevant to study of mathematics and science in medical professions. Weekly compositions, critical thinking journals, and participation in laboratory experiments. Application of these concepts to critical issues facing migrant farmworker communities and similar groups throughout state and country, with focus on issues such as identity, language, culture, and central social, health, and educational issues facing Latino community. Offered in summer only. P/NP or letter grading.

80. **Understanding Collegiate Experience.** (4) (Formerly numbered 180.) Lecture, three hours; discussion, 90 minutes. Designed to help students better understand their experience within college environment by learning about research that has been done on college students with an interest in college experience. Examination of diverse issues ranging from reasons why students go to college to how students are ultimately influenced by college experience. Letter grading.

92A. **Study of Teaching and Learning Methods.** (4) (Formerly numbered 192A.) Seminar, three hours. Analysis of learning theory and teaching methods in light of research on student characteristics, learning environments, student/teacher interaction, and outcomes of instruction. Application of theory and research to practice. Letter grading.

92B. **Practicum in Higher Education.** (4) (Formerly numbered 192B.) Seminar, three hours. Requisite: course 92A. Examination of intellectual and personal development of college students through differential environments and instructional experiences. Letter grading.

92C. **Dynamics of Peer Mentoring.** (4) (Formerly numbered 192C.) Seminar, three hours. First course in series of three designed to provide proficiency in learning principles and procedures relevant to peer mentoring. Undergraduate students present College of Letters and Science academic support workshops to their peers with intent of enhancing academic and career perspectives. Letter grading.

92D. **Development of Peer Mentoring.** (4) (Formerly numbered 192D.) Seminar, three hours. Requisite: course 92C. Second course in series of three designed to provide proficiency in learning principles and procedures relevant to peer mentoring. Undergraduate students present College of Letters and Science academic support workshops to their peers with intent of enhancing academic and career perspectives. Concentration on relationship between creativity and presentation. P/NP or letter grading.

92E. **Evaluation of Peer Mentoring.** (4) (Formerly numbered 192E.) Seminar, three hours. Requisite: course 92D. Third course in series of three designed to provide proficiency in learning principles and procedures relevant to peer mentoring. Undergraduate students present College of Letters and Science academic support workshops to their peers with intent of enhancing academic and career perspectives. Concentration on program assessment. P/NP or letter grading.

92F. **Academic Success in Undergraduate Experience.** (2) (Formerly numbered 197J.) Lecture, one hour; discussion, one hour. Designed to promote understanding of barriers in college. Enrollment of college to college experience, both academic and social. Letter grading.

98. **Critical Issues in Education.** (4) Lecture, 30 minutes; laboratory, 30 minutes. Introduction to critical educational issues and approaches taken by researchers, policymakers, and education advocates as they respond to these issues. Laboratory portion of course engages students in small research groups within which they acquire background on a particular issue of interest, learn about research, and conduct mini-research projects. May be repeated for credit. Letter grading.

#### Upper Division Courses

M102. **Mexican Americans and Schools.** (4) (Same as Chicano and Chicano Studies M102.) Seminar, four hours. Theoretical and empirical overview of Chicana/Chicano educational issues in the U.S., with special emphasis on disentangling effects of race, gender, class, and immigrant status on Chicana/Chicano educational attainment and achievement. Examination of how historical, social, political, and economic forces impact Chicana/Chicano educational experience. P/NP or letter grading.

M103. **Asian American Education and Schooling.** (4) (Same as Asian American Studies M114.) Seminar, four hours. Examination of existing body of research from various disciplines on Asian/Pacific American educational experiences. Letter grading.

M108. **Sociology of Education.** (5) (Same as Sociology M175.) Lecture, four hours. Study of social processes and interaction patterns in educational organizations; relationship of such organizations to aspects of society, social class, and power; social relations within school, college, and university; formal and informal groups, subcultures in educational systems; roles of teachers, students, and administrators. Letter grading.

M112. **Inner and Outer Worlds of Children: Social Policies.** (4) (Same as Honors Collegium M112.) Seminar, four hours. Practices and analysis of social policies impacting on children, including assessment, social support, technology in classroom, psychosocial, and economic opportunity, affirmative action, and educational assessment. Letter grading.

118. **Literacy in American Life.** (5) Lecture, four hours. Introduction to literacy studies (study of reading and writing), with focus on American life. Readings on history of literacy in the U.S.; studies of literacy in school, on job, and in everyday life; studies of literacy and electronic media and self-study of development and use of students’ own literacy. Letter grading.

120. **Early Childhood Development.** (5) (Formerly numbered 181A.) Seminar, four hours. Development of cognitive and social behaviors and their enhancement. Broad overview of children’s psychological development, with emphasis on personal, social, and emotional attributes of preschool and elementary school children. Aspects of prosocial behavior and aggression. Enhancement of prosocial behavior and modification of such negative behaviors as aggression. Review and evaluation of contemporary educational programs for promoting positive social behaviors in elementary schools. Methodological aspects of child development. Overview of early childhood education and issues related to role of family, school, and television in child development. Letter grading.

121. **Introduction to K-12 Issues in American Public Education.** (5) (Formerly numbered 181B.) Seminar, four hours. Examination of American schooling experience (K-12) and its various school and social policies that impact on children and adolescents. Systematic examination of major participants in American schooling process (parents, students, teachers, governments, other educational organizations, and society) and how they are associated with American schooling experience. Discussion of contemporary themes such as risk behaviors, SAT controversy, high school exit examinations, social promotion, technology in classroom, psychosocial development of children, school reform, equal educational opportunity, affirmative action, and educational assessment. Letter grading.
122. Perspectives on American College. (5) (Formerly numbered 181C.) Seminar, four hours. Examination of race and social class in higher education, with an emphasis on the impact of institutional policies on student outcomes. Letter grading.

123. Teaching Profession. (5) (Formerly numbered 181D.) Seminar, four hours. Exploration of traditional and alternative teacher preparation programs and how they affect teaching and learning. Letter grading.

124. History of Higher Education. (5) (Formerly numbered 191B.) Seminar, four hours. Exploration of major eras in the history of higher education. Topics included are the rise and fall of universities, the impact of societal changes on higher education, and the role of politics in shaping higher education policies. Letter grading.

125. Politics of Education. (5) (Formerly numbered C191D.) Lecture, two hours; discussion, two hours. Political dimensions of education institutions as organizations. Relationships between education institutions and political institutions in society. Political theories as a foundation for public policy analysis, including intergroup political debates about school policies and funding. Letter grading.

126. Educational Anthropology. (5) (Formerly numbered C191E.) Seminar, four hours. Research seminar designed to familiarize students with discipline of anthropology and subfield of anthropology and education. Exploration of concept of culture through various anthropological perspectives, with focus on theories of culture, cultural transmission and acquisition, and cultural reproduction and production for understanding schooling and its outcomes. Examination of research methodologies in anthropology, as well as critical historical overview of discipline and current debates and dilemmas of doing anthropological research in educational settings. Issues of race, gender, sexual orientation, and class, and consideration of application of anthropological theory and methods to educational practice and research. Concurrency required. Letter grading.

127. Educational Psychology. (5) (Formerly numbered 191F.) Seminar, four hours. Research seminar providing broad overview of educational psychology, with examination of relationship of teaching and learning. Focus on understanding of child's role in classroom, issues of teaching and learning that arise based on child's social class, ethnic background, gender, age, and level of ability. Letter grading.

128. Adolescent Psychosocial Development: Problems and Potentials. (5) (Formerly numbered 191G.) Seminar, four hours. Research seminar providing overview of research literature on adolescent development and use of education environment as context for this development. Primary focus of adolescent development to be psychosocial in nature and relation of topics to understanding of one's identity, peer group norms, and relationships with other individuals and society at large. Study of psychological and education theories that apply to specific sub-samples of adolescents (e.g., women and adolescent of color), as well as those that are relevant to population of youth at large. Letter grading.

129. Education and Law. (5) (Formerly numbered 191H.) Seminar, four hours. Research seminar providing overview of high-profile legal controversies that shape policy debates at both K-12 and higher education levels. Major areas of focus include campus safety, religion and schools, educational quality and law, broad-based right to equal educational opportunity, and Internet-related issues and concerns. Letter grading.

130. Race, Class, and Education Inequality in the U.S. (5) Lecture, two hours; discussion, two hours. Focus extensively on understanding educational experience of following groups of the U.S.: African Americans, Asian Americans and Pacific Islanders, Chicanas/Chicanos/Latinas/Latinos, and low-income white Americans. Examination of how historical development of public education in the U.S. has influenced its present form. Critical look at some current issues and policy debates in education, including debate over school reform, equal education, and affirmative action. Letter grading.

131. Issues in American Education: Perspectives from History and Popular Culture. (4) Seminar, four hours. Exploration of ways we draw on different kinds of texts to illuminate critical issues in American secondary education. Issues include transformation in secondary education from 1890 to the present, politics of social class, and racial and gender representation of secondary education. Letter grading.

132. Education of Exceptional Individuals. (5) (Formerly numbered 125A.) Seminar, four hours; fieldwork, three hours. Research seminar providing survey of characteristics and related educational needs of exceptional students (e.g., of low, average, and high school age) who vary exceptionally from normal in mental, physical, psychological, and social characteristics. Exploration of world of disabilities and area of gifted/talented education. Emphasis on educational implications of disabilities; legal, social, and philosophical issues also addressed. Letter grading.

133. Topics in Child Development and Social Policies. (5) Seminar, four hours; fieldwork, two hours. Research seminar designed to enable students to (1) gain basic understanding of ways in which public policies are established and implemented, (2) learn about policy landscape in several major domains of society affecting child and family life in the U.S. and other countries, and (3) use scientific research on children's cognitive and social development to evaluate and understand effects of social and economic policies. Letter grading.

134. Educational Leadership, Organizational Theory, and Policy. (5) Seminar, four hours. Designed for students interested in developing understanding and appreciation for breadth of leadership models/theories in education, including traditional, entrepreneurial, behavioral, and relationship-based models. Analysis of effectiveness of organizations and/or policies and paradigms in the field of educational administration, and development of professional leadership profile in context of alternative models of leadership relevant to education. Letter grading.

135. Introduction to Educational Inquiry. (5) Semantic, five hours. Limited to junior/senior. Introduction to educational inquiry, with special attention to different ways of conducting research in field of education. Focus on different ways authors conceptualize/investigate inequality and development of culminating project. Letter grading.

136. Public Policy in Higher Education. (5) Lecture, four hours. Introduction to range of contemporary and ongoing higher education public policy issues, and conceptual and theoretical frameworks typically used to understand them. Development of fluency in public policy language, with focus on national, state, and institutional policy perspectives. Letter grading.

137. Critical Pedagogy and Cultural Studies in Urban Education. (5) Lecture, two hours; discussion, two hours. Consideration of potential of conceptual and empirical work in critical pedagogy and cultural studies to inform, confront, and transform many challenges faced in urban education today. Study of theory and research of critical pedagogists such as Paulo Freire, Peter McLaren, and others. Letter grading.

138. Critical Pedagogy and Cultural Studies in Urban Education. (5) Lecture, two hours; discussion, two hours. Consideration of potential of conceptual and empirical work in critical pedagogy and cultural studies to inform, confront, and transform many challenges faced in urban education today. Study of theory and research of critical pedagogists such as Paulo Freire, Peter McLaren, and others. Letter grading.

139. Time and Behavior in Educational Organizations. (4) Seminar, three hours. Designed for juniors/ seniors. Exploration of psychosocial perspective of how temporal orientation and time investments impact and shape human behavior, with specific emphasis on educational issues related to school reform, teen pregnancy, school violence, teacher burnout, teaching middle crisis culture diversity, information-seeking behaviors, and academic attainment. Letter grading.

140. Writing to Learn: Teaching Writing in Elementary and Secondary Schools. (4) Lecture, four hours. Ways to teach writing at elementary and secondary level through examination of related concepts of ideas, evidence, part, and whole, and writing process. Emphasis on how reading, writing, and thinking exercises engage students and lead them to develop their own ideas. Letter grading.

141. Reflections of Education Abroad Program Study. (4) Seminar, two hours; activity, two hours. Designed to provide return Education Abroad Program (EAP) students with structured opportunity to deepen their reflections on their time abroad through contact with literature, academic articles, and speakers. Provides EAP recipients opportunity to analyze their transition to UCLA and allows both returned and reciprocity students chances to learn through service to EAP. Letter grading.

142. Understanding Pathways to College. (4) (Formerly numbered 190X.) Lecture, two hours; discussion, two hours. Examination of inequality across K-12 and higher education to understand how college admissions are stratified across racial and class lines. Role of school personnel, higher education admissions, families, and students in promoting equal educational opportunity. Course is good preparation for students interested in working in programs such as Early Academic Outreach Programs that serve students in Los Angeles area schools. Letter grading.

143. Advanced Undergraduate Research Seminar. (4) (Formerly numbered 196B.) Seminar, four hours. Limited to juniors/seniors. Advanced independent skills course of joint interest to professor and student. Research topics deal with K-12 American educational experience, with specific emphasis on diversity, assessment, technology, at-risk, geographical space, and psychosocial development of children. Letter grading.

M415A-M415B. Resisting Civility: Understanding, Using, and Resolving Conflict. (4-4) (Same as Chicana and Chicano Studies M174A-M174B.) Lecture, one hour; discussion, three hours. Designed for students who want to learn principles of dialogue and mediation, as alternatives to violence, and practice how to apply them in educational settings. In Progress (M415A) and letter (M415B) grading.

146A. Research Apprenticeship in Peer Counseling. (4) (Formerly numbered 196A.) Seminar, four hours. Limited to juniors/seniors. Highly interactive, student-centered course designed to provide hands-on experience in academic peer advising and leadership and understanding of underlying theories, principles, and related issues. Students advise their peers in Education Studies minor courses and build community among those students. Letter grading.

146B. Research Apprenticeship in Peer Advising and Leadership. (4) (Formerly numbered 196B.) Seminar, four hours. Enforced requisite: course 146A. Limited to juniors/seniors. Highly interactive, student-centered course designed to provide hands-on experience in academic peer advising and leadership and understanding of underlying theories, principles, and related issues. Students advise their peers in Education Studies minor courses and build community among those students. Letter grading.
147. Lesbian, Gay, Bisexual, and Transgender Issues in Education and Law. (4) Lecture, four hours. Lesbian, gay, bisex, trans, and transgender-related controversies, and how these issues arise in schools, colleges, and universities today and how they are being addressed by legal and education communities. In particular, examination of the implications of current laws and exploration of what might be done to make things better for all persons. Letter grading.

M148. Women in Higher Education. (4) (Same as Women's Studies M148.) Seminar, three hours. Designed for juniors/seniors. Overview of issues related to experience of women in higher education. Topics include curricular transformation, feminist pedagogy, gender equity, women faculty members, and intersection of gender and race. Letter grading.

149. Innovation and Social Entrepreneurship in Education. (5) Lecture, two hours; laboratory, two hours. Exploration of various types of charter schools as well as alternative methods for social change. Evaluation of in-depth social entrepreneurship, its theoretical constructs, and its application to charter schools as social enterprises. Letter grading.

150. Student Development in Theory and Practice. (2) Seminar, two hours. Introduction to field of student affairs and student development theory. General overview of various student affairs functions and programs, along with key theories that inform practice. Enforced corequisite: course 170B. Limited to juniors/seniors. May be repeated for credit. Letter grading.

152. Policy Analysis and Real Politics of Education. (3) Lecture/discussion, three hours. Exploration of relationship between scholarly policy analysis and actual workings of policy systems. Selected topics include achievement standards and assessment, school finance, equal access to education, and school reform. Letter grading.

170A. Experiential Learning: Community-Based Outreach Programs. (2) Fieldwork, four hours. Enforced corequisite: course 192B. TB test required prior to first day of instruction. Training and supervised practicum for undergraduate students interested in raising their academic achievement and that of high school and middle school students. Letter grading.

170B. Experiential Learning: America Reads. (2) Fieldwork, four hours. Enforced corequisite: course 192B. TB test required prior to first day of instruction. Training and supervised practicum for undergraduate students, including tutoring and mentoring of K-3 students at America Reads sites. Letter grading.

CM178. Critical Media Literacy and Politics of Gender: Theory and Production. (4) (Same as Women's Studies M178.) Seminar, four hours. Corequisite: course CM178L. Use of range of pedagogical approaches to theory and practice of critical media literacy that necessarily involves understanding of new media forms. Study of both theory and production techniques to inform student analysis of media and critical media literacy projects. Concurrently scheduled with course CM278L. Letter grading.

CM178L. Critical Media Literacy and Politics of Gender: Laboratory. (2) (Same as Women's Studies CM178L) Laboratory, two hours. Corequisite: course CM178. Hands-on production experience as integral component of CM178. Concurrently scheduled with course CM278L. Letter grading.

M182A. Language, Literacy, and Human Development Ethnography. (2) (Formerly numbered 182A.) (Same as Afro-American Studies M182A.) Fieldwork, three hours. Enforced corequisite: course M194A. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M182B. Culture, Gender, and Human Development Ethnography. (2) (Formerly numbered 182B.) (Same as Afro-American Studies M182B.) Fieldwork, three hours. Enforced corequisite: course M194B. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M182C. Culture, Communications, and Human Development Ethnography. (3) (Formerly numbered 183B.) (Same as Afro-American Studies M183C.) Fieldwork, six hours. Enforced corequisite: course M194B. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M182D. Culture, Gender, and Human Development Ethnography. (3) (Formerly numbered 183B.) (Same as Afro-American Studies M183C.) Fieldwork, six hours. Enforced corequisite: course M194B. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M183A. Language, Literacy, and Human Development Ethnography. (3) (Formerly numbered 183A.) (Same as Afro-American Studies M183A.) Fieldwork, six hours. Enforced corequisite: course M194A. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M183B. Culture, Gender, and Human Development Ethnography. (3) (Formerly numbered 183B.) (Same as Afro-American Studies M183C.) Fieldwork, six hours. Enforced corequisite: course M194B. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

M183C. Culture, Communications, and Human Development Ethnography. (3) (Formerly numbered 183C.) (Same as Afro-American Studies M183C.) Fieldwork, six hours. Enforced corequisite: course M194C. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and language and literacy learning with practice. Letter grading.

185. Community Service Learning for Academic Achievement. (4) (Formerly numbered 190.) Lecture, two hours; discussion, two hours. Must be taken prior to course 192A. Emphasis on cognitive learning and motivation theories and their relevance to strategies for developing curricular instructional techniques and training that contribute to tutoring, counseling, and other instructional assistance in various school settings. Letter grading.

187. Variable Topics in Education. (5) Seminar, five hours. Limited to juniors/seniors. Variable topics course organized around disciplinary knowledge central to development of core understandings of educational and learning processes, philosophies, methods, and instruction. Development of culminating project. Consult Schedule of Classes for topics and instructors. May be applied as core credit for Education Studies minor students. May be repeated three times for credit. Letter grading.

191A-191X. Current Issues in Education. (4 each) (Formerly numbered 197A-197Z.) Seminar, four hours. Limited to juniors/seniors. Variable topics course organized on selected current issues basis, integrating field observations and readings through seminar discussions. Development of culminating project. Consult Schedule of Classes for topics and instructors. Letter grading.

192A. Undergraduate Practicum in Community-Based Outreach Programs. (2) (Formerly numbered 193B.) Seminar, two hours. Requisite: course 185. Enforced corequisite: course 170A. Limited to juniors/seniors. Fieldwork, three hours. Enforced corequisite: course 194A. Students visit after-school site on weekly basis and use ethnographic methods to document learning. Opportunity for students to connect theories of development and learning and developmental factors as well as cultural, social, and environmental factors that affect student academic achievement, exploration, and applications of various learning styles that enable students to become more effective learners. Letter grading.

192B. Undergraduate Practicum in America Reads. (2) (Formerly numbered 193C.) Seminar, two hours. Enforced corequisite: course 170B. Limited to juniors/seniors. TB test required prior to first day of instruction. Training and supervised practicum for advanced undergraduate students that provides opportunity to reflect on both content and experience pertinent to America Reads. Letter grading.

193Y-193Z. High School Advising Program. (4-4) Discussion, two hours; fieldwork, five hours. Service learning courses designed to provide students with internship, service, and technology to undertake academic advising in low socioeconomic high schools. Letter grading.

M194A. Language, Literacy, and Human Development Research Group Seminars. (5) (Formerly numbered 194B.) (Same as Afro-American Studies M194A.) Seminar, three hours; laboratory, two hours (when scheduled). Enforced corequisite: course M182A or M183A. Research seminar designed to provide opportunity to combine theory and practice in study of human development in educational contexts. Focus on relationship between theories of development, culture, and language. May be taken independently for credit. Letter grading.

M194B. Culture, Gender, and Human Development Research Group Seminars. (5) (Formerly numbered 194B.) (Same as Afro-American Studies M194B.) Seminar, three hours; laboratory, two hours (when scheduled). Enforced corequisite: course M182B or M183B. Research seminar designed to provide opportunity to combine theory and practice in study of human development in educational contexts. Focus on relationship between theories of development, culture, and gender. May be taken independently for credit. Letter grading.

M194C. Culture, Communications, and Human Development Research Group Seminars. (5) (Formerly numbered 194C.) (Same as Afro-American Studies M194C.) Seminar, three hours; laboratory, two hours (when scheduled). Enforced corequisite: course M182C or M183C. Research seminar designed to provide opportunity to combine theory and practice in study of human development in educational contexts. Focus on relationship between theories of development, culture, and language. May be taken independently for credit. Letter grading.

195. Community Internship in Education. (4) Tutorials, one hour; fieldwork, eight to 10 hours. Limited to juniors/seniors. Internship in K-16 schools or community to be supervised by faculty. May be taken in conjunction with Community Learning and faculty sponsor. Students meet biweekly with teaching assistant, write reflective journals, and prepare final paper. Individual contract with supervising faculty member required. Letter grading.


196R. Research Apprenticeship in Education. (2 to 4) Tutorial, four hours. Limited to juniors/seniors. Entrance-level research apprenticeship for advanced division students under guidance of faculty mentor. May be repeated for credit. Individual contract required. P/NP grading.

197. Individual Studies in Education. (2 to 4) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. As signed reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.
199. Directed Research or Senior Project in Education. (2 to 4) Tutorial, to be arranged. Limited to juniors/seniors. Supervised by individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses


200C. Analysis of Survey Data in Education. (4) Lecture, three hours; laboratory, two hours. Requisite: course 200B. Introduction to techniques of processing and analyzing nonexperimental and quasi-experimental quantitative data. S/U or letter grading.

201C. History of American Education. (4) (Same as History 119.) Historical thought and of social forces impinging on American education from the 1880s to the present. Analysis of relation between these ideas and forces, and aims and practices of American education.

202. Evaluation Theory. (4) Prevalent evaluation theories, systems for categorizing these theories, and process of theory development in educational evaluation.

203. Educational Anthropology. (5) Seminar, four hours. Research seminar designed to familiarize students with discipline of anthropology and subfield of anthropology and education. Exploration of concept of culture, anthropological perspectives, with focus on theories of culture, cultural transmission and acquisition, and cultural reproduction and production for understanding schooling and its outcomes. Examination of research methodologies in anthropology, as well as critical historical overview of discipline and current debates and dilemmas of doing anthropological research in educational settings. Issues of race, gender, sexual orientation, and class, and consideration of application of anthropological theory and methods to educational practice and research. Concurrently scheduled with course C126. Letter grading.

204A. Introduction to Education and the Social Sciences. (4) Interdisciplinary course intended to introduce students to study of educational issues, texts, and movements of thought through social sciences and comparative perspectives.

204B. Introduction to Comparative Education. (4) Examination of conceptual and methodological questions underlying comparative education. Particular attention to development of the field and to styles of social analysis which may be applied to comparative and cross-national studies in education.

204C. Education and National Development. (4) Designed for graduate students. Analysis of various social science perspectives and methodologies (including modernization, dependency, Marxist, neo-Marxist, liberation theory, and world-system theories of change and development) and changing notions of role of education in development of less-industrialized countries of the world.

204D. Minority Education in Cross-Cultural Perspective. (4) Historical and contemporary analyses of educational policies with regard to ethnic, religious, and linguistic minorities through selected national and international case studies. Introduction to cross-cultural education in representative countries in relation to political, social, and educational systems.

204E. International Efforts in Education. (4) Designed for graduate students. Critical analysis of complex world of "development cooperation," with particular reference to bilateral and multilateral efforts in education.

204F. Nonformal Education in Comparative Perspective. (4) Comparative and international study of organized and systematic educational activity for children, youth, and adults outside of schools. Types of programs include, among others, consciousness raising, community action, skills training, literacy, and extension programs. S/U or letter grading.

205. Computers in the Educational Process. (4) Introduction to theory, experimentation, evaluation, and future of computer systems in education, with emphasis on computer-assisted instruction (CAI); and use of computers to teach programming and to foster development of writing, computational, and filing skills.

206A. Philosophy of Education: Introduction. (4) Systematic introduction to the field, indicating ways in which philosophy serves to elucidate educational aims, content, methods, and values.

206C. Introduction to Conceptual Analysis. (4) Conceptual analysis of recurrent and contemporary themes in the field. Emphasis on development of logical and linguistic skills used in analysis of educational problems and issues.

207. Politics of Education. (5) Lecture, two hours; discussion, two hours. Political dimensions of education, including role of education institutions and political institutions in society. Political theory as foundation for public policy analysis; interest groups in education policy formulation and implementation; and focus on Freirean pedagogy. Concurrently scheduled with course C125. S/U or letter grading.

208A. Perspectives on the Sociology of Education. (4) Lecture, two hours; discussion, two hours. Sociological perspectives on current issues in educational policy and practice, including desegregation, decentralization, equality of educational opportunity, structure of educational organization, teacher/student relationships, reform in education at elementary, secondary, postsecondary levels. S/U or letter grading.

208C. Explanation in the Social Sciences and Educational Research. (4) Lecture, two hours; discussion, two hours. Designed for graduate students. Overview of basic strategies and forms of explanation relevant to inquiry in education from vantage point of various social and behavioral sciences disciplines.

209A. History of Higher Education. (5) (Formerly numbered 209A.) Seminar, four hours. Exploration of major eras in history of higher education. Topics include issues concerning access, diversity, parental choice, cultural literacy, teacher empowerment, and role of popular media. Concurrently scheduled with course C124. S/U or letter grading.

209C. Research and Evaluation in Higher Education. (4) Lecture, four hours. Development of conceptual and practical understanding of research and evaluation in higher education. Topics include basic statistics, survey design, data analysis, assessment issues, and research proposal writing. Letter grading.

209D. System of Higher Education. (4) Analysis of structure and function of American postsecondary education from systems perspective. Emphasis on structure of system and comparative characteristics (faculties, student bodies, finances, outputs) of different types of institutions.

210. Education and the Profession: Theory, Research, and Practice. (4) Lecture, 90 minutes; discussion, two hours. Introduction to major issues and approaches in educational research through series of faculty presentations, selected readings, and writing assignments. Letter grading.


211B. Item Response Theory. (4) Lecture, four hours. Requisites: courses 211A, 230C. Item response theory, applications to educational achievement tests, item bias, test information, test equating, computerized adaptive testing. S/U or letter grading.

212A. Learning and Education. (4) Lecture, four hours. Models of learning, modeling, reinforcement, motivation, encoding, memory, transfer, individual differences, and instruction. S/U or letter grading.

212B. Motivation and Affect in Educational Process. (4) Lecture, four hours. Review of theoretical and empirical literature on motivational factors in school settings and conditions for acquisition of affective outcomes. S/U or letter grading.

213C. Group Counseling Theory and Process. (4) Lecture, three hours; discussion, one hour. Requisite: course 414A. Group productivity; leadership in groups; social perception, attitude formation, and effect of behavior changes in individuals and groups. Evaluation of social, psychological, and educational principles related to therapeutic experiences of individuals in small groups. Letter grading.

213D. Assessment in Counseling and Student Affairs. (4) Overview of assessment issues and methods used in counseling and student affairs activities. Emphasis on concepts of assessment, measurement, applications of measurement theory, and contemporary issues that are significant in influencing assessment in student affairs programs.

214A. Counseling Theory and Practice. (4) Lecture, four hours. Alternative model of counseling practice in relation to theories of personality development and functioning, research on effectiveness of counseling, professional issues in counseling, educational aspects of counseling. S/U or letter grading.

214C. American Professoriate: Faculty Status, Role, and Performance. (4) Discussion, four hours. Historical and contemporary issues involving American professoriate. Topics include employment, academic culture, teaching and research, reward structure, faculty development. Letter grading.


214F. Student Problems: Social Context. (4) Designed to assist students in understanding the configuration of social forces that lead to student dysfunctions. Consideration of a wide range of contemporary social problems that are of concern to school counselors, educators in general, and behavioral scientists.

215. Personality, Motivation, and Attribution. (4) (Same as Psychology M239.) Current research and theory relating personality variables (e.g., attributional styles, self-esteem) to motivational concerns such as persistence and intensity of behavior. Perceived causes of outcomes in achievement and affective domains.


217A. Social Development and Education. (4) (Same as Psychology M242D.) Seminar, four hours. Biological and familial, school, and other influences on the child; development of current research and theoretical models; consideration of theoretical and methodological research on family, peer group, and school; application of developmental theory to research on educational practice. S/U or letter grading.

217B. Cognitive Development and Education. (4) Designed for graduate students. Critical review of theories and research in cognitive development, focusing on work of Piaget and Vygotsky, and relation of this work to issues in educational practice.
217D. Language Development and Education. (4) Research and theory on how children develop their first language; sociolinguistic and psycholinguistic issues in preschool and primary years; bilingual and dialectical issues.

M217F. Adolescent Development. (4) (Same as Psychology M242F.) Seminar, four hours. Designed for psychology students. Review of recent research on physical, cognitive, social, and psychological development during second decade of life. Topics include pubertal development, changes in parent/adolescent relationships, role of peers, identity development, high-risk behaviors, stress and coping, and school adjustment. Letter grading.

M217G-M217H-M217I. Child Abuse and Neglect. (2-2-1). (Same as Community Health Sciences M245A-M245B-M245C; Medicine M300A-M300B-M300C; Public Health M264B-M264B1-M281B.) Lecture, two hours; discussion, two hours. Examination of variables and factors contributing to child abuse and neglect. Credit not given for both course M217G and course M217H, which is required to sign for course M217I. Intensive interdisciplinary study of child physical and sexual abuse and neglect, with lectures by faculty members of Schools of Dentistry, Law, Medicine, Nursing, and Public Health and Departments of Education and Psychology, as well as by relevant public agencies. Letter grading.

218. Measurement of Educational Achievement and Aptitude. (4) Lecture, four hours. Requisite: course 230A. Critical study of tests of achievement and aptitude, with emphasis on group tests; relation of achievement to aptitude; social implications of measurement of intelligence; elements of validity and reliability. S/U or letter grading.

219. Laboratory: Advanced Topics in Research Methodology. (4) Provides assistance in design of research and interpretation of data to advanced students from other divisions. Coverage of special topics not included in other courses on research methods. 

220A. Inquiry into Schooling: Organization and Change. (4) Critical analysis of issues in reconstruction of schooling; concepts of function and structure of schooling; organization theory; systems approach in analysis of organization development and change.

220B. Inquiry into Schooling: Curricular Problems and Policy Issues. (4) Inquiry into curriculum of schooling and analysis of relationships of curricular decision making to social system and contextual variables.

221. Computer Analyses of Empirical Data in Education. (4) Lecture, two hours; laboratory, two hours. Requisites: courses 220C (section 1), 230A. Designed to develop conceptual and technical skills needed for designing and executing empirical research utilizing statistical packages. Each student conducts two original studies. Equal emphasis on techniques of data analysis and interpretation of results. S/U or letter grading.

222A. Introduction to Qualitative Methods and Design Issues in Educational Research. (4) Lecture, three hours; discussion, one hour. Introductory course for students interested in epistemology, theories, and styles of qualitative research in educational settings. Theory and practice of naturalistic, qualitative research design covered in second half of course. Letter grading.

222B. Participant-Observation Field Methods. (4) Lecture, two hours; discussion, two hours. Requisite: course 222A. First of two courses on participant-observation field methods. Key skills (e.g., observation, recording, interviewing, role management, data storage) learned through classroom lectures and simulations, and by conducting actual field-based research project. Letter grading.

222C. Qualitative Data Reduction and Analysis. (4) Lecture, two hours; discussion, two hours. Requisite: course 222B. Continuation of fieldwork project started in course 222B, with focus on practical skills and conceptual/methodological issues involved in reducing and analyzing qualitative data. Letter grading.

222D. Qualitative Inquiry: Special Topics. (4) Lecture, two hours; discussion, two hours. Examination of various ideas and theories in analysis and application of these in educational settings. Letter grading.

223. Aesthetics and the Curriculum. (4) Lecture, two hours; discussion, two hours. Examination of various ideas and theories in aesthetics and application of these in educational settings. Letter grading.

224. Problems and Issues in Bilingual and Multicultural Education. (4) Introduction to development and implementation of bilingual and multicultural programs in the U.S. Examination of program goals, models, typologies, and effectiveness.

225A. Issues in Education of Exceptional Individuals. (4) Designed for graduate students. Analysis of major research regarding contemporary trends, issues, and programs for the exceptional; considerations of commonalities and differences among exceptional individuals.

225B. Advanced Issues in Education of Exceptional Individuals. (4) Synthesis of developmental and educational models and programs for exceptional individuals, including consideration of historical context of current research and applied issues in special education.

226. Seminar: Special Topics in Writing, Rhetoric, and Educational Methodology. (4) Special topics seminar on writing in education that could focus on history of writing about education, social and political dimensions of it, its variation by discipline, and its uses in professional and policy contexts.

227A. Research on Learning Characteristics of Exceptional Individuals. (4) Requisite: course 225B. Overview of research and theory regarding learning characteristics of exceptional individuals and discussion of application of this work to educational practice.

227B. Research on Cognitive and Language Characteristics of Exceptional Individuals. (4) Requisites: courses 227A and 227C. Analysis of factors affecting development of cognitive and language development of exceptional individuals; focus on intervention programs developing language and cognition.

227C. Research on Behavioral and Social Characteristics of Exceptional Individuals. (4) Requisite: course 227B. Analysis of social and emotional development of exceptional individuals and development of social competence in special education programs.

228. Observation Methods and Longitudinal Studies. (4) Lecture, two hours; discussion, two hours. Requisite: course 230A. Design of observational and longitudinal studies. Formulation of study conclusions concerning influences on children’s development. Conduct of observations; processing and analysis of data. Use of portable computers for recording observations. S/U or letter grading.

229. Seminar: Special Topics in Urban Schooling. (4) Research on selected topics in fields of administration, politics, curriculum, and teaching studies and on conceptualization of hypotheses and research programs on division topics and issues.

230A. Introduction to Research Design and Statistics. (4) Lecture, three hours; discussion, one hour. Key concepts and issues in design and conduct of social science research. Introduction to descriptive statistics and fundamentals of statistical inference.


231C. Analysis of Categorical and Other Nonnormal Data. (4) Description of methods for dealing with dichotomous and polytomous dependent variables, log-linear modeling, coefficients of association for categorical variables, factor analysis, and structural equation modeling.

231D. Advanced Quantitative Models in Nonexperimental Research: Multilevel Analysis. (4) Requisites: courses 230B, 230C. Examination of conceptual, substantive, and methodological issues in analyzing multilevel data, (e.g., in organizations where subjects are nested within organizations such as schools, corporations, hospitals, communities); consideration of alternative analytical models.

231E. Statistical Analysis with Latent Variables. (4) (Same as Statistics M244.) Lecture, three hours. Requisites: courses 231A, 231B. Extends path analysis (causal modeling) by considering models with measurement errors and multiple indicators of latent variables. Confirmatory factor analysis, covariance structure modeling, and multiple-group analysis. Identification, estimation, testing, and model building consideration. Letter grading.

232. Instructional Analysis. (4) Theoretical and empirical analysis of instructional variables as they relate to diverse types of instructional strategies. Development of skill in techniques of conducting instructional research.

233A. Professional Writing in Education. (4) Designed for first- and second-year doctoral students and intended to assist in professional development as writers, with focus on style and organization, scholarly genres, modes of discourse, and broader issues of conceptualization and methodology.

233B. Professional Writing in Education. (4) Designed for students at proposal or dissertation stage, with focus on development, organization, and coherency of these scholarly documents, their conceptualization and method, and issues of audience and style.

234. Education and Social Stratification. (4) Relations between education and communities of social stratification, including occupations and earnings. Competing theories used in studying education and social stratification; relevant research. Conclusions regarding individual career decisions, social policies, and theories of society.
235. Theory and Practice of Leadership. (4) Discussion, four hours. Review of theory and practice of leadership within different organizational contexts, with special focus on high education. Variety of questions addressed, including what is leadership, differences between leadership and management, role of leadership in institutional transformation. Letter grading.


237. Law and Urban Education. (4) Lecture, four hours. Examination of recent legal controversies that may impact ability of urban educators to meet needs of students in a multicultural society, with special emphasis on such equity-related issues as desegregation, school finance, standardized testing, and rights of language minority students. Letter grading.

238. Cross-National Analysis of Higher Education. (4) Comparative study of national systems of higher education: their division of work, basic values, structures of authority, modes of national integration, and types of change.

239. Organization and Governance of Educational Systems. (4) Academic organizations, precollege and postsecondary, are most appropriately studied as complex, professionalized organizations. Emphasis on conceptualization of relationships of formal and informal institutions and systems as organizations: environmental relations, governance structures, processes, and patterns of decision making and policy-making.


241. Research Methodology in School Administration. (4) Examination of research problems and strategies in school administration.


246A. Decision Analysis and Advanced Computer Methods for Educational Policy and Planning. (4) Requisite: course 242. How information technology and decision analysis impact K-12 schooling, higher education, and technical training/workplace settings. With research paper, oral presentation, and two research briefs, pursuit of deeper analysis, areas of special interest to their professional and career objectives.

247. Special Topics in Law and Educational Policy. (4) Lecture, four hours. Policy-based inquiry with focus on special topics that inevitably influence both K-12 and higher education communities. Identification of strategies that have been successfully employed by those who have sought to use law to shape educational policy. Letter grading.

248. Seminar: Special Topics in Child Development and Education. (4) Seminar, four hours. Content varies; limits of investigation set by individual instructor. S/U or letter grading.

249B. Seminar: Institutional Research and Program Evaluation. (4) Critical review of institutional evaluation studies, with consideration of scope of information needed for various purposes and problems of interpreting this information to appraise overall institutional functioning and effectiveness.

250A. Organizations and Systems of Higher Education. (4) Designed for graduate students. Two-course sequence designed to orient new students to issues, ideas, and literature that constitute the division, with emphasis on underlying social and political issues that shape higher education and organizational change.

250B. Topical Issues in Higher Education. (4) Designed for graduate students. Two-course sequence designed to orient new students to issues, ideas, and literature that constitute the division, with emphasis on underlying social and political issues that shape higher education and organizational change.

250C. Theoretical Frameworks of Higher Education. (4) Designed for graduate students. Overview of various social sciences theories used to analyze institutional issues and questions of contemporary higher education. Explanation of how theory and methodology affect research design and framing of research questions in studies of higher education.


252A. Seminar: Educational Organizations. (4) Seminar, four hours. Requisite: course 208A. S/U or letter grading.

252B. Educational Enterprise. (4) Lecture, two hours; discussion, two hours. Requisite: course 252A. Limited to Educational Leadership Program students. Use of structural, human resource, political, and symbolic frames to study K-16 education, with focus on educational environments, organizations, and curriculum and instruction. Letter grading.

252C. Human Resources and Economic Development. (4) (Same as Community Health Sciences M251.) Lecture, four hours. Examination, in context of developing countries, of interactions among economic development, population growth, levels of health and nutritional status, and educational investments. S/U or letter grading.


253B. Seminar: African Education. (4) Designed for graduate students. Contemporary issues in African educational systems, including questions of access and equity, quality and efficiency, relevance and responsiveness, links between schools and communities, and policy and practice in education.


253D. Seminar: Latin American Education. (4) Seminar, four hours. S/U or letter grading.

253E. Seminar: European Education. (4) Seminar, four hours. S/U or letter grading.

253F. Seminar: Education in Revolutionary Societies. (4) Multidisciplinary and comparative study of social changes brought about through writings of Marx, Lenin, Mao, and others. Implementation of this theory in specific case studies, along with comparative assessments of nonsocialist nations.

253G. Seminar: The Asian American and Education. (4) Basic issues and topics related to Asian Americans in the field of education. Examples of issues and topics include Asian Americans and the community, socioeconomic status, education-to-work transition, language and culture question.

253H. Seminar: The Chicano/Hispanic and Education. (4) Basic issues and topics related to the Chicano and other Hispanic groups in education. Review of literature on specific historical periods and Chicano/Hispanic student progress (e.g., early childhood, elementary, higher education; specific topics: assessment, access, tracking, segregation; implications for schooling).

253I. Education and Social Change in the Middle East and Islamic World. (4) Critical and analytic examination of historical and current role of traditional and modern (Western) education in affecting social, political, and economic changes in countries of the Middle East and Islamic world (including Pacific Rim, South and Central Asia).


255A-255B. Seminars: Special Topics. (4-4) May be repeated for credit. 255A. Measurement; 255B. Design; 255C. Data Analysis.


256B. Seminar: Special Topics in Development. (4) Seminar, four hours. S/U or letter grading.

257. Seminar: Research in Counseling Psychology. (4) In-depth analysis of selected research approaches/areas in counseling psychology.

258A. Seminar: Problems in Instructional Research. (4) Seminar, four hours. S/U or letter grading.

258B. Seminar: Problems in Instructional Development. (4) Seminar, four hours. S/U or letter grading.

259A. Seminar: Research on Characteristics of Students. (4) Seminar, four hours. Analysis of concepts, methodology, and conclusions or implications underlying and resulting from major research on student characteristics. Emphasis on differential impact of higher education on student and faculty development. Letter grading.


261E. Higher Education Seminar: Diversity Issues and Research Perspectives. (4) Seminar, four hours. Examination of how racial diversity and its related dynamics have transformed and at same time been reshaped by institutions of higher education, with focus specifically on student experiences, curricular, institutional climate, educational policies, and administrative practices. Letter grading.

261F. Seminar: Cognitive and Personal Development of College Students. (4) Examination of cognitive development of college students; issues of personal and social development, including leadership, and interpersonal relations and skills.

262B. Seminar: Reading. (4) Seminar, four hours. S/U or letter grading.

262F. Seminar: Research Topics in Bilingual/Multicultural Education. (4) Seminar, four hours. S/U or letter grading.

262H. Economics of Urban Schooling. (4) Lecture, two hours; discussion, two hours. Introduction to and application of relevant principles and tools of economic analysis to urban schooling issues, decision making, and policy. Economic lens include equity and access, cost-benefit analysis, economic efficiency, markets and market failures, human capital theory, externalities, marginal utility analysis, and comparative advantage. Letter grading.

262J. Entrepreneurial Leadership and Education: Seminar for Education and Business Leaders. (4) Seminar, two hours; discussion, two hours. Seminar for education and business leaders to explore concepts and processes of becoming entrepreneurial leaders — meeting today’s educational challenges by internalizing and applying skills and thinking used by successful entrepreneurs. Letter grading.

264. Seminar: Teacher Education. (4) Research, issues, and practices in preserve and in-service teacher education, professional education, and certification. Social, philosophical, and methodological issues and current trends in America and abroad. Opportunities to observe, participate in, and discuss teacher education programs.

265. Higher Education Policy. (4) Requisites: courses 250A, 250B. Understanding public policy for higher education requires understanding of both issues and policy process. Review of major topics on which the U.S. government is active, as well as key actors and their influence.

M266. Feminist Theory and Social Sciences Research. (4) (Formerly numbered 266.) (Same as Women’s Studies M266.) Lecture, four hours. Examination of how diverse feminist social theories of last quarter century have both challenged and strengthened conventional social sciences theories and their methodologies. Introduction especially to feminist standpoint theory, distinctive critical theory methodology now widely used in social sciences. Letter grading.


268. Theory and Practice of Academic Discourse. (4) Lecture, two hours; discussion, two hours. Designed for graduate students. Introduction to theoretical approaches to reading, such as post-structuralist, feminist, deconstructionist, reader response, and semiotics, and to core ideas of some leading theorists of reading, such as Roland Barthes, Wolf- gang Iser, Barbara Johnson, Stanley Fish, and Gayatri Spivak.

269. Representations of Education in Cinema. (4) Lecture, two hours; discussion, two hours. Designed for graduate students. Exploration of ways in which we draw on diverse “texts,” particularly films set in or around schools, to create and continually shape images of media culture. Emphasis on developing critical media literacy as a goal of cultural studies. Letter grading.

270. Introduction to Cultural Studies. (4) Lecture, four hours. Investigation of current trends in cultural studies through examination of different methods of cultural interpretation, seminal texts in cultural studies, and practical criticism engaging popular artifacts of media culture. Emphasis on developing critical media literacy as a goal of cultural studies. Letter grading.

271A. Proseminar: Educational Psychology. (2) Introduction to a variety of research issues in the field of educational psychology, including topics related to human development, learning and instruction, counseling, and special education, and to different methodological approaches used to study them. S/U grading.

272. Case-Study Research in Education Policy and Practice. (4) Use of case-study methods in education research, providing opportunities for applying methodological skills to actual case-study research projects. Focus on single and multiple case studies that investigate issues in education policy and practice.

273A. Structure and Dynamics of Educational System. (4) Lecture, two hours; discussion, two hours. Overview of school administration, teaching, curriculum, and policy studies. Focus on American education as an institutional system wherein federal, state, and local policy, school curriculum, curricular theory and design, and teaching are intricately connected in the delivery of education.

273B. Social Foundations of Education. (4) Introduction to literature on multiculturalism and teachings in diverse social, cultural, and economic contexts. Exploration of debates over multiculturalism and teaching for diversity, to be reviewed in a diverse number of anthropological, sociological, educational curricula and literatures.

274. Science, Technology, and Social Research after Eurocentrism. (4) A philosophy of natural sciences for social scientists which examines challenges to conventional research assumptions raised by multicultural and postcolonial science and technology studies that have emerged since World War II. Focus on sciences and technologies in third-world development projects, comparative ethnoscientific movements, and new theories of knowledge and how to do maximally objective research emerging from these literatures.

275. Race and Education. (4) Designed for graduate students. Examination of role of race in educational policy-making. Exploration of a broad interpretation of how schools contribute to racial stratification and inequality by linking sociological and sociopsychological theories of race, racial attitudes, and conflict to historical policy analysis.

276. Contemporary Theories of Writing. (4) Review of current theories of writing and literacy research and examination of relationships among writing and literacy, culture, and human development. In particular, examination of history of writing research over last three decades as part of a broader intellectual history.


CM278. Critical Media Literacy and Politics of Gender: Theory and Production. (4) (Same as Women’s Studies CM278.) Seminar, three hours. Corequisite: course CM278L. Use of range of pedagogical approaches to theory and practice of critical media literacy that necessarily involves understanding of new technologies and media forms. Study of both theory and production techniques to inform student analysis of media and critical media literacy projects. Concurrently scheduled with course CM178. Letter grading.

CM278L. Critical Media Literacy and Politics of Gender: Laboratory. (2) (Same as Women’s Studies CM278L.) Laboratory, two hours. Corequisite: course CM278. Hands-on production experience as integral component of course CM278. Concurrently scheduled with course CM178L. Letter grading.

279. History of Urban Schooling. (4) Lecture, four hours. Designed for graduate students. Survey of major events, political and economic forces, and ideas that shaped urban schools since 1890. Examination of historical scholarship across range of political/ideological perspectives. Letter grading.

280A. Seminar: Selected Topics in Special Education. (4) Lecture, four hours. Designed for graduate students. Survey of major events, political and economic forces, and ideas that shaped urban schools since 1890. Examination of historical scholarship across range of political/ideological perspectives. Letter grading.

280B. Seminar: Exceptional Individuals. (4) Limited to doctoral students.

281. College Access Seminar. (4) Seminar two hours; discussion, two hours. Knowledge of changing dynamics of college access at individual, organizational, and field levels and understanding of links between K-12 and postsecondary stratification and how educational disadvantage and disadvantage accumulate throughout education and effects equity in college access. Letter grading.

282. Students at Risk: Reconsideration. (4) Designed for second-year graduate students. Notion of “at risk” has become standard element of biomedical/public health and educational/social sciences discourse. Consideration of “risk” from range of disciplines and modes of inquiry.

283. Social Research in Multicultural and Postcolonial World. (4) Philosophy of social sciences that focuses on how to think fruitfully about two issues: (1) inevitability of nonneutral procedures and results of research conducted within liberal state that must be committed to value-neutrality and (2) challenges that multicultural and postcolonial social theory have raised to conventional research theories and methodologies.

284. Critical Theory in Education: Power, Politics, and Liberation. (4) Lecture, four hours. Designed for graduate students. Introduction to major themes, issues, and methodologies within what has come to be known as “critical and educational tradition,” including some major theoretical writings in liberal, neo-Marxist, left liberal/postmodernist, and Marxist subfields of critical education tradition. Letter grading.

M285. Culture, Brain, and Development Forum. (1) (Same as Anthropology M293, Applied Linguistics and TESL M232, Neuroscience M293, and Psychol- ogy M248.) Seminar, 90 minutes every other week. Interdisciplinary seminar series to provide students with exposure to current research in understanding complex relationship between culture, brain, and development. S/U grading.

288. Research Apprenticeship Course. (2) Discussion, two hours. Course facilitates a mentorship model of training Ph.D. students in education, with focus on development of graduate student research topics. Assignment of common readings related to these topics; students have opportunity to offer and receive feedback. May be repeated for credit. S/U grading.

290. Educational Policy Analysis: Research, Theory, and Practice. (4) Broad overview of development of educational policy from the 1950s to the present. Examination of current issues and debates within educational policy in the U.S. through different theoretical lenses. Exploration of major bodies of research on educational policy and alternative paradigms.

291. Organizational and Leadership Theory in Education. (4) Introduction to contemporary and historical conceptions of organization and leadership in context of formal schooling. Exploration of these conceptions through inquiry into school and college settings.

292. Curriculum Theory, Research, and Practice. (4) Survey of theory of perspectives shaping what is taught in schools, providing graduate students broad understanding of various values, beliefs, and power relations shaping K-12 curriculum in the U.S.

293. Teaching Studies: Research and Theory into Practice. (4) Exploration of historical, theoretical, and empirical perspectives related to teaching and teaching-related tasks, providing graduate students with broad overview of relevant literature and current issues shaping teaching profession in the U.S.

296A-296F. Seminars: Research Topics in Educa- tion. (2 each) Seminar, three hours. Advanced study and analysis of current topics in education. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296G. Research Topics in Education: Legal Aspects of Educational Management. (2) Seminar, two hours. Examination and analysis of legal issues, especially as they apply to school organizations. Letter grading.

296H. Research Topics in Education: Organizational Theory. (2) Seminar, two hours. Examination and analysis of organizational theories, especially as they apply to school organizations. Letter grading.

299A-299B. Research Practicum: Educa- tion. (4 to 8 each) May be repeated for credit.
300. Dissertation Writing Workshop: Interdivisional Seminar. (4) Seminar, one hour; discussion, two hours; laboratory, limited enrollment. Introduction to dissertation writing as a genre that can be analyzed or broken down with constituent parts and, vice versa, which is constructed out of materials that can be identified and analyzed. S/U grading.

301. Introduction to Information and Presentation Tools. (1) Laboratory, one hour. Limited to credential program students. Sequence of laboratory sessions providing preservice teachers with introduction to education technology infrastructure and classroom presentation tools. Introduction to resources and services, e-mail functions and Internet, and presentation software and multimedia elements. S/U grading.

305. Health Education for Teachers. (2) Lecture, two hours. Limited to Teacher Education Program students. Teaching/learning process as applied to personal and community health. Topics include psychoactive drugs (alcohol, tobacco, and narcotics), human sexuality, nutrition, community health resources, and analysis of state’s health framework. S/U grading.

309. Methodologies for English Language Learners. (2) Laboratory, two hours. Limited to credential program students. Focus on bilingual and English language learners. Discussion of competencies needed by all content area teachers of English language, including strategies for teaching in English. Topics include educational issues, organizational approaches, and communicative approach; strategies and activities. Letter grading.

310. Professional Communication for Graduate Students in Education. (2) Writing workshop on students’ papers in progress to ensure professional standards. Analysis and group discussion of rhetorical and stylistic principles. May be repeated once. S/U grading.

311. Principles and Methods of Computer Literacy and Classroom Application — K-12. (2) Lecture, one hour; laboratory, 30 minutes. Introduction to use of computers in educational environment. Discussion of issues on why and how to integrate computers into curriculum and hands-on practice which allows students to demonstrate skills discussed. S/U grading.

312. Basic Principles of Curriculum and Instruction. (4) Analysis and practice of basic principles and concepts for planning, conducting, and evaluating units of curriculum and instruction. Emphasis on study and utilization of a variety of instructional strategies and their application in elementary and secondary schools.


318A. Integrated Methods for Elementary Teachers. (2) Lecture, two hours. Examination and development of instructional programs and analyses and practical application of instructional methods for teaching K-5 content, with emphasis on interdisciplinary approach that integrates content areas. Aligned with California state frameworks and California content standards for grades K-12. Emphasis on meeting needs and interests of diverse students. S/U grading.

318B-318C. Integrated Methods for Elementary Teachers. (4-4) Lecture, four hours. Examination and development of instructional programs and analyses and practical application of instructional methods for teaching K-6 content, with emphasis on interdisciplinary approach that integrates content areas and interests literacy, technology, and strategies for second language learners. Aligned with California state frameworks and California content standards for grades K-12, including English Language Development Standards — all of which address needs and interests of diverse students. S/U grading.

320A-320B-320C. Secondary Content and Literacy Methods. (3-3-3) Lecture, one hour; discussion, one hour; fieldwork, one hour. Examination and development of instructional programs and analyses and practical application of instructional methods for teaching content in grades 7-12. Emphasis on interdisciplinary approach that integrates content areas and interests literacy, technology, and strategies for second language learners. Methods courses are aligned with California state frameworks and California content standards for grades K-12, including English Language Development Standards — all of which address needs and interests of various students. S/U grading.


330A. Observation and Participation. (2 to 6) Site-based fieldwork, 10 to 15 hours. Students are assigned to school sites with racially, culturally, and linguistically diverse student populations. Throughout observation and participation period, students analyze and critique strategic, social, and personal development of student teacher. S/U grading.

330C. Student Teaching. (4 to 8) Site-based fieldwork, 10 to 30 hours. Requisite: course 330A. Students are assigned to student teach in designated school sites with racially, culturally, and linguistically diverse student populations. Throughout student teaching period, students as novice teachers plan, implement, and assess daily lessons and units, as well as actively engage in reflecting on issues specific to school/community relations. S/U grading.

330D. Classroom Residency and Teaching. (4) Site-based fieldwork, 10 to 30 hours. Requisite: course 330A. Students are assigned to student teach in designated school sites with racially, culturally, and linguistically diverse student populations. Throughout student teaching period, students as novice teachers plan, implement, and assess daily lessons and units, as well as actively engage in reflecting on issues specific to school/community relations. Increased daily responsibilities. S/U grading.

330E. Classroom Residency and Teaching. (4) Site-based fieldwork, 10 to 30 hours. Requisite: course 330A. Students are assigned to student teach in designated school sites with racially, culturally, and linguistically diverse student populations. Throughout student teaching period, students as novice teachers plan, implement, and assess daily lessons and units, as well as actively engage in reflecting on issues specific to school/community relations. Increased daily responsibilities. S/U grading.

360A-360B-360C. Novice Seminars. (3-3-3) Seminar, three hours. Analysis of basic principles and concepts of planning, conducting, and evaluating units of curriculum and instruction. Emphasis on study and utilization of constructivist strategies and their application in elementary and secondary schools. Examination of different methods of computer literacy and teaching subject matter. Students may conduct ethnographic inquiry of local community of their designated partnership district. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Presents: apprenticeship personal employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

390A-390B. Colloquium Series: Psychological Studies in Education. (1-1) Seminar, one hour. Required of first- or second-year Psychological Studies in Education (PSE) Ph.D. students. Training to conduct research that has practical implications as well as theoretical significance within field of applied human development. Children’s cognitive, language, personality, and social development. Relevant issues and major research. S/U grading.

400. Foundations of Education Policy Analysis. (4) Principles, models, and policy formation, implementation, and analysis in context of the educational system. Critical perspectives include effectiveness and equity of national delivery systems and programs, and complex nature of educational governance in contemporary America.

401. Structure and Functions of Schools as Complex Organizations. (4) Critical analysis of alternative organizational forms, how they function, and why people in organizations behave as they do. Application to special circumstances of schools and to contemporary issues and problems in school leadership, improvement, and reform. S/U grading.


405A-405B-405C. Teaching in Urban Schools. (2-2-2) Lecture, two hours. Limited to credential program students. Participatory courses that explore issues of identity development, positionalities, and development as a teacher for urban school populations; issues and sociocultural realities of diverse student populations; and examination of urban school communities, their identities, and ways of understanding and interacting. Each course may be taken independently for credit. Letter grading. 405A, Cultural Identity; 405B, Diverse Perspectives; 405C, Community Action.

406. Social Foundations and Cultural Diversity in American Education. (3) Lecture, three hours. Intensive consideration of American society, particularly its racial and cultural diversity. Topics include historical development of American society, manifestations of cultural diversity, and ways to understand and address its complexities. Examination of issues of racism, ethnic and gender differences, perspectives of cultural diversity, and impact on educational and classroom instruction. Letter grading.

408A-408U. Language and Culture. (2 each) Lecture, two hours. Exploration of complex nature of culture and impact of cultural diversity in urban classroom through class discussions, activities, and reflective exercises; expose novice teachers to understand and participate in rich cultural diversity of urban Los Angeles. By exploring culture as tool and target for increasing understanding of multicultural diversity, teach arts that construct meaningful connections to students, communities, and home cultures. Each course may be taken independently for credit. Letter grading. 408B. Latino/Latina Emphasis; 408C. Asian American Emphasis; 408D. African American Emphasis. 408U. General Topics.

409. Language Structure, Acquisition, and Development. (3) Lecture, three hours. Theoretical foundations of language structure and first and second language acquisition, with focus on major themes of current research that provide framework for schooling of English language learners. Rationale for bilingual/English language acquisition and development programs. Historical and current theories and models of language learning. Letter grading.

410A-410B. Issues in Higher Education and K-12. (4-4) Lecture, four hours. Two-course sequence providing overview of higher education systems. Letter grading. 410A. Designed to develop knowledge, understanding, and sensitivity to contemporary and emerging issues that impact higher education, with focus on both theory and practice. Study of relationships between issues in K-12 schooling and higher education. 410B. Exploration of issues that affect both higher education and K-12 schooling, including restructuring higher education standards, access and accountability, and new technologies. Emphasis on both theory and practice.


413A. Language and Culture. (2) Formerly numbered 413C) Lecture, two hours. Limited to credential program students. Offered and required for Spanish BCLAD credential. Focus on language of emphasis for bilingual teachers. Practice in listening, reading, speaking, and writing competencies required for bilingual classrooms. Assessment made at end of course to determine proficiency of BCLAD candidates. Letter grading.

413B. Methodology for Primary Language Instruction. (3) Formerly numbered 413A) Lecture, three hours. Offered and required for Spanish BCLAD credential. Conducted in Spanish. Discussion of commonalities of culture of emphasis in its home country or countries; major historical periods and events; values, belief systems, and expectations; migration and immigration; historical and contemporary demography. Letter grading.

414A. Student Affairs Practice and Theory. (3) Lecture, two hours; discussion, two hours. Examination of needs for student affairs services, range of service provided, their philosophy and goals, their organization and evaluation to provide knowledge base for developing theories of practice. On-going involvement in cooperative learning project to examine these issues both as team members and as individuals. Offered in summer only. Letter grading.

414B. Legal and Ethical Issues in Student Affairs. (4) Lecture, two hours; discussion, one hour; laboratory; one hour. Overview of intervention and prevention strategies for student affairs professionals, with emphasis on campus-as-community concept with crisis theory as a model, providing conceptual model for understanding counseling role of student affairs in higher education. Letter grading.

414C. Advanced Counseling Theory and Practice. (4) Lecture, two hours; discussion, two hours. Overview of general knowledge and processes essential to effectively administer program or service under student affairs. Examination of relationship between environmental factors and strategies for governing, planning, and managing student affairs programs and services. Offered in summer only. Letter grading.

415A. Assessment in Counseling Psychology. (4) Lecture, two hours; discussion, two hours. Overview of general knowledge and processes used by counseling psychologists for assessing individuals in a multicultural society. Emphasis on standardized cognitive assessment instruments and specialized techniques for diagnosis, evaluation, and development of counseling strategies for at-risk populations. S/U or letter grading.

415B. Advanced Assessment in Counseling Psychology. (4) Lecture, four hours; requisite: course 15A. Advanced course in assessment for counseling psychologists. Survey and demonstration of instruments of achievement, affective, and personality appraisal using examples selected from the two general areas of assessment and psychological functioning for reducing risks of failure in academic, personal, and social areas. S/U or letter grading.

416. Program Development and Planning in Student Affairs. (4) Lecture, two hours; discussion, two hours. Planning of programs that provide or support learning for individuals and groups in student affairs context. Examination of philosophical foundations of program planning, along with pedagogical and logistical dimensions of program development. Letter grading.

417. Program Evaluation and Assessment in Student Affairs. (4) Lecture, two hours; discussion, two hours. Introduction to assessment and program evaluation in context of student affairs and higher education. Examination of usefulness and appropriateness of various program evaluation methodologies and theories of assessment practice. Letter grading.

418. Group Dynamics in Student Affairs. (3) Lecture, two hours; discussion, two hours. Group productivity, leadership in groups, social perception, attitude formation, and changes in individuals and groups. Evaluation of social, psychological, and educational principles related to experiences of individuals in small groups. Letter grading.

419. Introduction to Research in Student Affairs. (4) Lecture, two hours; discussion, two hours. Designed to orient students to nature of educational research in context of student affairs; review of quantitative, qualitative, and mixed methods to position students as scholar-practitioners. Exposure to these methods supplemented by examination of how they are used in published research relevant to practice of student affairs. Letter grading.

420A. Principles of Curriculum. (4) Critical examination of basic concepts underlying determination of objectives, selection and organization of learning experiences, and evaluation process.

421A. Programs and Research in Early Childhood Education. (4) Preparation: one course from development series. Examination of child care programs and research in early childhood education, including review of relation of research in developmental psychology and education to goals of early childhood education and day care.

422. Parents and Community Agents in Child Development. (4) Preparation: one course from development series. Critical review of theoretical basis and effectiveness of training programs for parents of young and elementary school-aged children; relation of theories to parent preparation and integration into program planning and role of programs in the community.


422. Inquiry into Schooling: Basic Issues. (4) Critical examination of basic issues and problems in organization and reconstruction of precollege schooling. Examination of role of society and school in changing functions of schooling in American society; school organization; schooling alternatives; problems in management of educational change.


424. Social Studies in the Curriculum. (4) Advanced study in social studies curriculum development; problems in defining objectives and organizing single and multidisciplinary programs; critical review of literature on cognitive and affective learning in social science, with emphasis on experimental study of instructional programs.

424B. Reading in the Curriculum. (4) Requisite: course 230A. Study of reading curricula and instructional procedures, with emphasis on rationale and research underlying their development and research comparing their effectiveness. S/U or letter grading.

424G. Curriculum Design for Bilingual Education. (4) Advanced study of curriculum design for bilingual educational programs. Philosophical basis for bilingual programs; theories of learning and instruction applied to bilingual learners; language assessment; development of instructional component; program evaluation.


421A. Administration in Higher Education. (4) Overview of college and university administration and introduction to policy research and analysis in postsecondary institutions. Case studies of administrative problems, policies, and practices. Management information systems, resource allocation, and issues related to responsibility, authority, and participation in administrative decisions.
431B. Curriculum and Instruction in Higher Education. (4) Principles of curriculum and instruction in postsecondary and adult education. Emphasis on design and implementation of courses and programs in goal setting, testing, media selection, and related instructional responsibilities. Preparing to teach college-level students.

432. Seminar: Professional Topics in Higher Education. (4) Seminar, four hours. S/U or letter grading.

433A. Design of Learning Environments. (4) Discussion, four hours. Theory and practice of design of technology-supported learning environments. Examination of how theories of learning guide design and enactment of learning environments in classrooms and informal settings and how research on such environments informs theory and design. Letter grading.

433B. Development of Educational Media. (4) Discussion, four hours. Current issues and trends in design of interactive educational media. Design and development of prototypes of educational media applications, integration plans for established or experimental educational media into formal learning settings, or evaluations of specific learning environments. Letter grading.

440C. Administration of the Instructional Program. (4) Examination of current educational problems in society and strategies of their solution through curriculum policy and practice; instructional design and operation; in-service training of teaching staffs.

441A. Instructional Supervision A. (4) Analysis of teaching in light of research-substantiated elements of instructional task analysis, appropriate objectives, principles that increase motivation, rate and degree of learning, retention and transfer, monitoring and adjusting instruction to meet needs and capacities of learners.

441B. Instructional Supervision B. (4) Requisite: course 441A. Basic techniques of script-taping in instructional episodes, planning teacher conferences through analysis of script-tapes, conducting and analyzing growth-evoking teacher conferences. Conducting mini-lessons to demonstrate elements of good instruction.

442B. Legal Aspects of Educational Management and Practice. (4) Examination of structures and kinds of law governing educational systems in the U.S.; constitutional dimensions of church/state relations; employees' civil rights and legal aspects of hiring, firing, and negotiating procedures; student attendance, control, and civil rights.

443. Policy Analysis in Education. (4) Overview of political, economic, and legal contextual of educational policy formation. Included in examination are issues that impact current needs for bilingual education, desegregation, affirmative action, role of subcommittees in policy-making process.

444B. Equality of Educational Opportunity through Desegregation and Finance Case Law. (4) Requisite: course 442B. Concentrated review of definition of equality of educational opportunity as it is being developed by the courts in cases concerning desegregation and educational finance.

447. Seminar: Educational Policy and Planning, Special Studies. (1 to 4) S/U or letter grading.

448A. Urban School Leadership. (4) Analysis of problems of urban school leadership. Emphasis on changing nature of the urban principalship, with considerable attention to role of the urban principal in other school and community agencies that interact with the urban school leader.

448B. Urban Leadership Laboratory. (4) Analysis of and opportunity to practice human and technical skills required for success as an urban school leader. Topics include negotiations, conflict resolution, applied computer technology, and effective communication. Activities include gaming, simulation, computer programming, and group dynamics.

450. Leadership Capacity Building. (4) Formerly numbered 450B.) Lecture, one hour; discussion, one hour; small group work, one hour. Limited to Educational Leadership Program students. Course taken in three year of Educational Leadership Program to help students with their communication and leadership capacities. Letter grading.

451. Foundations of Organizations and Leadership. (4) Lecture, four hours. Limited to Educational Leadership Program students. Promotion of understanding of traditional and contemporary conceptions of leadership and organizational theory, with application of these conceptions to student professional work settings. Letter grading.

452A-452B. Educational Enterprise. (4-4) Lecture, two hours; discussion, two hours. Limited to Educational Leadership Program students. Use of structural, human resource, political, and symbolic frames to study K-16 education. Letter grading. 452A. Focus on purposes of education governance, finance, access, and equity. 452B. Requisite: course 452A. Focus on educational environments, organizations, and curriculum.

453. Technology in Education: Learning and Leading with Technology. (2) Lecture, two hours; discussion, two hours. Limited to Educational Leadership Program students. Use of technological factors in curricular decisions. Letter grading.

454A. Action Research: Collaboration in Change. (4) Formerly numbered 454A.) Lecture, one hour; discussion, two hours; small group work, one hour. Limited to Educational Leadership Program students. Students carry out full cycle of action research at educational site. Projects done in teams as students hone and assess their collaboration abilities. Exploration of qualitative and quantitative data gathering methods and analyses. Letter grading.

454B. Action Research: Collaboration in Change. (4) Formerly numbered 450A.) Lecture, one hour; discussion, two hours; small group work, one hour. Limited to Educational Leadership Program students. Second course in two-course sequence on learning how to do and use action research. Honing of team processes and team roles while collaborating on data collection and analysis at educational site. Letter grading.

454A-455B-455C. Education, Inquiry, and Writing. (2-2-2) Discussion, one hour; laboratory, one hour; lecture/workshop, eight hours per month. Limited to Educational Leadership Program students. Students are expected to analyze, interpret and write about educational experiences as writers, addressing style and organization, scholarly genres, modes of discourse, and broader issues of conceptualization and method. Letter grading.

456. Altering Structure and Culture of Schooling. (4) Lecture, four hours; discussion, four hours. Limited to Educational Leadership Program students. Using applied orientation, examination of variety of approaches to organizational change and ways to sustain change. Letter grading.

457. Student Development across K-16 Spectrum. (4) Discussion, four hours. Limited to Educational Leadership Program students. Theories of student development applicable to K-12 and postsecondary education. Focus on educational influences on self and others. Letter grading.

458A-458B-458C. Practicum: Culinminating Project. (2 each) (Formerly numbered 458A-458B.) Seminar, two hours; Preparation of first- and second-year courses. Limited to Educational Leadership Program students. Development of culminating project (E.D. dissertation) and its implementation to improve educational practice.

460. Seminar: Special Issues in Evaluation. (2 or 4) Lecture, one or two hours; discussion, one or two hours. Topics and instructors vary each term. Recent emphasis includes evaluation of cost and effectiveness of evaluation. S/U or letter grading.

462. Seminar: Community College. (4) Topics include problems and practices in community college formation, instruction, student flow, administration, and evaluation.

470A. Seminar: Large Systems and Individual Schools. (4) Seminar, four hours. S/U or letter grading.


481. Knowledge and Inquiry in the Classroom. (4) Logical features of instruction and their application to inquiry techniques in teaching and learning. Various conceptions of truth, belief, and fact and opinion, and their application to classroom situations.

482A. Instructional Strategies in Urban Education: Technology. (4) Lecture, four hours. Emphasis on instructional practices that integrate use of technology in urban public schools. Study and analysis of comprehensive specialized use of appropriate computer-based technology to facilitate teaching and learning process, and debriefing of field experiences integrating technology-related tools. Letter grading.

482B. Instructional Strategies in Urban Education: English Language Learners. (4) Lecture, four hours. Emphasis on instructional practices that support English language learners in urban public schools. Study and analysis of comprehensive specialized instruction for English learners and debriefing of field experiences implementing adopted instructional programs for development of academic language, content knowledge, and knowledge in core academic curriculum. Letter grading.

482C. Instructional Strategies in Urban Education: Special Populations. (4) Lecture, four hours. Emphasis on instructional practices that support special populations in urban public schools. Continuation of study of statutory provisions, curriculum, instruction, and assessment issues related to teaching students with disabilities, students who are at risk, and students who are gifted and talented. Research opportunities, additional methods in content areas for advanced study, and preparation of M.Ed. inquiry included. Letter grading.

485. Advanced Study of Health Education. (1) Lecture, four hours. Student meetings with instructors, field specialists, and team cohorts to study and analyze delivery of comprehensive support for physical, cognitive, emotional, and social well-being of students in K-12 classrooms. Topics include prevention and intervention strategies, accessing local and community resources, curriculum and instruction, and major state and federal laws related to student health and safety. Letter grading.

489. Instructional Strategies in Education. (4) Methods for academic instruction, including research and active participation in the adversary approach, forms of debate, role playing, interaction process analysis, and feedback instruments. Practical emphasis on social sciences and humanities instruction, K-12.

490A. Instructional Decision Making. (4) Analysis of instructional models relevant to public school education. Assumptions, procedures, and constraints of each strategy considered in terms of learner and task variables. Laboratory experiences in classroom settings permit students systematically to apply and evaluate alternative instructional strategies.


495A-495B-495C. Resident Seminars. (4-4-4) Seminar, two hours; site-based fieldwork, two hours. Students meet in individual sessions with instructors and other field support faculty and in team and cluster cohorts for university-school partnership, in addition to regular seminars to debrief field experiences and continue study of curriculum, instruction, and assessment issues. Research opportunities, additional methods in content areas, and preparation of M.Ed. portfolio included. Letter grading.

496. Directed Independent Study. (6 to 12) Individual study for master's comprehensive examinations or for Ph.D. or Ed.D. qualifying examinations. May be repeated for credit.

497. Preparation for Master's Comprehensive Examinations or Doctoral Qualifying Examinations. (6 to 12) Individual study for master's comprehensive examinations or for Ph.D. or Ed.D. qualifying examinations. May be repeated for credit. S/U grading.

498. Thesis Research. (6 to 12) Individual research for graduate students. May be repeated for credit. S/U grading.

499A-499B-499C. Advanced Directed Field Experience. (4 to 8 each) Clinic, to be arranged. Field experiences designed to increase understanding of student fields of study. S/U or letter grading.

501. Cooperative Program in Special Education. (2 to 8 each) Preparation: consent of UCLA academic advisor and graduate dean, and host campus instructor, department chair, and graduate dean. Limited to UCLA doctoral students in special education. Used to record enrollment in practicum courses taken under cooperative arrangements with USC. S/U grading.

506. Directed Independent Study. (6 to 12) Individual study or research for graduate students. May be repeated for credit.

507. Preparation for Master's Comprehensive Examinations or Doctoral Qualifying Examinations. (6 to 12) Individual study for master's comprehensive examinations or for Ph.D. or Ed.D. qualifying examinations. May be repeated for credit. S/U grading.


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**ELECTRICAL ENGINEERING**

Henry Samuel School of Engineering and Applied Science

UCLA
58-121 Engineering IV
Box 951594
Los Angeles, CA 90095-1594

(310) 825-2647
fax: (310) 206-4833
e-mail: eechair@ea.ucla.edu
http://www.ee.ucla.edu

Ali H. Sayed, Ph.D., Chair
Asad A. Abidi, Ph.D., Vice Chair, Graduate Affairs
Rajeev Jain, Ph.D., Vice Chair, Industry Relations
Richard D. Wesel, Ph.D., Vice Chair, Undergraduate Affairs

Professors

Asad A. Abidi, Ph.D.
Abeer A.H. Alwan, Ph.D.
A.V. Balakrishnan, Ph.D.
Frank M.C. Chang, Ph.D.
Panagiotis D. Christofides, Ph.D.
Babak Daneshrad, Ph.D.
Deborah L. Estrin, Ph.D.
Harold R. Fettner, Ph.D.
Warren S. Grundfest, M.D., FACS
Tatsuo Itoh, Ph.D. (Northrop Grumman Professor of Electrical Engineering)
Stephen E. Jacobsen, Ph.D.
Rajeev Jain, Ph.D.
Bahram Jalali, Ph.D.
Chandrashker J. Joshi, Ph.D.
William J. Kaiser, Ph.D.
Alan J. Laub, Ph.D.
Jia-Ming Liu, Ph.D.
Warren B. Mori, Ph.D.
Stanley J. Osher, Ph.D.
Dee-Son Pan, Ph.D.
C. Kumar N. Patel, Ph.D.
Gregory J. Pottie, Ph.D.
Yahya Rahmat-Samii, Ph.D.
Behzad Razavi, Ph.D.
Vvani P. Roychowdhury, Ph.D.
Izhak Rubin, Ph.D.
Henry Samueli, Ph.D.
Ali H. Sayed, Ph.D.
Jeff S. Shamma, Ph.D.
Jason L. Speyer, Ph.D.
Mani B. Srivastava, Ph.D.
Osco M. Stafsudd, Jr., Ph.D.
Lieven Vandenberghe, Ph.D.
John D. Villasenor, Ph.D.
Kang L. Wang, Ph.D. (Raytheon Company Professor of Electrical Engineering)
Paul K.C. Wang, Ph.D.
Richard D. Wesel, Ph.D.
Alan N. Willson, Jr., Ph.D.
Jason C.S. Woo, Ph.D.
El Yablonovitch, Ph.D. (Northrop Grumman Opto-Electronic Professor of Electrical Engineering)
Kung Yao, Ph.D.

Professors Emeriti

Frederick G. Allen, Ph.D.
Francis C. Chen, Ph.D.
Robert S. Elliott, Ph.D.
Nhan N. Levan, Ph.D.
Frederick W. Schott, Ph.D.
Gabor C. Temes, Ph.D.
Chand R. Viswanathan, Ph.D.
Donald M. Wilberg, Ph.D.
Jack Willis, B.Sc.

Associate Professors

Lei He, Ph.D.
Jack W. Judy, Ph.D.
Mihaela van der Schaar, Ph.D.
C.-K. Ken Yang, Ph.D.

Assistant Professors

Chi On Chui, Ph.D.
Dejan Markovic, Ph.D.
Christoph Niemann, Ph.D.
Sudhakar Pamarti, Ph.D.
Paulo Tabuada, Ph.D.
Yuanxun Etham Wang, Ph.D.
Benjamin S. Williams, Ph.D.

Adjunct Professors

Nicolaos G. Alexopoulos, Ph.D.
Ezio Biglieri, Ph.D.
Elliott R. Brown, Ph.D.
Mary Eshaghian-Wilner, Ph.D.
Michael P. Fitz, Ph.D.
Giorgio Franceschetti, Ph.D.
Joel Schulman, Ph.D.
Ming C. Wu, Ph.D.

Adjunct Associate Professors

Bijan Houshmand, Ph.D.
Fernando G. Paganini, Ph.D.
Ingrid M. Verbauwhede, Ph.D.

Adjunct Assistant Professor

Charles Chien, Ph.D.

Visiting Assistant Professor

Eran Socher, Ph.D.

Scope and Objectives

The Electrical Engineering Department emphasizes teaching and research in the areas of circuits and embedded systems, physical and wave electronics, and signals and systems. Faculty members are actively engaged in educational and research activities in a variety of fields related to communications and telecommunications, control systems, electromagnetics, embedded computing systems, engineering optimization and operations research, integrated circuits and systems, microelectromechanical systems (MEMS) and nanotechnology (MEMS/nano), photonics and optoelectronics, plasma electronics, signal processing, and solid-state electronics. The department maintains state-of-the-art research programs, laboratories, and facilities exploring new concepts and developments. The program grants one undergraduate degree (Bachelor of Science in Electrical Engineering) and two graduate degrees (Master of Science and Doctor of Philosophy in Electrical Engineering). The graduate program provides students with an opportunity to pursue advanced coursework and in-depth training that are tailored to their professional needs.

Department Mission

The education and research activities in the Electrical Engineering Department are strongly aligned with its mission statement. In partnership with its constituents, consisting of students, alumni, industry, and faculty members, the mission of the department is to (1) produce highly qualified, well-rounded, and motivated students with fundamental knowledge in electrical engineering who can provide leadership and service to California, the nation, and the world, (2) pursue creative research and new technologies in electrical engineering and across disciplines in order to serve the needs of industry, government, society, and the scientific community by expanding the body of knowledge in the field, (3) develop partnerships with industrial and government agencies, (4) achieve visibility by active participation in conferences and technical and community activities, and (5) publish enduring scientific articles and books.

Undergraduate Program Objectives

The ABET-accredited electrical engineering curriculum provides an excellent background for either graduate study or employment. Undergraduate education in the department provides students with fundamental knowledge in mathematics, physical sciences, and electrical engineering, the opportunity to specialize in specific areas of interest or career aspiration, intensive training in problem solving, laboratory skills, and design skills, and a well-rounded education that includes communication skills, the ability to function well on a team, an appreciation for ethical behavior, and the ability to engage in lifelong learning. This education is meant to prepare students to thrive and to lead. It also prepares them to achieve the following two program educational objectives: (1) that graduates of the program have successful technical or professional careers and (2) that graduates of the program continue to learn and to adapt in a world of constantly evolving technology.
Undergraduate Study

Electrical Engineering B.S.

The undergraduate curriculum allows Electrical Engineering majors to specialize in one of three emphasis areas or options. The three options are structured as an electrical engineering degree, and the only degree offered to undergraduate students by the department is the Bachelor of Science degree in Electrical Engineering.

No distinction is made among the three options: (1) electrical engineering (EE) option is the regular option that provides students with preparation in electrical engineering with a range of required and elective courses across several disciplines; (2) computer engineering (CE) option provides students with preparation in embedded systems and software and hardware issues. Students replace some of the senior courses in the regular EE option with computer engineering-oriented courses or computer science courses; and (3) biomedical engineering (BE) option provides students with exposure to additional chemistry and life sciences courses and helps them meet most of the premedical preparation requirements so that they are prepared for careers in bioengineering, medicine, or electrical engineering.

Electrical Engineering Option

Preparation for the Major

Required: Chemistry and Biochemistry 20A; Computer Science 31, 32; Electrical Engineering 1, 2, 3, 10, M16 (or Computer Science M51A); Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 4AL, 4BL.

The Major

Required: Electrical Engineering 101, 102, 103, 110, 110L, 113, 115A, 115AL, 121B, 131A, 132A, 141, 161, Mathematics 132, Statistics 105; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and three major field elective courses (12 units), one design course (4 units), and one laboratory course (2 to 4 units) selected from the following:

Antennas and Microwaves: Three major field elective courses from Electrical Engineering 162A, 163A, and 163B or 163C; one capstone design course from 164D or 184D; and one laboratory course from 164L (or by petition from 194 or 199)

Integrated Circuits: Three major field elective courses from Electrical Engineering 115B, 115C, and M116C; one capstone design course from 115D or 184D; and one laboratory course from 115BL (or by petition from 194 or 199)

Microelectromechanical (MEMS) Systems: Three major field elective courses from Electrical Engineering 115B or 123A or 124, CM150, and 163A or 173; one capstone design course from 129D; and one laboratory course from 122L or CM150L (or by petition from 194 or 199)

Photons and Plasma Electronics: Three major field elective courses from Electrical Engineering 172, 173, and 174 or 175 or M185; one capstone design course from 173D; and one laboratory course from 172L (or by petition from 194 or 199)

Signals and Systems: Three major field elective courses from Electrical Engineering 114, 115B, 115C, 131B, 132B, 136, 142, 162A; one capstone design course from 113D, 173D, 180D, or 184D; and one laboratory course from 115BL or M116L or M171L (or by petition from 194 or 199)

Solid State: Three major field elective courses from Electrical Engineering 123A, 123B, and 124; one capstone design course from 129D; and one laboratory course from 122L (or by petition from 194 or 199)

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Biomedical Engineering Option

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL; Computer Science 31; Electrical Engineering 1, 2, 3, 10, M16 (or Computer Science M51A); Life Sciences 2, 3; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 4AL, 4BL.

The Major

Required: Electrical Engineering 101, 102, 103, 110, 110L, 113, 115A, 115AL, 131A, 132A, 141, 161, Mathematics 132, Statistics 105; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and three major field elective courses (12 units), one design course (4 units), and one laboratory course (2 units) from Biomedical Engineering 105A; three major field elective courses from Electrical Engineering 132A, 141, and 176 or Mechanical and Aerospace Engineering 105A; one capstone design course from Electrical Engineering 113D or 180D; and one laboratory course from Biomedical Engineering CM186C or Electrical Engineering M171L (or by petition from 194 or 199).

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Computer Engineering Option

Preparation for the Major

Required: Chemistry and Biochemistry 20A; Computer Science 31, 32, 33, 35L; Electrical Engineering 1, 2, 3, 10, M16 (or Computer Science M51A); Life Sciences 2, 3; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 4AL, 4BL.

The Major

Required: Electrical Engineering 101, 102, 103, 110, 110L, 113, 115A, 115C, M116C (or Computer Science M151B), 131A, 132B or Computer Science 118, Mathematics 132, Statistics 105; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and three major field elective courses (12 units), one design course (4 units), and one laboratory course (2 to 4 units) selected from the computer engineering pathway as follows: three major field elective courses from Computer Science 111, M117 or Electrical Engineering 132A, and 131 or 132 or 160; one capstone design course from Electrical Engineering 113D or 180D or 184D; and one laboratory course from Electrical Engineering M116L (or by petition from 194 or 199).

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasullibrary/pqmgrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Electrical Engineering offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Electrical Engineering.

Electrical Engineering

Lower Division Courses

1. Electrical Engineering Physics I (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisites: Mathematics 32A, 32B, Physics 1A, 1B. Introduction to modern physics and electromagnetism with an engineering orientation. Emphasis on mathematical tools necessary to express and solve Maxwell equations. Relation of these concepts to waves propagating in free space, including dielectrics and optical systems. Letter grading.

2. Physics for Electrical Engineers (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite: course 1. Introduction to concepts of modern physics necessary to understand solid-state devices, including elementary quantum theory, Fermi energies, and concepts of electrons in solids. Discussion of electrical properties of semiconductors leading to operation of junction devices. Letter grading.

3. Introduction to Electrical Engineering (2) Lecture, two hours. Introduction to field of electrical engineering; research and applications across several areas, such as communications, control, electromagnetics, embedded computing, engineering optimization, integrated circuits, MEMS, nanotechnology, photonics and optoelectronics, plasma electronics, signal processing, and solid-state electronics. P/NP grading.

M16. Logic Design of Digital Systems. (4) (Same as Computer Science M51A.) Lecture, four hours; discussion, two hours; outside study, six hours. Introduction to digital systems. Specification and implementation of combinational and sequential systems. Standard logic modules and programmable logic arrays. Special systems: data and control sections. Number systems and arithmetic algorithms. Error control codes for digital information. Letter grading.

Upper Division Courses

100. Electrical and Electronic Circuits. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisites: course 1 or Physics 1C, Mathematics 33A, 33B. Electrical quantities, linear circuit elements, circuit principles, signal waveforms, transient and steady-state circuit behavior. Introduction to diode, transistor, and operational amplifier circuits. Letter grading.

101. Engineering Electromagnetics. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite: course 1 or Physics 1C, Mathematics 32A and 32B, or 33A and 33B. Electromagnetic field concepts, waves and phasors, transmission lines and Smith chart, transient responses, vector analysis, introduction to Maxwell equations, static and quasi-static electric and magnetic fields. Letter grading.


103. Applied Numerical Computing. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisites: Civil Engineering 15 or Computer Science 51 or Mechanical and Aerospace Engineering 20, Mathematics 33A, 33B (May be taken concurrently). Introduction to numerical computation and analysis. Floating point representation and round-off error; numerical methods for systems of linear equations; methods for systems of nonlinear equations. Introduction to numerical optimization: least squares, with applications to interpolation, approximation, and numerical integration; linear programming. Letter grading.

110. Circuit Analysis II. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisite: course 10. Corequisite: course 102. Sinusoidal excitation and phasors, AC steady state analysis, AC steady state power, network functions, poles and zeros, frequency response, mutual inductance, ideal transformer, application of Laplace transforms to circuit analysis. Letter grading.

110L. Circuit Measurements Laboratory. (2) Laboratory, four hours; outside study, two hours. Requisite: course 100 or 110. Experiments with basic circuits containing resistors, capacitors, inductors, and op-amps. Ohm’s law and voltage and current division, Thévenin and Norton equivalents, circuits, superposition, transient and steady-state analysis, and frequency response principles. Letter grading.


113D. Digital Signal Processing Design. (4) (Formerly numbered 113L.) Laboratory, four hours; outside study, four hours. Requisite: course 113. Real-time implementation of digital signal processing algorithms and design of digital filters. Experiments involving A/D and D/A conversion, aliasing, digital filtering, sinusoidal oscillators, Fourier transforms, and finite wordlength effects. Course project involving original design and implementation of signal processing systems for communications, speech, audio, or video using DSP chip. Letter grading.

114. Speech and Image Processing Systems Design. (4) (Formerly numbered 114D.) Lecture, three hours; discussion, one hour; laboratory, two hours; outside study, six hours. Requisite: course 113. Design principles of speech and image processing systems. Speech production, analysis, and modeling in first half. Lectures supplemented by laboratory implementation of speech and image processing tasks. Letter grading.


115AL. Analog Electronics Laboratory I. (2) Laboratory, four hours; outside study, two hours. Requisites: courses 110L, 115A. Experimental determination of device characteristics, resistive diode circuits, single-stage amplifiers, compound transistor stages, effect of feedback on single-stage amplifiers. Letter grading.


115BL. Analog Electronics Laboratory II. (2) Laboratory, four hours; outside study, eight hours. Requisites: courses 110L, 115B. Design concepts underlying and supporting modern networks, with focus on physical and media access layers of network protocol stack. Systems include high-speed LANs (e.g., fast and giga Ethernet), optical DWDM (dense wavelength division multiplexing), time division SONET networks, wireless LANs (IEEE802.11), and ad hoc wireless and personal area networks (e.g., Bluetooth). Experimental laboratory sessions included. Letter grading.

115C. Principles of Semiconductor Device Design. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Introduction to principles of operation of bipolar and MOS transistors, equivalent circuit models, frequency behavior, voltage limitations. Letter grading.


M116C. Computer Systems Architecture. (4) (Same as Computer Science M151B.) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course M16 or Computer Science M51A. Computer Engineering 33. Recommended: course M116L or Computer Science M152A, Computer Science 111. Computer system organization and design, implementation of CPU datapath and control, instruction set design, memory hierarchy (caches, main memory, virtual memory) organization and management, input/output subsystems (bus structures, interrupts, DMA), performance evaluation, pipelined processors. Letter grading.

M116L. Introductory Digital Design Laboratory. (2) (Same as Computer Science M152A.) Laboratory, four hours; outside study, two hours. Requisite: course M16 or Computer Science M51A. Hands-on design, implementation, and debugging of digital logic circuits, use of computer-aided design tools for schematic capture and simulation, implementation of complex circuits using programmed array logic, design projects. Letter grading.

M117. Computer Networks: Physical Layer. (6) (Same as Computer Science M117.) Lecture, four hours; discussion, course, four hours; outside study, ten hours. Not open to students with credit for course M171L. Introduction to fundamental data communication concepts underlying and supporting modern networks, with focus on physical and media access layers of network protocol stack. Systems include high-speed LANs (e.g., fast and giga Ethernet), optical DWDM (dense wavelength division multiplexing), time division SONET networks, wireless LANs (IEEE802.11), and ad hoc wireless and personal area networks (e.g., Bluetooth). Experimental laboratory sessions included. Letter grading.

121B. Principles of Semiconductor Device Design. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Introduction to principles of operation of bipolar and MOS transistors, equivalent circuit models, frequency behavior, voltage limitations. Letter grading.

121C. Principles of Semiconductor Device Design. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisite: course 2 or Physics 1C. Limit to junior/senior engineering majors. Fundamentals of solid-state, introduction to quantum mechanics and quantum statistics applied to solid-state. Crystal structure, energy levels in solids, and band theory and semiconductor properties. Letter grading.

123A. Fundamentals of Solid-State I. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisite: course 2 or Physics 1C. Limit to junior/senior engineering majors. Fundamentals of solid-state, introduction to quantum mechanics and quantum statistics applied to solid-state. Crystal structure, energy levels in solids, and band theory and semiconductor properties. Letter grading.

123B. Fundamentals of Solid-State II. (4) Lecture, three hours; outside study, nine hours. Requisite: course 123A. Discussion of solid-state properties, lattice vibrations, thermal properties, dielectric, magnetic, and superconducting properties. Letter grading.

124. Semiconductor Physical Electronics. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisite: course 123A. Band structure of semiconductors, experimental probes of basic band structure parameters, statistics of carriers, carrier transport properties at low fields, excess carrier transport properties, carrier recombination mechanisms, heterojunction properties. Letter grading.
128. Principles of Nanoelectronics. (4) Lecture, four hours; discussion, four hours; outside study, four hours. Requisites: course 102 and 1B. Introduction to fundamentals of nanoscience for electronic nanosystems. Principles of fundamental quantities: electron charge, effective mass, Bohr magneton, and spin, as well as theoretical approaches. From these fundamentals, discussion of basic behaviors of nanosystems such as analysis of dynamics, variability, and noise, contrasted with those of scaled CMOS: concepts and design project in which students are challenged to design electronics nanosystems. Letter grading.

129D. Semiconductor Processing and Device Design. (4) Lecture, two hours; laboratory, four hours; outside study, six hours. Course 121B. Introduction to CAD tools used in integrated circuit processing and device design. Device structure optimization tool based on PISCES; process integration tool is based on SUPREM. Course familiarizes students with the tools. Using CAD tools, a CMOS process integration to be designed. Letter grading.

131A. Probability. (4) Lecture, four hours; discussion, one hour; outside study, 10 hours. Requisites: course 102. Mathematics 32B, 33B. Introduction to basic concepts of probability, including random variables and vectors, distributions and densities, moments, characteristic functions, and limit theorems. Application of probability to control, optimization, and signal processing. Introduction to computer simulation and generation of random events. Letter grading.

131B. Introduction to Stochastic Processes. (4) Lecture, four hours; outside study, eight hours. Requisite: course 131A. Introduction to concepts of stochastic processes, emphasizing continuous- and discrete-time stationary processes, correlation function and spectral density linear transformation, and mean-square approximation. Applications to communication, control, and signal processing. Introduction to computer simulation and analysis of stochastic processes. Letter grading.


142. Linear Systems: State-Space Approach. (4) Lecture, four hours; discussion; one hour; outside study, seven hours. Requisite: course 102. State-space methods of system analysis and synthesis, with application to problems in networks, control, and system modeling. Letter grading.

CM150. Introduction to Micromachining and Microelectromechanical Systems (MEMS). (4) Formerly numbered M150L. (Same as Biomedical Engineering CM150 and Mechanical and Aerospace Engineering CM180.) Lecture, four hours; discussion, one hour; outside study, eight hours. Requisite: course 101. Introduction to micromachining and microelectromechanical systems (MEMS). Methods of micromachining, including how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students design microfabrication processes by computer-aided design and use a variety of MEMS devices. Concurrently scheduled with course CM250L. Letter grading.

150DL. Photonic Sensor Design Laboratory. (4) Lecture, two hours; laboratory, four hours; outside study, eight hours. Requisite: course 131A. Multidisciplinary course with lectures and laboratory experiments on optical sensors. Fundamentals of intensity and interference-based transducers, polarimeters, multiplexing and coding, and incoherent and coherent sensors. Design and implementation of optical gyroscope, computer interfacing, and signal processing. Letter grading.

CM150L. Introduction to Micromachining and Microelectromechanical Systems (MEMS) Laboratory. (2) Formerly numbered M150L. (Same as Biomedical Engineering CM150L and Mechanical and Aerospace Engineering CM180L.) Lecture, one hour; laboratory, four hours; outside study, one hour. Requisite: course 20A, 20L, Physics 1A, 1B, 1C, 4AL, 4BL. Corequisite: course CM150L. Hands-on introductions to design and build microelectromechanical systems (MEMS) laboratory. Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students go through process of fabrication of MEMS devices. Concurrently scheduled with course CM250L. Letter grading.

161. Electromagnetic Waves. (4) Lecture, four hours; discussion; one hour; outside study, seven hours. Requisite: course 101. Time-varying fields and Maxwell equations, plane wave propagation and interaction with media, energy flow and Poynting vector, guided waves in waveguides and group velocity, radiation and antennas. Letter grading.


163A. Introductory Microwave Circuits. (4) Lecture, three hours; discussion; one hour; outside study, eight hours. Requisite: course 161. Transmission lines description of waveguide, impedance transformation, power dividers, directional couplers, filters, hybrid junctions, nonreciprocal devices. Letter grading.

163B. Microwave and Millimeter Wave Active Devices. (4) Lecture, three hours; discussion; one hour; outside study, eight hours. Requisite: course 121B. MESFET, HEMT, HBT, IMPATT, Gunn, small signal models, noise model, large signal model, loadpull method, parameter extraction technique. Letter grading.

163C. Active Microwave Circuits. (4) Lecture, three hours; outside study, nine hours. Requisites: courses 115A, 161. Theory and design of microwave transistors and oscillators; stability, noise, distortion, power amplifier, (3) knowledge and skills required in wireless integrated circuit characterization and implementation. Letter grading.

164D. Microwave Wireless Design. (4) Formerly numbered 164DL. Lecture, one hour; laboratory, four hours; outside study, eight hours. Requisite: course 161. Microwave integrated circuit design from wireless perspective with focus on (1) use of microwave circuit simulation tools, (2) design of wireless frontend circuits including low noise amplifier, mixer, and power amplifier, (3) knowledge and skills required in wireless integrated circuit characterization and implementation. Letter grading.

164L. Microwave Wireless Laboratory. (2) Formerly numbered 164DL. Lecture, one hour; laboratory, three hours; outside study, three hours. Requisite: course 161. Measurement techniques and instruments for active and passive microwave components: cavity resonators, waveguides, wave meters, slotted lines, directional couplers. Design, fabrication, and characterization of microwave circuits in microstrip and coaxial systems. Letter grading.

171. Data Communication Systems Laboratory. (2 to 4) (Same as Computer Science M171L.) Laboratory, four to eight hours; outside study, two to four hours. Recommended preparation: course 116L. Introduction. Interconnection of analog-signaling aspects of digital communications through experience in using contemporary test instruments to generate and display signals in relevant laboratory setups. Use of oscilloscopes, pulse function generators, spectrum analyzers, desktop computers, terminals, modems, PCs, and workstations in experiments on pulse transmission impairments, waveforms and their spectra, modem and terminal characteristics, and interfaces. Letter grading.

172. Introduction to Lasers and Quantum Electronics. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisite or corequisite: course 172. Properties of lasers, including saturation, gain, mode structure. Laser applications, including optics, modulation, communication, holography, and interferometry. Letter grading.

173. Photonic Devices. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisite: course 101. Physical applications and principles of lasers, Gaussian optics, resonant cavities, atomic radiation, laser oscillation and amplification, cw and pulsed lasers. Letter grading.

172L. Laser Laboratory. (4) Laboratory, four hours; outside study, eight hours. Requisite or corequisite: course 172. Properties of lasers, including saturation, gain, mode structure. Laser applications, including optics, modulation, communication, holography, and interferometry. Letter grading.

173D. Photonics and Communication Design. (4) Formerly numbered 173DL. Lecture, four hours; outside study, eight hours. Requisite: course 102. Recommended: course 132A. Introduction to measurement of basic photonic devices, including LEDs, lasers, detectors, and amplifiers; fiber-optic fundamentals and measurement of fiber systems. Modulation techniques, including A.M., F.M., amplitude and frequency modulation, computer interfacing, and signal processing. Basic optical properties of semiconductors, pin photodiodes, avalanche photodiode detectors (APD), light-emitting diodes (LED), semiconductor lasers, optical modulators and amplifiers, and typical photonic systems. Letter grading.
**Graduate Courses**

201A. VLSI Architectures and Design Methodologies. (4) Lecture, four hours; outside study, eight hours. Requisite: course M216A or Computer Science M258A. In-depth study of VLSI architectures and VLSI design methodologies for variety of applications in signal processing, communications, networking, embedded systems, etc. VLSI architectures choices range from ASICS, full custom approach, and special purpose processors to general purpose microprocessors. VLSI design methodologies take design specifications to implementation with aid of modern computer-aided design tools. Letter grading.

201C. Modeling of VLSI Circuits and Systems. (4) Lecture, four hours. Requisite: course 115C. Detailed study of VLSI circuit and system models considering performance of different design techniques and thermal effects, reliability, and manufacturability. Discussion of principles of modeling and optimization codevelopment. Letter grading.

202A. Embedded Systems. (Formerly numbered 202A.) (Same as Computer Science M213A.) Lecture, four hours; outside study, eight hours. Design for graduate computer science and electrical engineering students. Methodologies and technologies for design of embedded systems. Topics include hardware and software platforms for embedded systems, techniques for modeling and specification of system behavior, software organization, real-time operating system scheduling, real-time communication and packet scheduling, low-power battery and energy-aware system design, timing synchronization, fault tolerance and debugging, and techniques for hardware and software architecture optimization. Theoretical foundations as well as practical design methods. Letter grading.

202B. Distributed Embedded Systems. (Formerly numbered 206A.) (Same as Computer Science M213B.) Lecture, four hours; outside study, eight hours. Requisites: course 132B or Computer Science 118, and Computer Science 111. Designed for graduate computer science and electrical engineering students. Interdisciplinary course with focus on study of distributed embedded systems concepts needed to realize systems such as wireless sensor and actuator networks for monitoring and control of physical world. Topics include network self-configuration with localization and timing synchronization; energy-aware system design and operation; protocols for MAC, routing, and topology; application of graphical models and models with language, OS, database, and middleware; in-network collaborative processing; fundamental characteristics such as coverage, connectivity, capacity. Use case study to understand the exploitation and management of actuation and mobility; data and system integrity issues with calibration, faults, debugging, and security; and usage issues such as human interfaces and safety. S/U or letter grading.

204A. Advanced Compilers. (4) Lecture, four hours; outside study, eight hours. Requisites: Computer Science 132, 251A. Designed for graduate computer science and electrical engineering students. Efficient allocation of shared resources (buses, function units, register files) is one of most important areas of research in modern computer architecture and compilation. Consider instruction set architecture, instruction set extensions and scheduling, register assignment, and low-level transformation in context of concurrent microarchitectures (e.g., VLIW, superscalar, and most DSP). Topics include mapping specific instruction to processor communication busses, making effective use of hardware caches, and targeting special-purpose function units. Letter grading.

205A. Matrix Analysis for Scientists and Engineers. (4) Lecture, four hours; outside study, eight hours. Preparation: one undergraduate linear algebra course. Designed for first-year graduate students in all branches of engineering, science, and related disciplines. Introduction to matrix theory and linear algebra, language in which virtually all of modern science and engineering is conducted. Review of matrices taught in undergraduate courses and introduction to graduate-level topics. Letter grading.


M208B. Functional Analysis for Applied Mathematics and Engineering. (4) (Formerly numbered 208B.) (Same as Mathematics M268A.) Lecture, four hours; outside study, eight hours. Requisites: course 208A (or Mathematics 115A and 115B), Mathematics 131A, 131B, 132. Topics may include $L^p$ spaces, Hilbert, Banach, and separable spaces; Fourier transforms; linear functionals, Riesz representation theory, linear operators and their adjoints; self-adjoint and compact operators. Spectral theory. Differential operators such as Laplacian and eigenvalue problems. Resolvent distributions and Green’s functions. Semigroups, Applications. S/U or letter grading.


209S. Special Topics in Embedded Computing Systems. (4) Lecture, four hours; outside study, eight hours. Current topics in embedded computing systems, including topics but not limited to processor and system architecture, real-time, low-power design. S/U or letter grading.


211B. Digital Image Processing II. (4) Lecture, three hours; laboratory, four hours; outside study, five hours. Requisite: Digital Image Processing I. Advanced digital image processing theory and techniques. Topics include modeling, restoration, still-frame and video image compression, tomographic imaging, and multisolution analysis using wavelet transforms. Letter grading.


212B. Multirate Systems and Filter Banks. (4) Lecture, three hours; outside study, nine hours. Requisite: course 212A. Fundamentals of multirate systems; polyphase representation; multistage implementations; applications of multirate systems; maximally decimated filter banks; perfect reconstruction systems; paraunitary filter banks; wavelet transform and its relation to multirate filter banks. Letter grading.

213A. Advanced Digital Signal Processing Circuit Design. (4) Lecture, three hours; outside study, nine hours. Requisite: course 212A. Digital filter design and optimization tools, architectures for digital signal processing. Design and implementation of digital signal processing circuits and modules for digital signal processing; programmable signal processors; CAD tools and cell libraries for application-specific integrated circuit design; case studies of speech and imaging applications. Letter grading.

214. Advanced Topics in Speech Processing. (4) (Same as Biomedical Engineering M214.) Lecture, three hours; laboratory; two hours; outside study, seven hours. Requisite: course 113. Theory and applications of digital processing of speech signals. Mathematical models of human speech production and perception mechanisms, speech analysis/synthesis. Techniques include linear prediction, filter-bank models, and homomorphic filtering. Applications to speech synthesis, automatic recognition, and hearing aids. Letter grading.

214B. Advanced Topics in Speech Processing. (4) Lecture, three hours; computer assignments, two hours; outside study, seven hours. Requisite: course 115B. Analysis and design of analog integrated circuits, MOS and bipolar device structures and models, single-stage and differential amplifiers, noise, feedback, operational amplifiers, offset and distortion, sampling devices and discrete-time circuits, bandgap references. Letter grading.

215A. Analog Integrated Circuit Design. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite: course M214A. Advanced techniques used in various speech-processing applications, with focus on speech recognition and machine comprehension. Physiological and psychoacoustics of human perception. Dynamic Time Warping (DTW) and Hidden Markov Models (HMM) for automatic speech recognition systems, pattern classification techniques, and speech algorithms. Aids for hearing impaired. Letter grading.

215A. Analog Integrated Circuit Design. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite: course M214A. Analysis and design of analog integrated circuits, MOS and bipolar device structures and models, single-stage and differential amplifiers, noise, feedback, operational amplifiers, offset and distortion, sampling devices and discrete-time circuits, bandgap references. Letter grading.

215B. Advanced Digital Integrated Circuits. (4) Lecture, three hours; outside study, nine hours. Requisites: courses 115C, M216A. Analysis and comparison of modern logic families (CMOS, bipolar, BiCMOS, GaAs), MSI digital circuits (flip-flops, registers, counters, PLAs), VLSI memories (ROM, RAM, CCD, bubble memories, EEPROM, EEPROM) and VLSI systems. Letter grading.

215C. Analysis and Design of RF Circuits and Systems. (4) Lecture, four hours; outside study, eight hours. Requisite: course 215A. Principles of RF circuit and system design, with emphasis on monolithic implementation in VLSI technologies. Basic concepts, communications background, transceiver architectures, low-noise amplifiers and mixers, oscillators, frequency synthesizers, power amplifiers. Letter grading.


215E. Sampling and Synchronization. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 215A, M216A. Analysis and design of circuits for synchronization and communication for VLSI systems. Advanced clocking methodologies, phase-locked loop design for clock generation, and high-performance wire-line transmitters, receivers, and timing recovery circuits. Letter grading.

216A. Design of VLSI Circuits and Systems. (4) (Same as Computer Science M258A.) Lecture, four hours; discussion, one hour; outside study, three hours. Requisites: courses M16 or Computer Science M51A, and 115A. Recommended: course 115C. LSIs/VLSI design and application in computer systems. Design techniques that can be used to implement complex integrated systems on a chip. Letter grading.

216B-216C. LSI in Computer System Design. (4-4) (Same as Computer Science M238B-M238C.) Lecture, four hours; discussion, one hour; outside study, five hours. Requisite: four courses 212A, 212B, and 216A. LSI/VLSI design and application in computer systems. In-depth studies of VLSI architectures and VLSI design tools. In Progress (M216B) and 1st year (M216C) grading.

217. Biomedical Imaging. (4) (Same as Biomedical Engineering M217.) Lecture, three hours; laboratory; two hours; outside study, seven hours. Requisite: course 114D or 211A. Mathematical principles of medical imaging modalities: X-ray, computed tomography, positron-emission tomography, single photon emission computed tomography, magnetic resonance imaging. Topics include basic principles of each imaging system, image reconstruction algorithms, system configurations and their effects on reconstruction algorithms, specialized imaging techniques for specific applications such as flow imaging, ECG imaging. Letter grading.

219A. Special Topics in Circuits and Signal Processing. (4) Lecture, three hours; outside study, nine hours. Advanced treatment of topics selected from recent areas in circuit theory, integrated circuits, or signal processing. Letter grading.

219A. Special Topics in Circuits and Signal Processing. (4) Lecture, three hours; outside study, nine hours. Advanced treatment of topics selected from recent areas in circuit theory, integrated circuits, or signal processing. Letter grading.

221A. Physics of Semiconductor Devices I. (4) Lecture, four hours; outside study, eight hours. Physical principles and design considerations of junction devices. Letter grading.

221B. Physics of Semiconductor Devices II. (4) Lecture, four hours; outside study, eight hours. Principles and design considerations of field effect devices and charge-coupled devices. Letter grading.

221C. Microwave Semiconductor Devices. (4) Lecture, four hours; outside study, eight hours. Physical principles and design considerations of microwave solid-state devices: Schottky barrier mixer diodes, IM-DD transistors, transfered electron devices, tunnel diodes, microwave oscillators. Letter grading.


224. Solid-State Electronics II. (4) Lecture, four hours; outside study, eight hours. Requisite: course 223. Techniques to solve Boltzmann transport equation, scattering mechanisms in semiconductors, high field transport properties in semiconductors, Monte Carlo method in transport. Optical properties, applications. Letter grading.

225. Physics of Semiconductor Nanostructures and Devices. (4) Lecture, four hours; outside study, eight hours. Requisite: course 223. Theoretical methods for circulating electronics and optical properties of semiconductor structures. Quantum size effects and low-dimensional systems. Application to semiconductor nanometer scale devices, including negative resistance diodes, transistors, and detectors. Letter grading.

229S. Advanced Electrical Engineering Seminar. (2) Seminar; two hours; outside study, four hours. Preparation: successful completion of Ph.D. major field examination. Seminar on current research topics in solid-state and quantum electronics (Section 1) or in electronic circuit theory and applications (Section 2). Students report on a tutorial topic and on a research topic in their dissertation area. May be repeated for credit. S/U grading.

230A. Estimation and Detection in Communication and Radar Engineering. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 132A, 230A. Basic concepts of digital communication systems; representation of bandpass waveforms; signal space analysis and optimum receivers in Gaussian noise; comparison of digital modulation methods; synchronization and equalization; applications to modern communication systems. Letter grading.


231A. Information Theory. Channel and Source Coding I. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite: course 131A. Fundamental limits on compression and transmission of information. Topics include limits and algorithms for lossless data mechanisms in various capacities, rate versus distortion in lossy compression, and information theory for multiple users. Letter grading.
231E. Channel Coding Theory. (4) Lecture; four hours; outside study, eight hours. Requisite: course 131A. Fundamentals of error control codes and decoding algorithms. Topics include block codes, convolutional codes, trellis codes, and turbo codes. Letter grading.

232A. Stochastic Modeling with Applications to Telecommunication Systems. (4) Lecture; four hours; discussion; one hour; outside study, seven hours. Requisite: course 131A. Introduction to stochastic processes as applied to study of telecommunication systems and traffic engineering. Renewal processes; discrete-time Markov chains; continuous-time Markov jump processes. Applications to traffic and queueing analysis of basic telecommunication system models. Letter grading.

232B. Telecommunication Switching and Queueing Systems. (4) Lecture; four hours; outside study, eight hours. Requisite: course 232A. Queue modeling and analysis with applications to space-time digital switching systems and to integrated-service telecommunication systems. Fundamentals of traffic engineering and queueing theory. Queue size, waiting time, busy period, blocking, and stochastic process analysis of Markovian and non-Markovian models. Letter grading.

232C. Telecommunication Architecture and Networks. (4) Lecture; four hours; outside study, eight hours. Requisite: course 232B. Analysis and design of integrated-service telecommunication networks and multiple-access procedures. Stochastic analysis of priority-based queueing system models. Queueing networks; network protocol architectures; error control; routing and access control. Applications to local-area, packet-radio, satellite, and computer communication networks. Letter grading.

232D. Telecommunication Networks and Multiple-Access Communications. (4) Lecture; four hours; outside study, eight hours. Requisite: course 232B. Performance analysis and design of telecommunication networks and multiple-access communication systems. Topics include architectures, multiplexing and multiple-access, message delays, error control, switching, routing, protocols. Applications to local-area, packet-radio, local-distribution, computer and satellite communication networks. Letter grading.

232E. Graphs and Network Flows. (4) Lecture, four hours; outside study, eight hours. Requisite: course 136. Solution to analysis and synthesis problems in various engineering and mathematical fields, with applications to circuit analysis and design, computer organization, scheduling and resource allocation, and operations research. Topics include matrix theory, network flows, and applications to operations research problems. Emphasis on mathematical theory and algorithms. Letter grading.


237F. Dynamic Programming. (4) Same as Mechanical and Aerospace Engineering M276F. Lecture; four hours; outside study, eight hours. Recommended prerequisite: course 232A or 236A or 236B. Introduction to mathematical optimization techniques, with special emphasis on dynamic programming and optimal control. Letter grading.

238. Multimedia Communications and Processing. (4) Lecture, four hours; outside study, eight hours. Requisite: courses 114D, 231A. Key concepts, principles, and algorithms of real-time multimedia communications and processing across heterogeneous Internet and high-speed computer networks. Multimedia content, such as phase-coherent communication systems, such as phase-coherent communication systems, optical channels, time-varying channels, feedback channels, broadcast channels, networks, coding and decoding techniques. May be repeated for credit with topic change. Letter grading.

239AS. Topics in Communication. (4) Lecture, four hours; outside study, eight hours. Topics in one or more special aspects of communication systems, such as phase-coherent communication systems, optical channels, time-varying channels, feedback channels, broadcast channels, networks, coding and decoding techniques. May be repeated for credit with topic change. Letter grading.

239BS. Topics in Operations Research. (4) Lecture, four hours; outside study, eight hours. Treatment of one or more selected topics from areas such as integer programming; combinatorial optimization; network synthesis; scheduling, routing, location, and design; convex optimization; considerations for mathematical programming algorithms; stochastic programming; applications in engineering, computer science, economics. May be repeated for credit with topic change. Letter grading.

239C. Stochastic Control. (4) Lecture, four hours; outside study, eight hours. Introduction to the theory of stochastic control system design. Letter grading.

240A. Linear Dynamic Systems. (4) Same as Chemical Engineering M280A and Mechanical and Aerospace Engineering M270A.) Lecture; four hours; outside study, eight hours. Requisite: course 236A or Chemical Engineering M270A or Mechanical and Aerospace Engineering 171A. State-space description of linear time-invariant (LTI) and time-varying (LTV) systems in continuous and discrete-time. Linear algebra concepts such as eigenvalues and eigenvectors, singular values, Cayley-Hamilton theorem, Jordan form; solution of state equations; stability and controllability, observability, realizability, and minimality. Stabilization design via state feedback and observers; separation principle. Connections with transfer function techniques. Letter grading.

240B. Linear Optimal Control. (4) Lecture, four hours; outside study, eight hours. Requisite: course 141, M240A. Introduction to optimal control, with emphasis on detailed study of LQR, or linear regulators with quadratic cost criteria. Relationships to classical control system design. Letter grading.


241C. Stochastic Control. (4) Lecture; four hours; outside study, eight hours. Requisites: courses 240B, 241B. Review of courses, state-space models: sigma algebra equivalence and separation principle; dynamic programming; compensator design for time invariant systems; feedback control and servomechanisms, extensions to nonlinear systems; applications to interception guidance, gust alleviation. Letter grading.

M242A. Nonlinear Dynamic Systems. (4) Same as Chemical Engineering M282A and Mechanical and Aerospace Engineering M272A.) Lecture, four hours; outside study, eight hours. Requisite: course M240A or Chemical Engineering M272A or Mechanical and Aerospace Engineering M270A. State-space techniques for studying solutions of time-invariant and time-varying nonlinear dynamic systems with empha-
M248S. Seminar: Systems, Dynamics, and Control Topics. (2) (Same as Chemical Engineering M297 and Mechanical and Aerospace Engineering M299A.) Seminar, two hours; outside study, six hours. Limited to graduate engineering students. Presentations of research topics by leading academic researchers from fields of systems, dynamics, and control. Students who work in these fields present their papers and results. S/U grading.

249S. Topics in Control. (4) Seminar, four hours; outside study, eight hours. Thorough treatment of one or more aspects of control theory and applications, such as computational methods for optimal control; stability of distributed systems; identification; adaptive control; nonlinear filtering; differential games; applications to flight control, used-car repossess, process control, biomedical problems. May be repeated for credit with topic change. Letter grading.

CM250A. Introduction to Micromachining and Microelectromechanical Systems (MEMS). (4) (Formerly numbered M250A.) (Same as Biomedical Engineering CM250A and Mechanical and Aerospace Engineering CM280A.) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4AL, 4BL. Corequisite: course CM250L. Introduction to micro-machining technologies and microelectromechanical systems (MEMS). Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students design micromanufacturing processes capable of achieving desired MEMS device. Concurrently scheduled with course CM150. Letter grading.

CM250B. Microelectromechanical Systems (MEMS) Fabrication. (4) (Same as Biomedical Engineering M250B and Mechanical and Aerospace Engineering M260B.) Lecture, three hours; discussion, one hour; outside study, eight hours. Enforced requisite: course CM150 or CM250A. Advanced discussion of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students go through process of fabricating MEMS device. Concurrently scheduled with course CM150L. Letter grading.

M252. Microelectromechanical Systems (MEMS) Device Physics and Design. (4) (Formerly numbered M252B.) (Same as Biomedical Engineering M252 and Mechanical and Aerospace Engineering M262B.) Lecture, four hours; outside study, eight hours. Introduction to MEMS design. Design methods, design rules, sensing and actuation mechanisms, microsensors, and microactuators. Designing MEMS to be produced with both foundry and non-foundry processes. Design for fabrication. Design project required. Letter grading.

M257. Nanoscience and Technology. (4) (Same as Mechanical and Aerospace Engineering M287.) Lecture, four hours; outside study, eight hours. Introduc- tion to fundamentals of nanoscale science and technol- ogy. Basic physical principles, quantum mechan- ics, chemical bonding and nanostructures, top-down and bottom-up (self-assembly) nanofabrication; nano- materials; nanodevices; nanoelectronics, and nanobiotechnology detection. Introduction to new knowledge and techniques in nano areas to under- stand scientific principles and nanotechnology and inspire students to create new ideas in multidisci- plinary nano areas. Letter grading.

259S. Seminar: Microelectromechanical Systems (MEMS). (2) Seminar, two hours; outside study, four hours. Seminar on microelectromechanical systems (MEMS). Letter grading.


261. Microwave and Millimeter Wave Circuits. (4) Lecture, four hours; outside study, eight hours. Requi- site: course 163A. Waveguide and circular waveguides, microstrip, stripline, finline, and dielectric waveguide distributed circuits, with applications in mi- crowave and millimeter wave integrated circuits. Sub- strate materials, s-parameter, and finite-difference methods for discontinuity effects. Design of passive microwave and millimeter wave circuits. Letter grading.


266. Computational Methods for Electromagnet- ics. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 162A, 163A. Computational techniques for partial differential and integral equations: finite-difference, finite-element, method of moments. Applications include transmission lines, resonators, integrated circuits, solid-state device modeling, electromagnetic scattering, and antennas. Letter grading.


274. Fiber Optic System Design. (4) Lecture, four hours; outside study, nine hours. Requisites: courses 172DL and/or 174. Top-down introduction to physical layer design in fiber optic communication systems, in- cluding Telecom, Datacom, and CATV. Fundamentals of digital and analog optical communication systems, fiber transmission characteristics, and optical modula- tion techniques, including direct and external modula- tion and computer-aided design. Architectural-level design of fiber optic transceiver circuits, including preamplifier, quantizer, clock recovery, laser diode, laser driver, and predistortion circuits. Letter grading.

279S. Special Topics in Quantum Electronics. (4) Lecture, four hours; outside study, eight hours. Cur- rent research topics in quantum electronics, lasers, nonlinear optics, optoelectronics, ultrafast phenomena, fiber optics, and lightwave technology. May be re- peated for credit. Letter grading.


295. Technical Writing for Electrical Engineers. (2) Lecture, two hours. Designed for electrical engineer- ing Ph.D. students. Opportunity for students to im- prove technical writing skills by revising conference, technical, and journal papers and practicing writing about their work for undergraduate audience (poten- tial students), engineers outside their specific fields, and nonscientists (colleagues with less expertise in field and policymakers). Students write in variety of genres, all related to their professional development as electrical engineers. Emphasis on writing as vital way to communicate precise technical and profes- sional information in distinct contexts, directly result- ing in specific outcomes. S/U grading.
296. Seminar: Research Topics in Electrical Engineering. (2) Seminar, two hours; outside study, four hours. Advanced study and analysis of current topics in electrical engineering. Discussion of current research and literature in research specialty of faculty member teaching course. May be repeated for credit. S/U grading.

297. Seminar Series: Electrical Engineering. (U) Seminar, 90 minutes; outside study, 90 minutes. Limited to graduate electrical engineering students. Weekly seminars and discussion by invited speakers on research topics of heightened interest. S/U grading.

298. Seminar: Engineering. (2 to 4) Seminar, to be arranged. Limited to graduate electrical engineering students. Seminars may be organized in advanced technical fields. If appropriate, field trips may be arranged. May be repeated with topic change. S/U or letter grading.

299. M.S. Project Seminar. (4) Seminar, to be arranged. Required of all M.S. students not in thesis option. Supervised research in small groups or individually under guidance of faculty mentor. Regular meetings, culminating report, and presentation required. Individual contract required; enrollment petitions available in Office of Graduate Student Affairs. Letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

475C. Manufacturing Systems. (4) Lecture, four hours; outside study, eight hours. Requisite: Mechanical and Aerospace Engineering 475B. Modeling and analysis of manufacturing systems, Assembly and transfer lines, Facility layout and design, Group technology and flexible manufacturing systems, Planning and scheduling, Task management, machine setup, and operation sequencing. Manufacturing system models, Manufacturing information systems, Social, economic, environmental, and regulatory issues. Letter grading.

596. Directed Individual or Tutorial Studies. (2 to 8) Tutorial, to be arranged. Limited to graduate electrical engineering students. Petition forms to request enrollment may be obtained from assistant dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

597A. Preparation for M.S. Comprehensive Examination. (2 to 12) Tutorial, to be arranged. Limited to graduate electrical engineering students. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations. (2 to 16) Tutorial, to be arranged. Limited to graduate electrical engineering students. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination. (2 to 16) Tutorial, to be arranged. Limited to graduate electrical engineering students. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research for and Preparation of M.S. Thesis. (2 to 12) Tutorial, to be arranged. Limited to graduate electrical engineering students. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation. (2 to 16) Tutorial, to be arranged. Limited to graduate electrical engineering students. Usually taken after students have been advanced to candidacy. S/U grading.

### Engineering Schoolwide Programs

#### Engineering

#### Schoolwide Programs

**Henry Samueli School of Engineering and Applied Science**

UCLA

6426 Boelter Hall

Box 951601

Los Angeles, CA 90095-1601

(310) 825-2826

http://www.engineer.ucla.edu

**Professors Emeriti**

Edward P. Coleman, Ph.D.

Allen B. Rosenzweig, Ph.D.

Bonham Spence-Campbell, E.E.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Henry Samueli School of Engineering and Applied Science offers the Master of Engineering (M.Engr.) degree (through the Engineering Executive Program) and Engineer (Engr.) degree as schoolwide degrees. A certificate of specialization is available in all areas of specialization, except computer science.

### Engineering Lower Division Courses

87. Introduction to Engineering Disciplines. (4) (Formerly numbered 97.) Lecture, four hours; discussion, four hours; outside study, four hours. Introduces engineering as professional opportunity for freshman students by exploring difference between engineering disciplines and functions engineers perform. Development of skills and techniques for academic excellence through team process. Investigation of national need underlying current effort to increase participation of historically underrepresented groups in the U.S. technological work force. Letter grading.

95. Ethical and Professional Issues in Engineering and Computer Science. (4) Lecture, four hours; discussion, one hour. Selected lectures, discussions, and oral and written reports related to profession of engineering. Lectures by practicing engineers, case studies, and small group projects on issues that involve conflicting demands on society. Letter grading.

### Upper Division Courses

183. Engineering and Society. (4) (Formerly numbered 193.) Lecture, four hours; discussion, two hours; outside study, six hours. Limited to junior/ senior engineering students. Professional and ethical considerations in practice of engineering. Impact of technology on society and on development of moral and ethical values. Contemporary environmental, biological, legal, and social issues created by new technologies. Letter grading.

185. Art of Engineering Endowments. (4) (Formerly numbered 195.) Lecture, four hours; discussion, two hours; outside study, six hours. Designed for seniors. Importance of group dynamics in engineering practice. Teamwork and effective group skills in engineering environments. Organization and control of multidisciplinary complex engineering projects. Forms of leadership and qualities and characteristics of effective leaders. How engineering, computer sciences, and technology relate to major ethical and social issues. Societal demands on practice of engineering. Letter grading.

188. Special Courses in Engineering. (4) Seminar, four hours; outside study, eight hours. Special topics in engineering for undergraduate students that are taught experimentally or temporary basis, such as those taught by resident and visiting faculty members. May be repeated once for credit with topic or instructor change. Letter grading.

195. Internship Studies in Engineering. (4) (Formerly numbered 195.) Tutorial, four hours. Limited to juniors/seniors. Internship studies course supervised by associate dean or designated faculty members. Further supervision to be provided by organization for which students are doing internship. Students may be required to meet on regular basis with instructor and provide periodic reports of their experience. May not be applied toward major requirements. Normally, 4 units of internship and 4 units of individual work with associate dean required. P/NP grading.

199. Directed Research in Engineering. (2 to 8) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Capping paper or project required. May be repeated for credit with school approval. Individual contract required; enrollment petitions available in Office of Academic and Student Affairs. Letter grading.

### Graduate Courses

200. Program Management Principles for Engineers and Professionals. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Practical review of necessary processes and procedures to successfully manage technology programs. Review of fundamentals of program planning, organizational structure, implementation, and performance tracking methods to provide program manager with necessary information to support decision-making process that provides high-quality products on time and within budget. Letter grading.

201. Systems Engineering. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Practical review of major elements of system engineering process. Coverage of key elements: system requirements and flow down, product development cycle, functional analysis, system synthesis and trade studies, budget allocations, risk management metrics, review and audit activities and documentation. Letter grading.

210. Entrepreneurship for Engineers. (4) Lecture, three hours. Limited to graduate engineering students. Topics in starting and developing high-tech enterprises and intended for students who wish to complement their technical education with introduction to entrepreneurship. Letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

language or (2) level three or equivalent in one foreign language and two additional courses in foreign language or foreign literature, including foreign literature in translation (see course listings under Foreign Literature in Translation later in this section). Transfer students who have satisfied the College of Letters and Science foreign language requirement at the high school level through the IGETC program may satisfy the departmental requirement with five foreign literature in translation courses. The courses may be taken on a P/NP grading basis.

English B.A.

The Bachelor of Arts degree has concentrations in creative writing and in world literature. An international students program in English is also offered.

**Preparation for the Major**

Required: English Composition 3, English 4W or 4HW or 4WS, 10A, 10B, 10C taken in the stated sequence (each course is a requisite for the next course). A grade of C or better is required in each course.

**Transfer Students**

Transfer applicants to the English major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one English composition course, one English critical reading and writing course, one year of English literature survey courses, and two years of one foreign language or a combination of foreign language and foreign literature courses.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

Required: Twelve 4- or 5-unit upper division English courses, including 141A or 141B, 142A, 142B, 143, at least one course from each of the 150A through 157 series and M179A through 182C series, one course from 160 through 164, and five additional courses of which three must be selected from 140A, 140B, 142C, or 150A through 182C. All courses applied toward requirements for the major must be 4 or 5 units and be taken for a letter grade.

Students are encouraged to select additional electives from courses 140A through 182C. English 140A is especially recommended if they plan graduate work in literature. They may wish to select several courses in the relevant classical and postclassical foreign literatures and thought.

**Optional Concentrations and Special Programs**

The department offers optional concentrations in creative writing and in world literature, as well as a special program for international students. For all programs, the regular Preparation for the Major sequence as well as the departmental foreign language requirement apply. Because of the specialized nature of these programs, students should consult the departmental counselor before selecting and declaring one of them as a concentration.

**Creative Writing Concentration**

The creative writing concentration consists of English 142A and 142B and a minimum of 10 additional 4- or 5-unit upper division English courses: three creative writing courses from 133 or 134, in a single genre (poetry or short story), three literature courses paralleling the creative writing genre, and four electives selected from courses 140A through 182C. Students may declare this program as a concentration only after they have completed three creative writing workshops in a single genre. Students may not enroll in more than one workshop in any one creative writing genre. Students planning to select this program should contact the departmental counselor for further details.

**World Literature Concentration**

The world literature concentration consists of nine 4- or 5-unit upper division courses in English or American literature and four upper division courses in foreign literatures (at least 4 units each and one of which must be taught in the original language). The nine courses in English must include 141A or 141B or 143, 142A, 142B, at least one course from the 150 series, and four electives selected from courses 140A through 182C (students intending graduate work in literature are especially encouraged to take English 140A). A listing of acceptable courses may be obtained from the department.

**International Students Program**

The department offers a special program in English to bona fide international students whose native language is other than English. For this program, students must satisfy all requirements listed under Preparation for the Major; they may fulfill the departmental foreign language requirement with their own native language. The following 12 4- or 5-unit upper division courses are required for the program itself: English as a Second Language 108, 109, English 121 or 122 or Applied Linguistics and Teaching English as a Second Language C116, English 142A, 142B, and six courses from English 100 through 199, four of which must be selected from 140A through 182C. Students who complete this program and wish to pursue graduate study should consult the departmental counselor about programs of study and requirements for admission.

**American Literature and Culture B.A.**

**Preparation for the Major**

Required: English Composition 3, English 4W or 4HW or 4WS, 10A, 10B, 10C taken in the stated sequence (each course is a requisite for the next course). A grade of C or better is required in each course.

**Transfer Students**

Transfer applicants to the American Literature and Culture major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one English composition course, one English critical reading and writing course, one year of English literature survey courses, and two years of one foreign language or a combination of foreign language and foreign literature courses.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

Required: Twelve 4- or 5-unit upper division courses, including six in American literature selected from English 170A through 178B, two of which must be devoted to literature written before 1900 (courses 170A, 170B, 171A, 171B, 173A, 174A); two courses from 142A, 142B, 143; one seminar from M179A, M179B, M179C, 182A, 182B, 182C, or when treating American topics, 180; one course from M101A, M101B, M102A, M102B, 103, M104A, M104B, M104C, M105A, M105B, 106, M107A (also M101C or M107C when treating American topics or figures), or 109; and two courses from 100 through 199 or from courses pertaining to American culture offered by other departments (of those courses applied toward the major from outside the Department of English, both must usually come from one department or program and appear on a list of approved courses for the major). All courses applied toward requirements for the major must be at least 4 units and be taken for a letter grade.

**Honors Program**

**Admission**

The honors program is open to departmental majors with a 3.5 departmental and a 3.25 overall grade-point average. Students with lower GPAs may petition for admission to the program, but these grade-point averages must be achieved before graduation in order to qualify for honors. Students should apply by Winter Quarter of the junior year. For application forms and further information, contact the departmental counselor.

**Requirements**

All honors students are required to take English 140A or 140B during the junior year and one seminar from the English M179A through 182C sequence, preferably before the senior
year. Students in the creative writing concentration are required to have completed or been accepted into their third workshop in a single genre prior to or concurrent with enrollment in course 191H. In Spring Quarter of the junior year, students must take course 191H. During Fall and Winter Quarters of the senior year, they take courses 198A and 198B, in which they write a thesis under the direction of a faculty member. The thesis determines whether they receive highest honors, honors, or no honors.

Subject Matter Preparation Program for Single Subject Credential in English

Students interested in obtaining a single subject secondary school credential in English should consult with a departmental counselor regarding the requirements for a waiver from the English California Subject Examination for Teachers (CSET), which is required by the California Commission on Teacher Credentialing. Students should meet with a departmental counselor as early in their undergraduate careers as possible, because the program does require additional courses beyond the major requirements. For additional information on courses leading to the credential, consult the Department of Education at (310) 825-8328.

English Minor

The English minor is designed for students who wish to enhance their major program with the benefits of intensive study of English language and literatures, including a better understanding and appreciation of literatures in English and improvement in critical thinking, reading, and writing skills.

To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed English 10A with a grade of C or better, and have satisfied the English Composition 3 requirement and completed English 4W. Students must file a petition to declare the minor by meeting with a student affairs officer in the Undergraduate Counseling Office, 149 Humanities Building, (310) 825-1389. This allows them priority enrollment in many upper division courses.

Required Lower Division Courses (10 units):
English 10B and 10C, with grades of C or better.

Required Upper Division Courses (21 to 25 units):
Five courses selected from English 100 through 182C, including course 142A and one other course that focuses on literature in English written before 1900. A minimum of 20 units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of English offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in English.

English Lower Division Courses

4HW. Critical Reading and Writing (Honors). (5) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Introduction to literary analysis, with close reading and carefully written exposition of selections from principal modes of literature: poetry, prose fiction, and drama. Minimum of four papers (three to five pages each) and two in-class essays. Satisfies Writing II requirement. Letter grading.

4W. Critical Reading and Writing. (5) Lecture, four hours. Enforced requisite: English Composition 3 or 3H or English as a Second Language 36. Introduction to literary analysis, with close reading and carefully written exposition of selections from principal modes of literature: poetry, prose fiction, and drama. Minimum of four papers (three to five pages each) and two in-class essays. Satisfies Writing II requirement. Letter grading.

4WS. Critical Reading and Writing (Service Learning). (5) Lecture, four hours. Enforced requisite: English Composition 3 or 3H or English as a Second Language 36. Introduction to literary analysis, with close reading and carefully written exposition of selections from principal modes of literature: poetry, prose fiction, and drama. Minimum of six papers, with minimum of 15 to 20 pages of revised writing. Service learning component includes minimum of 20 hours service with agency involved in issues of public advocacy and social justice. Satisfies Writing II requirement. Letter grading.

10A. English Literature to 1660. (5) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H. English 4W or 4HW. Study of selected works of period, beginning with selections from Old English poetry and including writings by Chaucer, Spenser, Shakespeare, Donne, and Milton. Minimum of three papers (three to five pages each) or equivalent. P/NP or letter grading.

10B. English Literature, 1660 to 1832. (5) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H. English 4W or 4HW. Study of selected works of period, including writings by Dryden, Pope, Swift, Wordsworth, and Keats. Minimum of three papers (three to five pages each) or equivalent. P/NP or letter grading.

10C. English Literature, 1832 to the Present. (5) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H. English 4W or 4HW. Study of selected works of period, including writings by Tennyson, Arnold, Browning, Joyce, and Eliot. Minimum of three papers (three to five pages each) or equivalent. P/NP or letter grading.

20. Introduction to Creative Writing. (4) Preparation: submission of creative or expository writing samples to a screening committee. Enforced requisites: satisfaction of Entry-Level Writing requirement, English Composition 3 or 3H. Designed to introduce fundamentals of creative writing. Emphasis either on poetry, fiction, or drama, depending on wishes of instructor(s) during any given term. Readings from assigned texts and weekly writing assignments required.

M40. Structure of English Words. (5) (Same as Linguistics M10) Lecture, four hours; discussion, one hour. Introduction to structure of English words of classical origin, including most common base forms and rules by which alternate forms are derived. Students may expect to achieve substantial enrichment of their vocabulary while learning about etymology, semantic change, and abstract rules of English word formation. P/NP or letter grading.

M50. Introduction to Visual Culture. (5) (Formerly numbered 50.) (Same as Film and Television M50) Lecture, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: satisfaction of Entry-Level Writing requirement. Study of how visual media, including advertising, still and moving images, and narrative films, influence contemporary aesthetics, politics, and knowledge. P/NP or letter grading.

70. Major British Authors before 1800. (4) Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to English majors or students with credit for course 10A or 10B. Study of selected masterpieces of English literature before 1800, including works of such writers as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, Johnson, and Fielding.

75. Major British Authors, 1800 to the Present. (4) Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to English majors or students with credit for course 10B or 10C. Study of selected masterpieces of English literature from 1800 to the present, including works of such writers as Wordsworth, Coleridge, Keats, Tennyson, Dickens, Browning, Yeats, Joyce, and Eliot.

80. Major American Authors. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to English majors or students with credit for any courses in 170 series. Introduction to chief American authors, with emphasis on poetry, nonnarrative prose, and short fiction of such writers as Poe, Dickinson, Emerson, Whitman, Cain, Frost, and Hemingway. P/NP or letter grading.

85. American Novel. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Not open for credit to English majors or students with credit for any courses in 170 series. Development, with emphasis on form, of American novel from its beginning to the present day. Includes works of such novelists as Hawthorne, Fitzgerald, Faulkner, Ellison, and Morrison. P/NP or letter grading.

88A-88Z. Lower Division Seminars: Special Topics in English. (5 each) Seminar, three hours. Limited to 15 students. Content varies; see departmental counselor for information. P/NP or letter grading.

200. Introduction to Creative Writing. (4) Preparation: submission of creative or expository writing samples to a screening committee. Enforced requisites: satisfaction of Entry-Level Writing requirement, English Composition 3 or 3H. Designed to introduce fundamentals of creative writing. Emphasis either on poetry, fiction, or drama, depending on wishes of instructor(s) during any given term. Readings from assigned texts and weekly writing assignments required.
95A. Introduction to Poetry. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Recommended for institutional credential candidates. Study of critical issues (metrics, diction, figurative language, symbolism, irony and ambiguity, form and structure) and aesthetic issues, including evaluative criteria, followed by close critical analysis of selection of representative poems. P/NP or letter grading.

95B. Introduction to Drama. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Examination of representative plays; readings may range from Greek to modern drama. Emphasis on critical approaches to dramatic text; study of issues such as plot construction, characterization, specific uses of language in drama, methods of evaluation. P/NP or letter grading.

95C. Introduction to Fiction. (5) Lecture, three hours; discussion, one hour. Enforced requisite: satisfaction of Entry-Level Writing requirement. Introduction to prose narrative, its techniques and forms. Analysis of short and long narratives and of critical issues such as plot, characterization, setting, narrative voice, realism and nonrealistic forms. P/NP or letter grading.


97H. Honors Seminar for Freshmen and Sophomores. (4) Seminar, three hours. Enforced requisite: English Composition 3 or 3H. Limited to 15 students. Recommended for lower division students who anticipate entering English honors program during their junior year. Content varies; see departmental counselor for information. P/NP or letter grading.

Upper Division Courses

100. Introduction to Special Topics and Genres. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of a particular topic, genre, or subgenre in literature such as satire, biography, parody, or a specialized classification of literature. May be repeated for credit. P/NP or letter grading.

M101A. Lesbian and Gay Literature before Stone-wall. (5) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M101A and Women's Studies M101A.) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Survey of lesbian and gay literature in English from the 19th century through World War I, including oral and written forms (folktales, spirituals, sermons; fiction, poetry, essays) by authors such as Phillis Wheatley, David Ignatow, Frances Harper, Frederick Douglass, Harriet Jacobs, Paul Laurence Dunbar, Charles W. Chesnutt, Booker T. Washington, and Pauline Hopkins. P/NP or letter grading.

M101B. Lesbian and Gay Literature after Stone-wall. (5) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M101B and Women's Studies M101B.) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of the writing of lesbian and gay writers in America, such as Bellow, Malamud, and Roth, focusing on encounters of Jewish ethical ideals and social values with the contemporary environment. P/NP or letter grading.

M104A. Early Afro-American Literature. (5) (Same as Afro-American Studies M104A.) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: English Composition 3 or 3H. Introductory survey of representative works from 18th century through World War I, including oral and written forms (folktales, spirituals, sermons; fiction, poetry, essays) by authors such as Phillis Wheatley, David Ignatow, Frances Harper, Frederick Douglass, Harriet Jacobs, Paul Laurence Dunbar, Charles W. Chesnutt, Booker T. Washington, and Pauline Hopkins. P/NP or letter grading.

M104B. Afro-American Literature from Harlem Renaissance to 1960s. (5) (Same as Afro-American Studies M104B.) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: English Composition 3 or 3H. Introductory survey of representative works from rise of Black Arts Movement of 1960s to present by writers such as Amiri Baraka, Nikki Giovanni, Alice Walker, Etheridge Knight, Toni Morrison, Martin Luther King, Jr., Paule Marshall, Ernest Gaines, Ishmael Reed, and Audre Lorde. P/NP or letter grading.

M105A. Early Chicana/Chicana Literature. (5) (Same as Chicana and Chicano Studies M105A.) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: English Composition 3 or 3H. Introductory survey of diverse forms of Afro-American literature produced from rise of Zoot Suit Riots through 1960s for credit. P/NP or letter grading.

M105B. Recent Chicana/Chicana Literature. (5) (Same as Chicana and Chicano Studies M105B.) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: English Composition 3 or 3H. Survey of Chicana/Chicana literature from the 1960s to 1980s, focusing on social and political themes, and female empowerment. P/NP or letter grading.

M106. Native American Literary Studies. (5) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of Native American oral cultures through translated documents (song-poems, life-stories, myths, tales, dream visions, speeches) and/or images in writing about Native Americans (poetry, fiction, history, anthropology, sociology). P/NP or letter grading.

M107A. American Women Writers. (5) (Same as Women's Studies M107A.) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Survey of literary works by American women writers, with emphasis on roles of women, portrayal of nature and society, and evolution of forms and techniques in writing by American women. P/NP or letter grading.

M107B. British Women Writers. (5) (Same as Women's Studies M107B.) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Survey of literary works by British women writers, with emphasis on roles of women, portrayal of nature and society, and evolution of forms and techniques in writing by British women. P/NP or letter grading.

M107C. Special Topics in Women and Literature. (5) (Same as Women's Studies M107C.) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Variable specialized studies course in women and literature, with emphasis on a period, genre, particular theme, or nonnational literary grouping. P/NP or letter grading.

108A-108B. English Bible as Literature. (4-4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of the Bible as a literary work, and/or its influence on literature generally. May be repeated for credit. P/NP or letter grading.

108C. English Bible as Literature: Special Topics. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of the Bible, with attention to particular periods, cultures, and genres. Possible discussion of influence of the Bible on discrete periods or individual authors in English literature. May be repeated for credit. P/NP or letter grading.

110. Studies in Individual Authors. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of the English and American literature of a particular author. May be repeated for credit. P/NP or letter grading.


111B. British Folklore and Mythology. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Designed for juniors/seniors. Survey of folklore of peoples of Britain, with attention to their history, function, and regional differences. P/NP or letter grading.

111D. Celtic Mythology. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of early materials, chiefly literary, for study of mythic traditions of medieval Ireland and Wales. P/NP or letter grading.

111E. Study of Medieval Celtic Literature. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Designed for juniors/seniors. Study of medieval Celtic literature from earliest times to 14th century. P/NP or letter grading.

111F. Celtic Folklore. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Folkloric traditions of modern and other Celtic countries, with attention to current techniques of folkloristic research. P/NP or letter grading.
112. Children's Literature. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of historical and development of types of children's literature, folklore and oral tradition, levels of interest, criticism and evaluation, illustration and bibliography. P/NP or letter grading.

113. Literature for Adolescents and Young Adults. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Survey of contemporary literature from English-speaking regions of the world, reviewing major genres from several countries and making cross-comparisons with the literatures. Generalizations concerning the nature of the English used by such writers. May be repeated for credit. P/NP or letter grading.

114. World Literatures in English. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Survey of contemporary literature from English-speaking regions of the world, reviewing major genres from several countries and making cross-comparisons with the literatures. Generalizations concerning the nature of the English used by such writers. May be repeated for credit. P/NP or letter grading.

115A. American Popular Literature. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of main currents of popular and cultural taste as reflected in such genres as dime novels, detective fiction, and Western stories. P/NP or letter grading.

115B. British Popular Literature. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Reading in the literature of the British masses, from 18th-century broadsides to contemporary novelists. Examination of social functions of literature. P/NP or letter grading.


117. Detective Fiction. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of British and American detective fiction and the literature of detection. P/NP or letter grading.

118. Film and Literature. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of interdisciplinary relationships between film and literature, including theme and structure, and focusing on cinematic adaptations of literary works. P/NP or letter grading.

119. Literature of the California and the American West. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of literature in English dealing with exploration, settlement, and emergent cultural awareness of the Western U.S. P/NP or letter grading.

120. Literature and Society. (5) (Formerly numbered 190.) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: English Composition 3 or 3H. Intensive study of some aspect of relationship between literature and social, economic, or political history. May be repeated for credit. P/NP or letter grading.

121. History of the English Language. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of English from Indo-European time to the present. P/NP or letter grading.

122. Introduction to Structure of Present-Day English. (4) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Introduction to techniques of linguistic description as applied to pronunciation, grammar, and vocabulary of modern English. P/NP or letter grading.

123. Creative Writing: Poetry. (5) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Study of the writing and development of types of poetry, including form, imagery, and style. P/NP or letter grading.

131. Creative Writing: Drama. (5) Lecture, four hours. Enforced requisite: English Composition 3 or 3H, English 4W or 4HW. Exploration of capacity of each student to write for the theater. Discussion of student work, individual conferences, rehearsal, and the production of student plays. P/NP or letter grading.

132. Creative Writing: Short Story. (5) Lecture, four hours. Enforced requisite: English Composition 3 or 3H, English 4W or 4HW. Three- to five-week module to be completed each term. Some stories may be repeated for maximum of 15 units. No more than 10 units may be completed with same instructor. P/NP or letter grading.


136. Milton. (5) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: courses 10A, 10B. Designed for students interested in further study of Shakespeare. Limits of investigation set by individual instructors. P/NP or letter grading.

150A. Early Medieval Literature. (5) Lecture, four hours. Requisites: courses 10A, 10B. Reading knowledge of Old English not required. Major prose and poetry of Anglo-Saxon England (500 to 1100), including epic, romance, history, saints' lives, and travel literature. Texts and topics include Beowulf, Visions, poems on women, Bede, and King Alfred. P/NP or letter grading.

150B. Later Medieval Literature. (5) Lecture, four hours. Requisites: courses 10A, 10B. Reading historical and cross-cultural development of major writers of the 14th and 15th centuries (e.g., Langland, Gower, Malory, miracle and morality plays, prose, and lyrics). The more difficult texts read in modernized form. P/NP or letter grading.

151. Elizabethan Literature. (5) Lecture, four hours. Requisites: courses 10A, 10B. Study of major works of Shakespeare, with emphasis on some major historical documents and theoretical statements in history of literary criticism, including works by such writers as Plato, Aristotle, Horace, Sidney, Dryden, Johnson, Kant, Coleridge, Wordsworth, Shelley, Arnold, James, Croce, and T.S. Eliot, with emphasis on major critical positions posed and developed by these writers, basis of their theoretical positions, and practical consequences of those positions. Possible discussion of recent trends in criticism. P/NP or letter grading.

152. Spanish Drama. (5) Lecture, four hours; discussion, one hour (when scheduled). Enforced requisite: courses 10A, 10B. Study of major works as literary documents and as products of 17th-century thought. Work of Molière excluded. P/NP or letter grading.


154. Literature of Restoration and Earlier 18th Century, 1660 to 1730. (5) Lecture, four hours. Requisites: courses 10A, 10B. Study of major works as literary documents and as products of the Restoration and earlier 18th-century thought. P/NP or letter grading.

155. Literature of Later 18th Century, 1730 to 1798. (5) Lecture, four hours. Requisites: courses 10A, 10B. Study of major works as literary documents and as products of later 18th-century thought. P/NP or letter grading.

156. Drama, 1660 to 1842. (5) Lecture, four hours; discussion, one hour (when scheduled). Requisites: courses 10A, 10B. Study of major works as literary documents and as products of the Restoration and earlier 18th-century thought. P/NP or letter grading.

157. The Novel to 1832. (5) Lecture, four hours. Requisites: courses 10A, 10B. Study of major works as literary documents and as products of the Restoration and earlier 18th-century thought. P/NP or letter grading.

160. Earlier Romantic Literature. (5) Lecture, four hours; discussion, one hour (when scheduled). Requisites: courses 10A, 10B. Critical study of major works of English novelists from Defoe through Scott. P/NP or letter grading.
161. Later Romantic Literature. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Historical survey of American literature from Jackso-

162. Earlier Victorian Poetry and Prose. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Study of poetry and prose of later Victorian age from Pre-Raphaelit-

163. American Literature to 1775. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Study of American literature since end of World War II. P/NP or letter grading.


165. 20th-Century British Poetry. (5) Lecture, four hours. Requires: courses 10A, 10B, 10C. Survey of major British poets, including Yeats, Eliot, Auden, and Hughes, from 1900 to the present. P/NP or letter grading.

166. Drama, 1842 to 1945. (5) Lecture, four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in speci-

167. American Literature, 1866 to 1912. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Historical survey of American literature since end of World War II. P/NP or letter grading.

168. Drama, 1945 to the Present. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Study of American drama, with its principal continental influences, from 1842 through World War II. P/NP or letter grading.

169. Special Topics in British Studies. (5) Formerly numbered 169.) Lecture, four hours. Requires: courses 10A, 10B, 10C. Study of particular themes, forms, or moments in British and Anglo-

170. American Literature, 1775 to 1832. (5) Lecture, four hours. Requires: courses 10A, 10B, 10C. Historical survey of American literature since begin-

171. American Literature, 1832 to 1865. (5) Lecture, four hours. Requires: courses 10A, 10B, 10C. Historical survey of American literature from Jackson-

172. American Literature, 1912 to 1945. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Historical survey of American literature from end of World War II to founding of Poetry magazine. P/NP or letter grading.

173. American Fiction to 1900. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Study of American fiction (short stories, novels, and poetry) from its begin-


175. American Nonfictional Prose. (5) Lecture, four hours. Requires: courses 10A, 10B, 10C. Study of American nonfictional prose (essays, autobiogra-

176. American Drama. (5) Lecture, four hours. Requires: courses 10A, 10B, 10C. Study of American drama from its beginning to the present day. Historical period may vary with instructor. P/NP or letter grading.

177. Special Topics in American Literature. (5) Lecture, four hours; discussion, one hour (when scheduled). Requires: courses 10A, 10B, 10C. Focused study of some aspect or theme in American litera-

178. Perspectives in Study of American Culture. (5) (Formerly numbered 178.) Lecture, four hours. Requires: courses 10A, 10B, 10C. Interdisciplinary study of American literature in its relationships to oth-

179. Intercultural Encounters in Contemporary American Literature. (5) (Formerly numbered 196.) Lecture, three or four hours. Requires: courses 10A, 10B, 10C. Historical survey of American literature since end of World War II. P/NP or letter grading.

M179A. Topics in Afro-American Literature. (5) (Formerly numbered M179A.) Same as Afro-Ameri-

M179B. Topics in Chicana/Chicana Literature. (5) (Formerly numbered M179B.) Same as Chicana and Chicano Studies M179B. Seminar, three hours. En-

M179C. Topics in Asian American Literature. (5) (Formerly numbered M179C.) (Same as Asian Ameri-

M180. Specialized Studies in Literature. (5) Formerly numbered 180X.) Seminar, four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeated for credit. P/NP or letter grading.

M181A. Specialized Studies in Medieval Literature. (5) (Formerly numbered 181A.) Seminar, three or four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeated for credit. P/NP or letter grading.

M181B. Specialized Studies in Renaissance Literature. (5) (Formerly numbered 181B.) Seminar, three or four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeat-

M181C. Specialized Studies in 16th-Century Literature. (5) (Formerly numbered 181C.) Seminar, three or four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeat-

M181D. Specialized Studies in 18th-Century Literature. (5) (Formerly numbered 181D.) Seminar, three or four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeated for credit. P/NP or letter grading.

M181E. Specialized Studies in Romantic Literature. (5) (Formerly numbered 181E.) Seminar, three or four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeated for credit. P/NP or letter grading.

M181F. Specialized Studies in Victorian Literature. (5) (Formerly numbered 181F.) Seminar, three or four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeated for credit. P/NP or letter grading.

M181G. Specialized Studies in 20th-Century British Literature. (5) (Formerly numbered 181G.) Seminar, three or four hours. Requires: courses 10A, 10B, 10C. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeated for credit. P/NP or letter grading.
Graduate Courses

201A. Criticism and Interpretation from Classical Era to the Restoration, (4) Lecture, three hours. Examination of major texts in history of critical theory and interpretation from pre-Socratic to Descartes, including classical literary criticism (Plato, Aristotle, Horace), Roman, mediaeval, and Renaissance theories of interpretation (Dante, Boccaccio, Sidney). S/U or letter grading.
201B. Aesthetics and Criticism from the Enlightenment to Decadence, (4) Lecture, three hours. Continuation of course 201A, proceeding from neo-classical and Enlightenment critical theory through Victorian and decadent aesthetic and literary criticism. Readings may include texts by Rousseau, Dryden, Pope, Hume, Kant, Schiller, the Schlegels, Coleridge, Hegel, Schelling, Arnold, Pater, Wilde, and Nietzsche. S/U or letter grading.
201C. Developments and Issues in Modern Critical Thought, (4) Lecture, three hours. Survey of developments in the critical study of modern works, and the figures and ideas in modern and contemporary critical theory. Readings vary from year to year but may include such figures as Freud, Derrida, Saussure, Heidegger, James, Eliot, Strauss, Lacan, Barthes, Derrida, Deleuze, Fanon, Foucault, Irigaray, Lyotard, Bourdieu, and Bhabha. S/U or letter grading.
202. Enumerative and Descriptive Bibliography, (4) Problems in bibliography, texts, and editions, with practical application in compiling bibliographies, editing texts, and approaching literature through critical bibliography.
203. Computers and Literary Research, (4) Prior knowledge in this area not required. Practice in writing and using computer programs for analysis of literary style, content, and authorship.
204. History of Rhetoric, (4) Reading of basic texts in history of rhetoric and selections from standard commentaries. Survey of classical period and medieval to modern period in alternate years.
205A. Study of Oral Tradition: History and Methods, (4) Same as Scandinavian M272F. Seminar, three hours. Study of scholarly and literary attempts to study, define, analyze, promote, and appropriate oral traditions, from Homer and ancient Greece to origins of vernacular literatures, European romantic rediscovery, 20th-century heuristic models of oral composition, and modern-day electronic media and popular genres, as well as practices in the glosses and other texts. S/U or letter grading.
205B. Collecting Oral Tradition, (4) Same as Scandinavian M272F. Seminar, three hours. Description and evaluation of various modern approaches to collecting and documenting oral tradition as text, performance, and socio-cultural event. Consideration of approaches ranging from written transcription and textualization to audio and video presentation. S/U or letter grading.
205C. Studies in Oral Traditional Genres, (4) Same as Scandinavian M272F. Seminar, three hours. Exploration in depth of variety and history of, and methodology of, specific oral traditions (e.g., ballad, song, epic, proverb, riddle, folktale, legend) or set of closely related oral traditional genres. S/U or letter grading.
210. History of the English Language, (4) Detailed study of history, characteristics, and changing forms of the language from its origin until about 1900.
211. Old English, (4) Study of Old English grammar, lexicron, phonology, and pronunciation to enable students to read the literature silently and aloud. Reading of as much of the more interesting Old English prose and poetry as can be read in a term.
212. Middle English, (4) Requisite: course 211. Detailed study of linguistic aspects of Middle English and of representative examples of the better prose and poetry.
213. Early Modern English, (4) Detailed study of phonology, morphology, syntax, and vocabulary of English between 1540 and 1750. Description and analysis of changes in the language in relation to intellectual, political, and social characteristics of the period.
215. Paleography of Latin and Vernacular Manuscripts, 900 to 1500, (4) Same as Classics M218, French M210, and History M218. Lecture, three hours; discussion, two hours. Introduction to history of Latin and vernacular manuscript book 900 to 1500 to (1) train students to make informed judgments with regard to place and date of origin, (2) provide training in accurate reading and transcription of Latin and vernacular scripts, and (3) examine late Latin script as book as witness to changing society that produced it. Focus on relationship between Latin manuscripts and vernacular manuscripts with regard to their respective presentation of written texts, S/U or letter grading.
218. Celtic Linguistics, (4) Survey of salient features of Celtic linguistic stock in its Gaelic and British branches, with reference to position of Celtic within Indo-European languages.
230. Workshop: Creative Writing, (2 to 4) Preparation: submission of writing samples in specified genre (poetry, fiction, or drama). May be repeated but may not satisfy more than one of the nine courses required for first qualifying examination nor any of the five courses required for second qualifying examination.
241. Studies in Structure of the English Language, (4) Individual seminars dealing with any single historical period from Old English period to the present or development of a particular linguistic characteristic (phonology, syntax, semantics, dialectology) through various periods. May be repeated for credit.
242. Language and Literature, (4) Application of linguistics to literary analysis. Individual seminars dealing with a historical period (medieval and Renaissance, neoclassical, or 19th century and modern), specific authors, or contributions of specific groups of linguists to literary analysis. May be repeated for credit.
244. Old and Medieval English Literature, (4) Studies in poetry and prose of Old and medieval English literature; limits of investigation set by individual instructor. May be repeated for credit.
245. Chaucer, (4) May be repeated for credit.
246. Renaissance Literature, (4) Studies in poetry and prose of Renaissance English literature, exclusive of Shakespeare; limits of investigation set by individual instructor. May be repeated for credit.
247. Shakespeare, (4) May be repeated for credit.
248. Earlier 17th-Century Literature, (4) Studies in poetry and prose of 17th-century English literature up to the Restoration; limits of investigation set by individual instructor. May be repeated for credit.
249. Milton, (4) Studies in poetry and prose of John Milton; limits of investigation set by individual instructor. May be repeated for credit.
250. Restoration and 18th-Century Literature. (4) Studies in English poetry and prose, 1660 to 1800; limits of investigation set by individual instructor. May be repeated for credit.

251. Romantic Writers. (4) May be repeated for credit.

252. Victorian Literature. (4) Studies in English poetry and prose of the Victorian period; limits of investigation set by individual instructor. May be repeated for credit.

253. Contemporary British Literature. (4) May be repeated for credit.

254. American Literature to 1900. (4) Studies in Colonial and 19th-century American literature; limits of investigation set by individual instructor. May be repeated for credit.

255. Contemporary American Literature. (4) Studies in contemporary American poetry and prose; limits of investigation set by individual instructor. May be repeated for credit.

256. Studies in the Drama. (4) Studies in drama as a genre from its beginning to the present; limits of investigation set by individual instructor. May be repeated for credit.

257. Studies in Poetry. (4) Studies in various themes and forms of poetry from Old English to the present; limits of investigation set by individual instructor. May be repeated for credit.

258. Studies in the Novel. (4) Studies in evolution of the genre from its beginning to the present; limits of investigation set by individual instructor. May be repeated for credit.

259. Studies in Criticism. (4) May be repeated for credit.

260. Studies in Literature and Its Relationship to the Arts and Sciences. (4) Studies in interrelationships of literature, arts, and sciences; limits of investigation set by individual instructor. May be repeated for credit.

M260A. Topics in Asian American Literature. (4) (Same as Asian American Studies M260A.) Seminar, three hours. Graduate seminar that examines and critically evaluates writings of Asian Americans. May be repeated for credit. S/U or letter grading.

M260B. Topics in African American Literature. (4) Seminar, three hours. Graduate seminar examining the varieties of university discourse and providing instruction in basic to high-level skills. Beginners and advanced students are welcome. May be repeated for credit. S/U or letter grading.

M262. Studies in Afro-American Literature. (4) (Same as Afro-American Studies M262E.) Intensive research and study of major themes, issues, and writers in Afro-American literature. Discussions and research on aesthetic, cultural, and social backgrounds of Afro-American writing. May be repeated for credit.

263. Celtic Literature. (4) Lecture, three hours. Preparation: knowledge of one of the ancient or modern Celtic languages. Studies in poetry and prose of early and modern Celtic literature, chiefly Irish and Welsh; limits of investigation set by individual instructor. May be repeated for credit.

264. Studies in Rhetoric. (4) Discussion, three hours. Special topics in classical and modern rhetoric, including substantial practice in rhetorical analysis of literary texts. May be repeated for credit.

265. Postcolonial Literatures. (4) Seminar, three hours. Study of aesthetic, historical, and social backgrounds to literatures of former British colonies that became independent after 1947. General issues related to ways imperialism, colonialism, and postcolonialism have helped to shape and have been shaped by literature in English. May be repeated for credit. S/U or letter grading.

M266. Cultural World Views of Native America. (4) (Same as American Indian Studies M200E.) Seminar, three hours. Exploration of written literary texts from oral cultures and other expressive cultural forms — dance, art, song, religious and medicinal ritual — in selected Native American societies, as these traditional and tribal contexts have been translated into contemporary literary texts (fiction, poetry, essay, and drama). Survey, from secondary sources, of interdisciplinary methodological approaches taken from literary analysis, structural anthropology, folklore, linguistics, and ethnomusicology. May be repeated for credit with instructor and/or topic change. Letter grading.

M270. Seminar: Literary Theory. (5) (Same as Asian M251, Comparative Literature M294, French M270, German M270, Italian M270, Scandinavian M270, and Spanish M294.) Seminar, three hours. Advanced interdisciplinary seminar to explore philosophically, historically, and critically foundations of literary theory as well as current issues in literary and cultural studies. S/U or letter grading.

272. Current Issues in Teaching English. (4) Focus on one of a variety of topics of special current interest. May be repeated for credit.

M298. Interdisciplinary Studies in the 17th and 18th Centuries. (4) (Same as History M298.) Topics vary according to participating faculty. May be repeated for credit.

M299. Interdisciplinary American Studies. (6) (Same as History M299.) Discussion, four hours. Readings, discussion, and papers on a common theme, team-taught by faculty from different departments. Topics vary according to participating faculty. May be repeated for credit with consent of instructors.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for course and instruction at UCLA. May not be substituted for any departmental enrollment requirements. May be repeated for credit. S/U grading.

495A. Supervised Teaching Preparation. (2) Seminar. One to two hours. Requirement of all applicants for teaching assistantships in English. Introduction to teaching of literature intended to prepare teaching assistants for their first assignments in leading discussion sections. Practical concerns of creating assignments, grading papers, and holding conferences. S/U grading.

495B. Supervised Teaching Preparation. (2) Seminar. One to two hours. Requirement of all teaching assistants in their initial quarter of teaching. Mentoring and group teaching assistant/mentor conferences. S/U grading.

495E. Teaching with Technology. (2 to 4) Seminar, two hours. Enables graduate student instructors to approach challenges of teaching with technology on two fronts: by familiarizing them with range of possible applications and by carrying out a research project on a technology topic of their choice. S/U grading.

496. Publishing the Academic Literary Article. (4) Discussion, four hours. Structured as a writing workshop and divided into two parts: (1) determination of what a publishable article looks like while students rewrite their work independently and (2) circulation of student papers to class in advance with the writing discussed in seminar room by whole class. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor; department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Study. (2 to 4) Limited to students preparing for first qualifying examination or engaging in intensive directed research project. May not be applied toward any course requirement for degree. Consult graduate counselor to enroll or obtain information. S/U grading.


ENGLISH COMPOSITION
(Writing Programs)
College of Letters and Science

UCLA
146 Humanities Building
Box 951384
Los Angeles, CA 90095-1384
(310) 206-1145
fax: (310) 206-2224
http://www.pwp.ucla.edu

Bruce J. Beiderwell, Ph.D., Director
George E. Gadda, C.Phil., Assistant Director

Lecturers
Bruce J. Beiderwell, Ph.D.
Richard A. Creese, Ph.D.
Esha N. De, Ph.D.
Randal J. Fawlow, Ph.D.
Ed P. Frankei, M.A.
Rachel I. Freitz, Ph.D.
George E. Gadda, C.Phil.
Lisa Gerrard, Ph.D.
Patricia Gilmore, Ph.D.
Cheryl F. Giuliano, Ph.D.
Susan M. Griffin, Ph.D.
Leigh C. Harris, Ph.D.
Janette Lewis, Ph.D.
Bonnie J. Lisle, Ph.D.
Sonia Maassk, M.A.
Sandra Mano, Ph.D.
Anita H. McCormick, Ph.D.
Michele L. Moe, Ph.D.
Geraldine Moyle, Ph.D.
Shelby A. Popham, Ph.D.
Gregory J. Rubinson, Ph.D.
Robert D. Samuels, Ph.D.
Gina V. Shaffer, Ph.D.
Steve K. Steinberg, Ed.D.
Jennifer Westbay, Ph.D.

Scope and Objectives
Students need writing proficiency at every stage of their university careers. Although UCLA does not have a composition major, this program offers a series of courses introducing the varieties of university discourse and providing instruction in basic to high-level skills. Besides courses that satisfy the University’s Entry-Level Writing and Writing I and II (English Composition) requirements, the program offers advanced courses in exposition and a language and composition course for teachers. Special programs include the Transfer Intensive Program (TIP).

Undergraduate Study
Entry-Level Writing
Every student who does not satisfy the Entry-Level Writing requirement by presenting trans-
Upper Division Courses

100W. Interdisciplinary Academic Writing, (5) Lecture, four hours. Requirements: course 3 or 3H. Designed for sophomores/juniors/seniors. Course in academic writing suitable for lower and upper division students that helps them develop academic papers with a range of complexity and length. Focus on conventions of academic prose and genres across the disciplines. Written assignments include common forms of academic writing such as argument, research paper, and critical essay. Satisﬁes Writing II requirement. Letter grading.

110. Writing Adjunct, (4) Lecture, four hours. Requirements: satisfaction of Entry-Level Writing requirement, course 3 or 3H. Students must be concurrently enrolled in course 110 (consult Schedule of Classes for courses so designated). Writing assignments use materials from adjunct course and reﬂect development of analytic writing skills needed in that course. May be repeated for credit with consent of instructor. P/NP or letter grading.

120A. Language Study for Teachers: Elementary Secondary School, (4) Lecture, four hours. Requirements: satisfaction of Entry-Level Writing and English Composition requirements. Survey of topics in English linguistics of special interest to elementary school teachers. Subjects include aspects of English grammar; language acquisition and development; language attitudes; regional and social dialects of American English; bilingual schooling; contribution of English language study to teaching of reading, writing, spelling, and literature.


123. Information Literacy and Research Skills, (1) Lecture, one hour. Preparation: satisfaction of Writing I requirement. Designed to help students become information literate, so they know how to identify, locate, critically evaluate, and use print and electronic infor- mation effectively and efﬁciently. Offered in conjunc- tion with courses that have information/research-related assignments. P/NP or letter grading.

129A-129D. Academic Writing in the Disciplines, (4) Lecture, four hours. Requirements: courses 3 or 3H. Designed for juniors/seniors. Advanced study of writing conventions in spe- cific disciplinary areas, with focus on analysis and development of writing expertise in common discursive forms, stylistic patterns, and research practices in the given discipline. Each course may be taken indepen- dently for credit. P/NP or letter grading. 129A. Literature; 129B. Social Sciences. Lecture, three hours; discussion, one hour; 129C. Physical and Life Sciences; 129D. Fine Arts.


131A-131D. Specialized Writing, (4 each) Lecture, four hours. Requirements: satisfaction of Entry-Level Writing and English Composition requirements. Designed for juniors/seniors. Advanced writing course designed to help students develop stylistic, formal, and argumen- tative sophistication in various rhetorical contexts, including different sections that emphasize rhetorical values of major professions and research areas. Each course may be taken independently for credit. P/NP or letter grading. 131A. Law and Politics; 131B. Business and Social Policy; 131C. Medicine and Public Health; 131D. Media and Communications.

132A-132D. Topics in Rhetoric and Writing, (4 each) Lecture, four hours; discussion, one hour. Requirements: courses 3 or 3H. Designed to help students develop and oration skills and to offer a letter grade. 132A. Rhetorical techniques and skillful argument. 132B. Rhetorical technique and skillful argument. 132C. Cultural Studies. 132D. Variable Topics.

136A-136B-136C. Practical Writing and Editing, (4-4-4) Lecture, three hours. Preparation: one course from 131 series. Requirements: satisfaction of Entry-Level Writing requirement, course 3. Sequence in practical writing and editing ability speciﬁcally designed to prepare students for careers. Analysis of prose and literary styles necessary to variety of writing in profes- sional, academic, and personal contexts. Letter grade only possible with practical experience in variety of writing in- ternships and training in wide range of editorial skills. In Progress (136A) and P/NP or letter (136B, 136C) grading.

195. Community or Corporate Internships in Eng- lish Composition, (4) Formerly numbered 199P) Tutorial, to be arranged. Requirements: courses 3 or 3H. Satisﬁes Writing II requirement. Limited to juniors/seniors. Internship in supervised setting in community agency or business. Students meet on regular basis with instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. P/NP or letter grading.

199. Directed Research or Senior Project in Eng- lish Composition, (2 to 4) Tutorial, to be arranged. Requirements: courses 3 or 3H. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses


495A. Supervised Teaching Preparation, (2) Semi- nar, one hour. Required of all teaching assistants for Writing II courses except by appropriate depart- mental or program training. Training and mentoring, with focus on composition pedagogy, assessment of student writing, guidance of revision process, and specialized writing problems that may occur in disciplin- ary contexts. Practical concerns of creating assis- tants, marking and grading essays, and con- ducting peer reviews and conferences. S/U grading.

495B. Supervised Teaching Preparation, (2) Semi- nar, two hours. Course 495A is not required to 495B. Required of all teaching assistants who are assigned to English Composition 3 courses. Focus on composi- tion pedagogy, writing course design, assessment of student writing, and specialized problems that may occur in teaching English Composition 3. S/U grading.

fer credit or acceptable test scores is required to take, as early as possible during the first year in residence, English Composition A or 2 (determined by performance on the Analytical Writing Placement Examination) or 21 (determined by performance on both the Analytical Writing Placement Examination and the En- glish as a Second Language Placement Exam- ination). For more information regarding Entry- Level Writing, see Undergraduate Degree Re- quirements in the Undergraduate Study sec- tion of this catalog.

English Composition

Lower Division Courses

A. Introduction to University Discourse. (No cred- it) Lecture, one hour. Satisﬁes appropriate score on Analytical Writing Placement Examination. Displaces 4 units on student’s Study List but yields no credit toward a degree. First course in reading univer- sity-level texts and framing written responses that em- ploy a range of rhetorical strategies from paraphrase to analysis. Emphasis on revision, developing syntac- tic variety and academic vocabulary, and editing for grammar and style. Completion of course with a grade of C or better or demonstration of minimum competence on Analytical Writing Placement Exami- nation is requisite to course 2.

2. Approaches to University Writing, (5) Lecture, four hours. Requirements: course A with a grade of C or better or appropriate score on Analytical Writing Placement Examination. Second course in university-level discourse, with analysis and critique of uni- versity-level texts. Emphasis on revision for argumen- tative coherence and effective style. Completion of course with a grade of C or better satisﬁes Entry-Lev- el Writing requirement. Letter grading.

2I. Approaches to University Writing, (5) Lecture, six hours. Requirements: appropriate scores on Analytical Writing Placement Examination and En- glish as a Second Language Placement Examination, Second course in university-level discourse, with analysis and critique of university-level texts. Empha- sis on strategies for developing coherent and well-ar- gued pieces of academic writing and for achieving ef- fective and effective prose. Completion of course with a grade of C or better satisﬁes Entry-Level Writing and English as a Second Language require- ments. Letter grading.

3. English Composition, Rhetoric, and Language, (5) Lecture, three hours. Requirements: satisfac- tion of Entry-Level Writing requirement, course 2 or English as a Second Language 35 (C or better). English Composition, Rhetoric, and Language study to teaching of reading, writing, spell- ing, and literature.


ENVIROMENTAL HEALTH SCIENCES
School of Public Health

UCLA
56-070 Center for the Health Sciences
Box 951772
Los Angeles, CA 90095-1772
(310) 206-1619
fax: (310) 794-2106
http://www.ph.ucla.edu/ehs/

Hilary A. Godwin, Ph.D., Chair

Professors
Richard F. Ambrose, Ph.D.
Michael D. Collins, Ph.D.
Jared M. Diamond, Ph.D.
Curtis D. Eckert, Ph.D.
John R. Froines, Ph.D.
Jon Fukuto, Ph.D.
Hilary A. Godwin, Ph.D.
William C. Hinds, Sc.D.
Shane S. Que Hee, Ph.D.
Linda Rosenstock, M.D., M.P.H.
Robert H. Schiestl, Ph.D.
Irwin H. Suffet, Ph.D.
John R. Froines, Ph.D.
Shane S. Que Hee, Ph.D.
Linda Rosenstock, M.D., M.P.H.
Robert H. Schiestl, Ph.D.
Irwin H. Suffet, Ph.D.
Arthur M. Winer, Ph.D.
Zuo-Feng Zhang, M.D., Ph.D.

Professors Emeriti
Arthur K. Cho, Ph.D.
Climis A. Davos, Ph.D.
Robert A. Mah, Ph.D.

Associate Professors
Linwood H. Pendleton, D.F.E.S.
Beate R. Ritz, M.D., Ph.D.
Wendie A. Robbins, R.N., Ph.D., F.A.A.N.
Jane L. Valentine, Ph.D.

Assistant Professors
Nola Kennedy, Ph.D., in Residence
Yifang Zhu, Ph.D., in Residence

Adjunct Assistant Professor
Pablo Cicero-Fernandez, D.Env.

Scope and Objectives
The Department of Environmental Health Sciences focuses its research and educational activities on the protection of human health from biological, chemical, and physical hazards in the environment. Its graduates are highly trained scientists and professionals capable of identifying and measuring agents of environmental concern; evaluating the health, environmental, and all other impacts of such agents; developing means for their effective manage-

211. Science and Politics of Environmental Regulation: Coastal Pollution Sources and Solutions. (4) Lecture, three hours. Designed for graduate students. Overview of environmental regulations that protect coastal resources, regulatory agencies that have jurisdiction over coastal resources, past and current coastal pollution problems in the U.S., solving pollution problems, and treatment, advocacy, enforcement, restoration, remediation, and watershed management. Letter grading.


225. Atmospheric Transport and Transformations of Airborne Pollutants. (4) Lecture, four hours; preparation: one year of calculus, one course each in physics, organic chemistry, and physical chemistry. Designed for science, engineering, and public health students. Role of reactive long-range transport, and atmospheric lifetimes and fates of airborne chemicals in phenomena such as photochemical smog, acid deposition, stratospheric ozone depletion, accumulation of greenhouse gases, and regional and global distribution of volatile toxic compounds. S/U or letter grading.

230. Environmental Management. (4) Lecture, four hours; discussion, one hour. Preparation: one course each in economics, M112, 115A, Political Science 140A, 142B. Introduction to foundations and principles of environmental management, decision making, and evaluation of environmental policies and programs. Letter grading.

231. Environmental Decision Systems Analysis. (4) Lecture, four hours; discussion, one hour. Preparation: course 230. Techniques and models of systems analysis and concepts of general system theory as applied to comprehensive study, planning, evaluation, and management of environmental decision systems. Experimentation with relevant computer programs. S/U or letter grading.


234. Critical Readings in Environmental Policy for Scientists and Engineers. (4) Lecture, one hour; discussion, three hours. Preparation: one course or 235. Designed for graduate science and engineering students. Critical analysis of environmental policies, regulations, and decisions and their scientific basis. Literature revision, classroom presentation, and research paper required. Letter grading.

235. Environmental Policy for Science and Engineering. (4) Lecture, four hours. Preparation: bachelor’s degree in science, engineering, public health, public policy, political science, or economics, one year of statistics, one year of calculus. Introduction to core methods of environmental policy analysis, basic economics, policy analysis, and basic econometrics, and survey design. Application of case-study approach with considerable memo and paper writing and revision. Emphasis on critical thinking about normative aspects of environmental policies. Normative issues include evaluation of benefits and costs of environmental policies. Exploration of why some environmental policies are readily adopted by government, while other policies go unheeded or lead to perversive and counterproductive outcomes. Letter grading.

M239. Pollution Prevention. (2) Same as Urban Planning M262C. Seminar, one hour. Designed for graduate students. Series of talks by academics, policymakers, industry representatives, and public interest advocates addressing opportunities for and obstacles to adopting principles of pollution prevention, including several case studies of specific policy and industry initiatives in this area. S/U grading.

240. Fundamentals of Toxicology. (4) Lecture, four hours. Preparation: one course each in biology, organic chemistry, and biochemistry. Essential aspects of the interactions of toxicants with the human body. Absorption, distribution, excretion, biotransformation, as well as basic toxicologic processes and organ systems. Letter grading.

M242. Toxicodynamics. (4) Same as Molecular Toxicology M242. Lecture, two hours; discussion, two hours. Preparation: course 240. Examination of biochemical, cellular, and molecular mechanisms by which chemicals induce toxicity in wide spectrum of organ systems and in a number of pathological conditions. Letter grading.


244. Reproductive and Developmental Toxicology. (4) Lecture, four hours; preparation: course 240. Introduction to current theory and research related to reproductive and developmental toxicology. Letter grading.

245. Laboratory in Toxicological Methods. (2) Same as Molecular Toxicology M245 and Pharmacology M234C. Lecture, one hour; laboratory, four to five hours. Survey of experimental techniques used in study of toxic substances. Experiments conducted within known toxinant to demonstrate its effects at molecular, cellular, and tissue levels. Presentation of the principles of techniques and methods of data analysis at discussion session prior to laboratory. Letter grading.


250D. Industrial Hygiene Practice. (2) Seminar, two hours. Preparation: courses 200A, 200B, 252D, 252E. Principles and applications of control technology to industrial environments, including general and local exhaust ventilation, air cleaning equipment, and respiratory protection. S/U or letter grading.

253B. Physical Agents Laboratory. (2) Lecture, two hours. Preparation: course 253A. Hands-on experience in use of survey instruments for evaluation of worker exposure to various physical agents encountered in work environment. Letter grading.

255. Control of Airborne Contaminants in Industry. (4) Lecture, two hours; laboratory, two hours. Preparation: one year of physics. Preparation: course 252D. Principles and applications of control technology to industrial environments, including general and local exhaust ventilation, air cleaning equipment, and respiratory protection. S/U or letter grading.

256. Biological and Health Surveillance Monitoring in Occupational/Environmental Health. (4) Lecture, three hours; discussion, one hour; assignments, three hours. Principles and applications of biological monitoring and health surveillance to assess occupational and environmental exposures to organic and inorganic chemicals and physical factors. Letter grading.

257. Risk Assessment and Standard Setting. (4) Seminar, four hours. Preparation: course 240, Epidemiology M224. Designed to provide students with opportunity to review scientific basis for association of selected occupational and environmental exposures with disease. Special emphasis on critical evaluations of the literature. Attention specifically to interface of science and regulatory standards. S/U or letter grading.

258. Identification and Analysis of Hazardous Wastes. (4) Lecture, three hours; discussion, one hour; laboratory, one hour; field trip. Preparation: course 252E. Biostatistics 100A. Designed to define, identify, label, and quantify hazardous wastes and how workers should be protected. Provides a critical understanding of all analytical aspects of hazardous wastes, health aspects, and regulation and practice of handling hazardous wastes. Letter grading.

259A. Occupational Safety and Ergonomics. (4) Lecture, four hours. Discussion of design and modification of products and industrial manufacturing processes to eliminate or control hazards arising out of mechanical, electrical, thermal, chemical, and other potential energy sources and ergonomic risk factors. Discussion of case studies in industrial manufacturing, construction, and agriculture. Letter grading.

252E. Identification and Measurement of Gases and Vapors. (4) Lecture, three hours; discussion, one hour; outside study, two hours. Preparation: one year each of chemistry, physics, and calculus. Theoretical and practical aspects of industrial hygiene sampling and measurement of gases and vapors. Letter grading.

252F. Industrial Hygiene Measurements Laboratory. (3) Laboratory, three hours. Corequisites: courses 252D, 252E. Limited to industrial hygiene majors. Laboratory methods for sampling, measurement, and analysis of gases, vapors, and aerosols found in occupational environment. S/U or letter grading.
259B. Occupational Ergonomics Laboratory. (4) Laboratory, four hours. Requisite or corequisite: course 259A. Hands-on experience using typical instruments and analytical techniques utilized in professional practice and research in occupational ergonomics. Laboratory exercises cover anthropometry, force and strength measurements, biomechanical modeling and static prediction, energy expenditure prediction, posture and motion analysis, use of goniometer, and computer-aided workstation design. Letter grading.


259E. Occupational Safety and Health Program Management. (4) Lecture, four hours. Designed for graduate students. Introduction to application of management principles and techniques for management of safety and health and loss control programs. Letter grading.

259F. Accident Investigation and System Safety. (4) Lecture, four hours. Requisite: course 259A. Introduction to application of fire sciences, engineering, and management principles to prevention, suppression, and control of fires and explosions and protection of persons and property from fire or explosion damage and injury. Letter grading.

M259H. Biomechanics of Traumatic Injury. (4) (Same as Biomedical Engineering M259H.) Lecture, four hours; outside study, eight hours. Designed for graduate students. Introduction to applied biomechanics of accidental injury causation and prevention; discussion of mechanisms of injury that result in bone and soft tissue trauma; discussion of mechanisms of healing for effective rehabilitation after traumatic injury. Letter grading.

261. Chemical Behavior of Aquatic Systems. (4) Lecture, three hours. Requisites: courses 200A, 200B, Chemistry 20A, Mathematics 3A. Chemistry of ocean waters, rivers, groundwaters, and water treatment systems. Topics include thermodynamics of chemical behavior of aquatic systems. Topics include thermodynamics of ocean waters, rivers, and groundwaters. Letter grading.

M261. Chemical Behavior of Aquatic Systems. (4) Lecture, three hours. Requisite: course 200A. Topics include thermodynamics of aquatic systems. Topics include thermodynamics of ocean waters, rivers, and groundwaters. Letter grading.

266A-296N. Research Topics in Environmental Health Sciences. (2 each) Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.


400. Field Studies in Environmental Health Sciences. (2 or 4) Fieldwork, to be arranged. Field observation and studies in selected community environmental health organizations. Students must file field placement and program training documentation on form available from Student Affairs Office. May not be applied toward M.S. minimum course requirement; 4 units may be applied toward 44-unit minimum total required for M.P.H. degree. Letter grading.

401. Environmental Measurements. (4) Lecture, two hours; laboratory, four hours. Requisites: courses 200A, 200B, Chemistry 20A, 30AL. Fundamental methods for the laboratory and field applications to assess quality of environmental pollutants in air, food, and water, and to assess degree of exposure to such factors as noise and radiation. Letter grading.

410A. Instrumental Methods in Environmental Science. (4) Lecture, four hours; discussion, two hours; other, two hours. Preparation: one year each of physics, chemistry, and biology. Theory and principles of instrumental methods through lectures and group discussions. Letter grading.

410B. Instrumental Methods Laboratory in Environmental Health Sciences. (4) Lecture, one hour; discussion, one hour; laboratory, four hours; other, two hours. Preparation: one year each of physics, chemistry, and biology. Design and implementation of experiments using selected instrumental methods. Letter grading.

M411. Environmental Health Sciences Seminar. (2) (Same as Environmental Science M411.) Seminar, two hours. Required of graduate environmental health sciences students for one term each year. Current topics in environmental health sciences and environmental science and engineering. May be repeated for credit. S/U grading.

M412. Effective Technical Writing. (2) (Same as Environmental Science and Engineering M412.) Lecture, one hour. Essentials of grammar, punctuation, syntax, organization, and format needed to produce well-written journal articles, research reports, memoranda, letters, and résumés. Emphasis on accuracy, clarity, conciseness, and avoidance of common errors in advanced scientific writing. Assignments, group critique, exercises, and examples. S/U grading.

454. Health Hazards of Industrial Processes. (4) Formerly numbered 254.) Lecture, two hours; field trips, four hours. Requisite: course 255. Industrial processes and operations and occupational health hazards that arise from them. Letter grading.

461. Water Quality and Health. (4) Lecture, three hours; discussion, one hour. Requisites: courses 200A, 200B, 401. Introduction to water quality, with coverage of hydrology, water chemistry, and various chemical contaminants that may affect human health. Various treatment methods and health implications. S/U or letter grading.

470. Environmental Hygiene Practices. (2) Lecture, two hours. Requisites: courses 200A, 200B, 230, 401, Epidemiology 100. Field principles and practices of environmental sanitation as applicable to the sanitarian. Topics include theory, code enforcement, and inspection procedures for applicable environmental topics. S/U or letter grading.

495. Teacher Preparation in Environmental Health Sciences. (3) Seminar, two hours. Preparation: 18 units of cognate courses in area of specialization. May not be applied toward master's degree minimum total course requirement. May be repeated for credit. S/U grading.

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. No more than 8 units may be applied toward master's degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. Limited to graduate students. Individual guided studies under direct faculty supervision. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit. S/U or letter grading.

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations. (2 to 8) Tutorial, to be arranged. Limited to graduate students. May not be repeated toward any degree course requirements. May be repeated for credit. S/U grading.

598. Master's Thesis Research. (2 to 10) Tutorial, four hours. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement; may not be applied toward minimum graduate course requirement. May be repeated for credit. S/U grading.

599. Doctoral Dissertation Research. (2 to 10) Tutorial, four hours. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

401. Environmental Measurements. (4) Lecture, two hours; laboratory, four hours. Requisites: courses 200A, 200B, Chemistry 20A, 30AL. Fundamental methods for the laboratory and field applications to assess quality of environmental pollutants in air, food, and water, and to assess degree of exposure to such factors as noise and radiation. Letter grading.

259F. Accident Investigation and System Safety. (4) Lecture, four hours. Requisite: course 259A. Introduction to retrospective and prospective safety hazard analysis, system safety, computer-aided hazard analysis, and methodology and process of accident investigation. Letter grading.

259G. Fire Prevention, Protection, and Facility Design. (3) Lecture, three hours. Requisite: course 259A. Hands-on introduction to application of fire sciences, engineering, and management principles to prevention, suppression, and control of fires and explosions and protection of persons and property from fire or explosion damage and injury. Letter grading.

259H. Biomechanics of Traumatic Injury. (4) (Same as Biomedical Engineering M259H.) Lecture, four hours; outside study, eight hours. Designed for graduate students. Introduction to applied biomechanics of accidental injury causation and prevention; discussion of mechanisms of injury that result in bone and soft tissue trauma; discussion of mechanisms of healing for effective rehabilitation after traumatic injury. Letter grading.


264. Fate and Behavior of Organic Chemicals in the Aquatic Environment. (4) Lecture, four hours. Preparation: bachelor's degree in science, engineer, geophysicist, chemistry, biology, or public health. Evaluation of how and where and in what form and concentration organic pollutants are distributed in aquatic environments. Study of mass transport mechanisms moving organic chemicals between phases, biological degradation and accumulation, and chemical reactions. Effect of humic substances on these processes. S/U or letter grading.

M265. Nonpoint Pollutant Sources and Transport Phenomena. (2) (Same as Environmental Science M265.) Seminar, two hours. Critical analysis course with focus on advanced topics in origins, transport, and fate of nonpoint source pollutants, especially in runoff from urban watersheds. Basics of transport of humic substances and methods to identify sources of pollutants in urban runoff, analysis of urban activities as potential sources, and methods to estimate loadings from particular urban watersheds. S/U grading.
The program is designed to train multidisciplinary professionals with an appropriate balance of breadth and specific skills, based on a strong master's-level foundation in a science or engineering discipline. The curriculum consists of formal coursework across a full spectrum of relevant physical, biological, social, and engineering disciplines, as well as interdisciplinary research training through nine-month problems courses. Because the D.Env. degree is not a specialized research degree in the manner of a Ph.D., the usual extended research training period in residence at UCLA associated with a Ph.D. is replaced by an 18- to 36-month internship in an appropriate government agency, national laboratory, or private industry, during which in-depth study of an environmental problem leads to a dissertation.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqntro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Environmental Science and Engineering Program offers the Doctor of Environmental Science and Engineering (D.Env.) degree.

Environmental Science and Engineering

Graduate Courses

M255. Introduction to Statistical Analysis of Environmental Data. (4) (Same as Statistics CM255.) Lecture, three hours. Designed for graduate students. Routine intermediate applied statistics course, with emphasis on applications to environmental data and statistical computing with the language R. Statistical analysis and scientific report from real data required. S/U or letter grading.

M266. Nonpoint Pollutant Sources and Transport Phenomena. (2) (Same as Environmental Health Sciences M266.) Seminar, two hours. Critical analysis course with focus on advanced topics in origins, transport, and fate of nonpoint source pollutants, especially in runoff from urban watersheds. Basics of transport of humic substances, methods to identify sources of pollutants in urban runoff, analysis of urban activities as potential sources, and methods to estimate loadings from particular urban watersheds. S/U grading.

400A. Environmental Science and Engineering Problems Course. (8) Discussion, eight hours. Primarily designed for environmental science and engineering doctoral students. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems. In Progress grading (credit to be given only on completion of courses 400B and 400C).

400B. Environmental Science and Engineering Problems Course. (8) Discussion, eight hours. Requires: course 400A. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems. In Progress grading (credit to be given only on completion of course 400C).

400C. Environmental Science and Engineering Problems Course. (8) Discussion, eight hours. Requires: course 400B. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems. Letter grading.

400D. Environmental Science and Engineering Problems Course. (8) Discussion, eight hours. Preparation: successful completion of internship approved by committee and program director. Requires: course 400C. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems. S/U or letter grading.

410A-410B-410C. Environmental Science and Engineering Workshops. (2-2-2) Discussion, two hours. Primarily designed for environmental science and engineering doctoral students who are conducting problems courses. Development of multidisciplinary skills essential to solution of environmental problems studied within courses 400A through 400D. Development of presentation skills. S/U grading.

M411. Environmental Health Sciences Seminar. (2) (Same as Environmental Health Sciences M411.) Seminar, two hours. Required of graduate environmental health sciences students for one term each year. Current topics in environmental health sciences and environmental science and engineering. May be repeated for credit. S/U grading.

M412. Effective Technical Writing. (2) (Same as Environmental Health Sciences M412.) Lecture, one hour. Essentials of grammar, punctuation, syntax, organization, and format needed to produce well-written journal articles, research reports, memoranda, letters, and resumes. Emphasis on accuracy, clarity, conciseness, and avoidance of common errors in advanced technical writing, using critique, exercises, and examples. S/U grading.

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

Scope and Objectives

Epidemiology has been defined as the study of the distribution and determinants of disease and injury in human populations. Epidemiologists study variations of disease in relation to such factors as age, sex, race, occupational and social characteristics, place of residence, susceptibility, exposure to specific agents, or other pertinent characteristics. All of concern are the temporal distribution of disease, examination of trends, cyclical patterns, and intervals between exposure to causative factors and onset of disease. The scope of the field extends from study of the patterns of disease to the causes of disease and to the control or prevention of disease. What distinguishes epidemiology from other clinical sciences is the focus on explicit population assumptions, model selection, model diagnostics, hierarchical (multilevel) modeling, S/U or letter grading.

Epidemiology

Upper Division Courses

100. Principles of Epidemiology. (4) Lecture, two hours; discussion, four hours. Preparation: one full biological sciences course. Not open for credit to students with credit for course 200. Introduction to epidemiology, including factors governing health and disease in populations. Letter grading.

197. Individual Studies in Epidemiology. (2 to 4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Graduate Courses

200A. Methods I: Basic Concepts and Study Designs. (6) Lecture, six hours; discussion, four hours. Enforced requisite or corequisite: Biostatistics 100A. Introduction to basic concepts, principles, and methods of chronic and infectious disease epidemiology. Letter grading.

200B. Methods II: Prediction and Validity. (6) Lecture, six hours; discussion, four hours. Enforced requisites: course 200A. Biostatistics 100A, 100B. Introduction to basic concepts, principles, and methods of chronic and infectious disease epidemiology. Letter grading.


202A. Epidemiology: Theory and Methodology. (4) Lecture, four hours. Requisite: course 200C. Advanced principles and methods of epidemiologic analysis. Topics include relating prevalence and incidence, analysis of clustering and seasonality; measures of effect, sources of bias, regression to mean, estimation and hypothesis testing in epidemiology; models for risk and rates; cohort analysis. S/U or letter grading.

203. Topics in Theoretical Epidemiology. (2) Lecture, two hours. Selected topics from current research areas in epidemiologic theory and quantitative methods. Topics selected from biologic models, epidemiologic models, problems in inference, model specification problems, design issues, analysis issues, and confounding. May be repeated for credit with consent of instructor. S/U grading.


M211. Statistical Methods for Epidemiology. (4) (Same as Biostatistics M211 and Statistics M250.) Lecture, four hours. Preparation: two terms of statistics (such as Biostatistics 100A, 100B). Requisites: courses 200B, 200C. Concepts and methods tailored for analysis of epidemiologic data, with emphasis on tabular and graphical techniques. Expansion of topics introduced in courses 200B and 200C and introduction of new topics, including principles of epidemiologic analysis, trend analysis, smoothing and sensitivity analysis. S/U or letter grading.

M212. Statistical Modeling in Epidemiology. (4) (Same as Biostatistics M229.) Lecture, four hours. Preparation: two terms of statistics (three terms recommended). Recommended: course M204 or M211. Principles of modeling, including meanings of models, a priori model specification, translation of models into explicit population assumptions, model selection, model diagnostics, hierarchical (multilevel) modeling. S/U or letter grading.

M218. Questionnaire Design and Administration. (4) (Same as Community Health Sciences M218.) Lecture, four hours. Requisites: courses 200B and 200C, or Community Health Sciences 211A and 211B. Design, testing, field use, and administration of data collection instruments and associated procedures. In particular emphasis on questionnaires. Letter grading.


221. Prevalent and Emerging Infectious Diseases in the World. (4) Lecture, four hours. Requisites: course 100 or 200, Biostatistics 100A, 100B. Designed for graduate students and medical doctors seeking broad knowledge and detail on prevalent and emerging infectious diseases, including influenza/acute respiratory infections, choleradiarrheal disease, tuberculosis, hepatitis B, malaria, measles, neonatal tetanus, HIV/AIDS, pertussis (whooping cough). S/U or letter grading.

222. Arthropods as Vectors of Human Diseases. (4) Lecture, four hours. Requisites: courses 100 or 200, 220. Comprehensive overview of morphology, systematic, natural history, host-vector/pathogen relationships, and spectrum of diseases carried by arthropods for graduate students, public health professionals, and medical doctors seeking information on global prevalence of arthropod-borne diseases. Letter grading.
223. Biology and Ecology of Human Parasitic Diseases. (4) Lecture, four hours. Information on all aspects of parasitic diseases, including their morphology, biology, means of diagnosis, and diseases they cause. From epidemiologic perspective, special emphasis on way in which parasites maintain themselves in nature and manner in which organisms are transmitted to people. Letter grading.

224. Zoonotic Diseases and Public's Health. (4) Lecture, four hours. Examination of wide variety of infectious diseases (viruses, bacteria, and protozoan and helminth parasites) causing diseases in individuals and populations. Emphasis on how these diseases exist in natural environment, how they are transmitted from animals to humans, and methods for their prevention and control. Letter grading.

225. Role of Public Health Laboratory in Disease Control. (2) Lecture, two hours. Requisite: course 100 or 200. Role of public health laboratory is to support testing needs of the programs. To successfully fulfill this role, laboratory must provide information based on most sensitive and specific technologies available. Coverage of common infectious disease agents of public health importance and determination of impact of molecular biology on disease detection and epidemiology in modern public health laboratory. S/U or letter grading.

226. Public Health Responses to Bioterrorism. (4) Lecture, four hours. Requisite: course 220 or 221. Mitigation of bioterrorism falls outside traditional public health programs and public health graduate education. Because of seriousness of such threats, it is important that individuals trained in public health understand problems and responses. Letter grading.


228. Biology of HIV. (4) (Formerly numbered M228.) Lecture, three hours. Preparation: two biology courses. Requisites: course 100, Biostatistics 100A. Overview of virologic and immunologic aspects of HIV disease for epidemiology or other health disciplines. Brief discussion of clinical manifestations and bio-safety in the laboratory. Letter grading.

229. Epidemiology of Foodborne Illnesses. (2) Lecture, two hours. Requisites: course 100 or 200, Biostatistics 100A or 110A. Comprehensive study of tools for control of infections and role of molecular biology and epidemiology in modern public health laboratory. S/U or letter grading.

230. Epidemiology of Sexually Transmitted Diseases. (4) Lecture, four hours. Requisite: course 100 or 200. Sexually transmitted diseases, medical/biological aspects, epidemiology and control in developing and developing countries. S/U or letter grading.

231. Principles of Control of Infectious Diseases. (2) Lecture, two hours. Requisites: courses 200, 220. Comprehensive study of infectious diseases and application of these tools in public health programs to achieve epidemiologic impact on disease reduction, elimination, or eradication. Letter grading.

232. Methods in Reproductive Epidemiology. (2) Lecture, two hours. Requisite: course 100 or 200. Introduction to range of different methodologies used to collect data and conduct analysis on reproductive epidemiology topics, including methods that produce quantitative data and methods that produce qualitative data, with emphasis on use of methods appropriate for challenges and sensitive research topics such as sexual behavior, abortion use, and sexual abuse. Letter grading.

240. Cardiovascular Epidemiology. (2) Lecture, two hours. Topics include definition, pathogenesis, descriptive epidemiology, magnitude of risk factors, strategies for prevention, lipoprotein metabolism, and epidemiology of diabetes, hypertension, and chronic lung disease. Letter grading.

241. Issues in Cancer Prevention Research and Policy. (2) Lecture, two hours. Development of more informed understanding of promise of preventive strategies for cancer and of philosophical, scientific, and practical challenges that these strategies entail. Designed to build on ideas that move from general to more specific topics. S/U grading.


244. Research Methods in Cancer Epidemiology. (2) Lecture, two hours. Requisites: courses 100 and/or 200, Biostatistics 100A. Biologic, quantitative, philosophical, and administrative considerations in epidemiologic cancer research. Hypothesis specification and choice of study design. Uses of descriptive epidemiology, cohort studies, case control studies. Clustering, screening, and cancer control. Means of identifying subjects and controls. Design of instruments. Sources of bias and confounding. S/U or letter grading.

245. Epidemiologic and Clinical Issues in Research on Aging. (2) Lecture, two hours. Overview of concepts and current epidemiological and clinical issues in research on aging. Presentations by current epidemiological and clinical researchers at UCLA and coverage of range of current research topics on aging, with focus on conceptual and methodological issues related to each topic area. S/U or letter grading.


248. Psychiatric Epidemiology. (2) Lecture, two hours. Requisite: course 100 or 200. Introduction to basic concepts and research methods in psychiatric epidemiology. Topics include definition, study design, instrumentation, and epidemiology of selected psychiatric disorders. Letter grading.

249. Genetic Epidemiology I. (2) Lecture, two hours. Preparation: at least one course in epidemiology, biostatistics, and genetics. Basic concepts in emerging field of genetic epidemiology, with special focus on genetic study of complex diseases, determining genetic contributions to disease, identifying genes, and characterizing their main effects and interactions with environmental factors. Letter grading.

250. Terrorism and Mass Destruction. (2) Lecture, two hours. In wake of terrorist attacks in several American cities, public health students and practicing professionals need understanding and training to respond to disasters and acts of terrorism and mass destruction. Impacts of terrorism and disasters encompass health, psychological, social, political, and economic effects. Timing, location, and circumstances related to terrorist attack and disasters are also important elements. S/U or letter grading.

251. Epidemiology of Nonintentional Injuries. (4) Lecture, three hours; discussion, two hours. Requisites: course 100 or 200, Biostatistics 100A. Pertinent epidemiology methods for study of nonintentional trauma, including that from motor vehicle crashes, occupational exposures, falls, and other major external causes, which focus on research approaches, data sources, analytical techniques. Substantive findings on related subproblem areas presented for critical review. Letter grading.


253. Acute Traumatic and Chronic Repetitive Injuries from Work-Related Exposures. (2) Lecture, two hours; discussion, one hour. Requisites: course 100, Biostatistics 100A. Lectures and discussions on magnitude, scope, research approaches, and intervention strategies for work-related acute traumatic and chronic repetitive (musculoskeletal) injuries. Emphasis on injury research methods for all external causes of injury, utilizing epidemicology for high-risk group identification and injury prevention. S/U or letter grading.

254. Nutritional Epidemiology. (2) Lecture, one hour; discussion, one hour. Preparation: one introductory epidemiology course. Examination of relationships between dietary exposures and risk of developing chronic disease. Nutritional principles combined with nutritional science to critically evaluate current and past issues affecting nutritional epide- miologic studies. Concepts used to explore early studies of population-based dietary assessment, as well as contemporary studies of gene expression, biomarkers, and genetic polymorphisms in relationship to nutrition and risk of chronic diseases. S/U or letter grading.

M255. Keeping Children Safe: Causes and Prevention of Pediatric Injuries. (2) (Same as Community Health Sciences M255.) Lecture, two hours. Injuries have been leading killer of children in the U.S. for decades. Children have specific risk factors for injuries, many of which are preventable. Presentation of approaches to research and prevention of pediatric injuries. Letter grading.

257. Issues in Nutritional Epidemiology. (2) Lecture, three hours. Preparation: at least one introductory epidemiology course. Introduction to study of foods and nutrients in causation or prevention of diseases. Discussion of methods for collecting data on diet, study design and analysis, and specific research studies about nutritional influences on disease. S/U or letter grading.
258. Epidemiology of Obesity, Diabetes, and Related Disorders. (4) Lecture, two hours; laboratory, two hours. Preparation: introductory biochemistry, epidemiology, molecular biology, physiology, and statistics courses. Survey of entire landscape of nutritional, biological, and chemical and genetic aspects of obesity and diabetes and their microvascular and macrovascular complications. Study of distributions and determinants of these diseases in Westernized populations to appreciate how and why these epidemics occurred. Through case studies students learn process of generating etiologic hypotheses that can be tested using modern molecular epidemiologic methods. Techniques and principals of molecular genetics relevant to epidemicologic studies. Analysis of real data sets that include both gene and phenotype information, with emphasis on examination of various gene-environment interactions. S/U or letter grading.

259. Disaster Epidemiology. (2) Lecture, two hours. Requisites: course 100 or 200, Community Health Sciences 220. Introduction to epidemicology to study disasters and their health outcomes, including surveillance, loss estimation, risk factor assessment, intervention, and evaluation. Letter grading.

260. Environmental Epidemiology. (2 or 4) Lecture, three hours. Requisites: courses 100, or 200A, 200B, and 200C. Epidemiologic methods applied to evaluation of human health consequences of environmental hazards. Topics include air pollution, pesticides, drinking water contaminants, use of GIS. Review of recently completed environmental studies published in peer-reviewed literature. S/U or letter grading.

261. Occupational Epidemiology. (4) Lecture, two hours; discussion, two hours. Requisite: course 100 or 200. Methodological considerations, approaches, and limitations to study occupational and environmental hazards. Topics include occupational and environmental exposure assessment protocols and exposure analyses in occupational groups and environments. S/U or letter grading.

262. Seminar: Environmental and Occupational Cancer Epidemiology. (2) Seminar, two hours. Requisite: course 100 or 200. Discussion of examples of recent epidemiologic studies, with focus on environmental and occupational exposures, especially in areas where controversies have arisen such as for electromagnetic fields and childhood leukemia, and bladder cancer and personal hygiene levels of drinking water. S/U or letter grading.


264. Epidemiology Methods in Occupational and Environmental Health. (2) Lecture, two hours. Introduction to epidemiology methods applied to evaluation of human health consequences of occupational and environmental hazards, including study design, exposure assessment, and statistical techniques commonly encountered in research focused on assessing adverse health effects resulting from occupational and environmental exposures. Topics include clusters, bioassay, exposure assessment, and policy development. Illustrated by case studies, with focus on techniques to critically evaluate and interpret current literature. Letter grading.

265. Global Health and Tropical Medicine. (2) Lecture, two hours. Introduction to tropical diseases and global health. How humanitarian health issues, maternal-child health, research in tropics, World Health Organizations, and political/medical constraints all are related with respect to health on worldwide scale. Letter grading.

266. Global Health and Tropical Medicine. (2) Lecture, two hours. Introduction to tropical diseases and global health. How humanitarian health issues, maternal-child health, research in tropics, World Health Organizations, and political/medical constraints all are related with respect to health on worldwide scale. Letter grading.

267. Methodologic Issues in Reproductive Epidemiology. (2) Seminar, two hours. General discussion of methodologic issues important to epidemiologic studies of reproductive outcomes, including fertility, low birth weight, prematurity, birth defects, pregnancy loss, and perinatal mortality. Approaches to study design and exposure assessment and identification of potential sources of bias illustrated through review of recent studies published in literature and with particular focus on occupational and environmental exposures and their own assumptions.

268. Introduction to Pharmacoepidemiology. (2) Lecture, two hours. Requisite: course 200. Pharmaacoepidemiology is application of epidemiologic knowledge, reasoning, and methods to study of effects and uses of drugs. Review of contemporary roles of pharmacoepidemiology in drug development and public health, with historical background of its evolution and projections of future prospects. S/U or letter grading.

271. Assessing Validity of Complementary and Alternative Healthcare Procedures. (2) Lecture, two hours. Exploration of validity of alternative and complementary healthcare procedures, with special emphasis on disorders in field of neurology. Focus on methods of analyzing clinical and experimental research published in journals which provide support or refute claims made by practitioners of these procedures. Primary procedures include acupuncture, chiropractic, manipulation, massage, and herbal remedies. Letter grading.

273. Responsible Conduct of Research in Global Health. (2) Lecture, one hour; discussion, one hour. Requisite: Community Health Sciences 200. Introduction to fundamental principles of public health ethics, current ethical procedures, guidelines, and requirements, and ethical issues facing public health professionals working in industries. History of public health issues, unique ethical issues of research in developing countries, analysis of ethical implications of informed consent, responsibility to study community, mechanisms for study approval, role of funders, and role and responsibilities of review boards. S/U or letter grading.

280. Connecting Epidemiology, Medical, and Mathematical Aspects of Infectious Diseases. (4) Lecture, four hours. Requisites: courses 200, 220. To deepen and further integrate knowledge on infectious diseases, focus on small number of them to enable in-depth study. Each to be presented and discussed from different views and greater understanding: epidemiology, immunology and molecular basis, and mathematical and epidemiologic analysis. Letter grading.

290. Seminar: Epidemiology — Infectious and Tropical Diseases. (2) Seminar, two hours. Review of research on specific diseases of public health importance. May be repeated for credit. S/U or letter grading.

291. Seminar: Epidemiology — Methodology. (2) Seminar, two hours. Requisite: course 100 or 200. Review of current epidemiologic research contained in recent medical literature. May be repeated for credit. S/U or letter grading.


294. Epidemiology and Policy of Occupational and Environmental Health Issues. (2) Discussion, two hours. Requisites: courses 100 (or 200) and/or 260. Introduction to demands that go beyond “pure” scientific reporting of issues such as risk communication, potential influence (and ethics) of oversight panels and external review groups on presenting results and conclusions, and interest of government agencies. S/U or letter grading.

295. Seminar: Epidemiology — Cancer. (2) Seminar, two hours. Requisite: course 100 or 200. Introduction of basic concepts of cancer epidemiology and review of current epidemiologic research in cancer in recent medical and epidemiologic literature. May be repeated for credit. S/U or letter grading.


375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

400. Field Studies in Epidemiology. (2 or 4) Field work, to be arranged. Focus on research and studies in selected community organizations for health promotion or medical care. Students must file field placement and training plan for form available from Student Affairs Office. May be applied toward M.S. minimum course requirement; 4 units may be applied toward 44-unit minimum total required for M.P.H. degree. Letter grading.


403. Computer Management and Analysis of Health Data Using SAS. (4) (Same as Biostatistics M403B.) Lecture, two hours; laboratory, two hours. Requisites: Biostatistics 100A, 100B (100B may be taken concurrently). Introduction to practical issues in management and analysis of health data using SAS programming language. Cross-sectional and longitudinal population-based data to be used throughout to illustrate principles of data management and analysis for addressing biomedical and health-related hypotheses. Letter grading.

404. Field Studies in Smallpox or Other Bioterrorist Events. (2) (Same as Community Health Sciences M406.) Lecture, two hours. Major current public health issue is massive effort to prepare for possible bioterrorist events. Practical application of principles of epidemiology and public health in preparing for smallpox or other bioterrorist events. Letter grading.

410. Management of Epidemiologic Data. (2) Lecture, two hours. Data management for various epidemiologic study designs, confidentiality concerns, data management systems, introduction to mainframe computer. S/U or letter grading.

411. Research Resources in Epidemiology. (2) Lecture, one hour; discussion, one hour. Instructive and practical experience in use of various bibliographic aids and sources of information, building of reference files, and presentation of research findings for publication. Letter grading.

412. Public Health Surveillance. (2) Lecture, two hours. Requisites: courses 100 or 200, Biostatistics 100A. Overview of public health surveillance methodology, including (1) design, implementation, and evaluation of surveillance systems, (2) analysis and interpretation of surveillance data, and (3) application of surveillance methods to specific health-related outcomes. Letter grading.
M.P.H. and M.S. minimum total course requirement. Only 4 units may be applied toward individual guided studies under direct faculty supervision. S/U grading.

414. Practical Epidemiologic Investigations. (2 or 4) Lecture, one or two hours; laboratory, one or two hours. Requisite: course 100 or 200. Practical approaches to epidemic investigations presented through problem sets based on actual outbreaks. Data collection, analysis, and written presentation of findings. Letter grading.

415. Epidemiology for Developing Countries. (4) Lecture, four hours. Requisites: courses 100 and/or 200, Biostatistics 100A. Practical use of epidemiology, microcomputers, and spreadsheet models for estimating morbidity and mortality, developing intervention or prevention strategies, and setting program priorities in Third World settings. Letter grading.


M418. Rapid Epidemiologic Surveys in Developing Countries. (4) (Same as Community Health Sciences M418.) Lecture, four hours. Requisites: courses 100 and/or 200, Biostatistics 100A. Presentation of how to do health surveys in Third World countries. Practical assistance for planning and organizing surveys, including use of microcomputers to develop and test questionnaire, select sample, process and analyze data, and prepare final report. Letter grading.

419. Applications in Musculoskeletal Epidemiology. (4) Lecture, two hours; laboratory, two hours. Requisites: course 100 or 200 (may be taken concurrently), Biostatistics 100A. Introduction to principles and practical issues of epidemiologic data analysis for addressing musculoskeletal-related hypotheses. Use of data sets from relevant components of National Health Interview Survey and from musculoskeletal-related epidemiologic studies. Use of SAS programming language, with applications in both UNIX and Windows. Letter grading.

495. Teacher Preparation in Epidemiology. (2) Seminar, two hours. Preparation: 18 units of cognate courses in area of specialization. May not be applied toward master’s degree minimum total course requirement. May be repeated for credit. S/U grading.

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate advisor and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. No more than 8 units may be applied toward master’s degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

599. Doctoral Dissertation Research. (2 to 8) Tutorial, to be arranged. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

ETHNOMUSICOLOGY

School of the Arts and Architecture

UCLA
2539 Schoenberg Music Building
Box 951657
Los Angeles, CA 90095-1657
(310) 206-3033
fax: (310) 206-4738
http://www.ethnomusic.ucla.edu

Jacqueline Cogdell DjeDje, Ph.D., Chair

Professors
Kenneth E. Burrell, B.A.
Jacqueline Cogdell DjeDje, Ph.D.
Roger A. Kendall, Ph.D.
Steven J. Loza, Ph.D.
Daniel M. Neuman, Ph.D.
A.J. Racy, Ph.D.
Timothy Rice, Ph.D.
Anthony Steeger, Ph.D.
Timothy D. Taylor, Ph.D.

Professors Emeriti
Charlotte A. Heth, Ph.D.
William R. Hutchinson, Ph.D.
Nazir A. Jairazbhoy, Ph.D.
J.H.K. Nikel, B.A.
James W. Porter, M.A.
Hiromi Lorraine Sakata, Ph.D.

Associate Professors
Tara C. Browner, Ph.D.
Cheryl L. Keyes, Ph.D.
Helen M. Rees, Ph.D.
Roger Savage, Ph.D.

Lecturers
Clayton Cameron, B.M.
Amy Catlin, Ph.D.
Jesus A. Guzman
Charlie A. Harrison, M.M.
Tamil Hendelman, B.M.
Shujaat H. Khan
Charles Owens, B.A.
Bobby H. Rodriguez, D.M.A.

Adjunct Professors
Aria Petrovic, Ph.D.
Benjamin Suchott, Ed.D.

Adjunct Assistant Professors
Francisco U. Aguabellla
George R. Bohanon
Abhiman Kaushal
Donald Kim, B.A.
Kobla Ladzekpo, M.A.
Chi Li, B.A.
Robert Miranda, M.M.
Barbara Morrison, A.A.
Ruth Price
James E. Roberson, M.B.A.
Ivan Varimezov, B.A.
Tzvetanka T. Varimezova, B.A.
Michele A. Weir, M.A.
I Nyoman Werten, Ph.D.
Anthony J. Wilson, B.A.
Gerald Wilson

Scope and Objectives

Ethnomusicology involves the study of all kinds of music from all over the world, using a variety of disciplinary perspectives. The Department of Ethnomusicology, the largest and first of its kind in a U.S. university, offers courses that cover the music of virtually every region of the world and of many ethnic groups in the U.S., as well as courses on jazz, popular music, and film music. Most courses combine an interest in music as an art form with questions about how musical art and practice relate to other aspects of culture, society, politics, and economics. Courses are also given on the philosophy and aesthetics of music and the study of music perception and cognition using experimental methods. In addition to academic courses, the department offers performance ensemble courses in jazz and several world and American music traditions. At the undergraduate level most of the performance courses are open to nonmajors, and many academic courses target nonmajors; prior knowledge of music is not expected or required.

The undergraduate major in Ethnomusicology is offered with two concentrations: one in jazz studies and one in world music with emphases in general world music, music/performance/composition, public ethnomusicology, and scholarly research. Admission requires an audition/interview. The major provides students with a wide-ranging liberal arts education in music. At its core, this includes (1) comprehensive knowledge of music cultures of the world, (2) understanding of the interrelationship of music, society, and culture, (3) grounding in the basics of Western music theory and musicianship, and (4) the experience of playing in one or several musical ensembles from various traditions around the world.

The concentration in jazz studies seeks to produce students who emerge as outstanding and well-rounded jazz musicians with a strong academic foundation, and to prepare students to enter professional careers in the music world, as well as graduate study in various aspects of music such as composition, arranging, film scoring, jazz performance, research, and teaching.

Beyond the core and emphasis requirements, students in the world music concentration may, through elective courses, prepare for a variety of career goals, including the study of ethnomusicology in graduate school, composing and performing music, working in the music industry, serving society in the nonprofit sector, or becoming a K-12 music teacher.

At the graduate level, the department offers M.A. and Ph.D. degrees in Ethnomusicology, with a specialization in systematic musicology. Both degree programs train students for future university teaching careers, as well as careers in library science and archiving, the music industry, public service, and music technology. The department provides fellowships, teaching assistantships, and research assistantships for qualified students.
Undergraduate Study

Ethnomusicology B.A.

Admission
Applicants are reviewed individually, based on a questionnaire, grade-point average, two letters of recommendation, test scores, a personal statement of purpose, and an interview/audition. Applicants who are unable to travel to UCLA have the option of submitting a videotape of musical performance, following departmental guidelines.

Preparation for the Major
Required: Ethnomusicology 10A, 10B, 10C, 11A, 11B, 11C, 20A, 20B, 20C, and 12 units of performance organizations or private instruction in music (courses 91A through 912 or 92).

The Major
Jazz Studies Concentration
Required: Ethnomusicology CM110A, CM110B, M111, 120A, 120B, 127A, 129A, 129B, 129C, 183, 186, 12 units of course 171, 12 units of course 177, and one elective course selected from the general world music emphasis (see departmental counselor for course list).

World Music Concentration
Required: Ethnomusicology 175 or 181, 183; 12 units from courses 161A through 161Z or 162; and eight courses (32 units) from one of the four ethnomusicology emphases: (1) general world music, (2) performance/composition, (3) public ethnomusicology, or (4) scholarly research. See the departmental counselor for the list of courses for each emphasis.

Emphases (32 units minimum): To select an emphasis, students who entered the program as freshmen must submit an application to the department in the Fall Quarter of their third year in the program. Students who entered as transfers must select their emphasis during Spring Quarter of their first year of training at UCLA. The application must include (1) an up-to-date transcript, (2) a concise statement by the students explaining why the emphasis has been selected and how it will prepare them for their career goals, and (3) the approval of a faculty member who is a specialist in the emphasis. Students who decide on the general world music emphasis do not need to submit an application.

General World Music (for students interested in general training in world music): In addition to the lower and upper division core requirements, a minimum of eight 4-unit courses is required. Four 4-unit courses must be selected from one of the following groupings — (1) Americas, (2) Africa and Asia, (3) popular music and jazz, or (4) aesthetics, politics, and psychology of music. Students may complete the remaining four courses with other upper division ethnomusicology courses listed under this emphasis, with courses from other emphases, or with Ethnomusicology 188, 197E, or 197S courses.

Performance/Composition (for students interested in a career in performance and/or composition): Students who select this emphasis must have a 3.5 grade-point average in departmental lower division core courses and a cumulative 3.0 GPA at the time of application. In addition to the lower and upper division core requirements, a minimum of eight 4-unit courses is required. Students must take four 4-unit courses in this emphasis and a minimum of four 4-unit courses in the general world music emphasis, and fulfill the final project requirement either through a public recital (performance) or major composition. Performers and composers must enroll in Ethnomusicology 186, and instrumental and vocal performers must pass a recital permission jury, presenting excerpts from their recital programs in front of two faculty members, before they are allowed to stage their recitals.

Public Ethnomusicology (for students interested in careers in the music industry, the music business, archiving, or arts administration): Students who select this emphasis must have a 3.5 grade-point average in departmental lower division core courses and a cumulative 3.0 GPA at the time of application. In addition to the lower and upper division core requirements, a minimum of eight 4-unit courses is required. Students must take four 4-unit courses in this emphasis and an additional two 4-unit courses in the general world music emphasis. Students must fulfill the internship requirement, which consists of three terms (8 units minimum) of Ethnomusicology 195, in an institution approved by the faculty sponsor. Students must write a final research paper (at least 10 pages) at the completion of each internship.

Scholarly Research (for students interested in pursuing graduate study): Students who select this emphasis must have a 3.5 grade-point average in departmental lower division core courses and a cumulative 3.25 GPA at the time of application. In addition to the lower and upper division core requirements, a minimum of eight 4-unit courses is required. Students must take four 4-unit courses in this emphasis and may complete the remaining four courses with other upper division ethnomusicology courses listed under this emphasis, with courses from other emphases, or with Ethnomusicology 188, 197E, or 197S courses. Students must also write a thesis (25 to 30 pages) and enroll in Ethnomusicology 199 for at least one term while writing the thesis.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Ethnomusicology offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Ethnomusicology.

Ethnomusicology

Lower Division Courses

5. Music Around World. (5) Lecture, four hours; discussion, one hour; outside study, 10 hours. Overview of world’s musical traditions by selecting one or two case studies from each of nine musical world regions: Pacific, East Asia, Southeast Asia, South Asia, Middle East, Africa, Europe, Latin America, and the U.S. and Canada. P/NP or letter grading.

10A-10B-10C. World Music Theory and Musician-ship. (5-5-5) Lecture, two hours; discussion, four hours; laboratory, two hours; outside study, seven hours. Course 10A is requisite to 10B, which is requisite to 10C. Limited to Ethnomusicology and World Arts and Cultures majors. Introduction to and participation in musical systems of selected world cultures through aural and written notations, vocal and instrumental skills, melodic and rhythmic dictation, improvisation, and composition. Letter grading.

11A-11B-11C. World Music Systems and Structures. (5-5-5) Lecture, four hours; discussion, four hours; outside study, seven hours. Requisite: course 10C. Course 11A is requisite to 11B, which is requisite to 11C. Limited to Ethnomusicology majors. Students must receive grade of C or better to proceed to next course. Advanced study and analysis of musical systems and aesthetic concepts from selected world cultures through aural and written notations, vocal and instrumental skills, melodic and rhythm dictation, improvisation, and composition. Letter grading.

15. American Life in Music. (4) Lecture, three hours. Impact of ethnicity, race, gender, and other social processes on American music in the late 20th century; use of and creativity in music to respond to and shape contemporary social processes. P/NP or letter grading.

20A-20B-20C. Musical Cultures of the World. (5-5-5) Lecture, four hours; discussion, one hour; outside study, 10 hours. Traditional and popular musics from many different countries, with introduction to basic ethnomusicological concepts and development of listening and analytical skills. P/NP or letter grading.

20A. Europe and Americas; 20B. Africa and Near East; 20C. Asia.

25. Global Pop. (5) Lecture, four hours; discussion, one hour. Development of world music or world beat, including its meaning and importance to contemporary culture as well as its history and impact. P/NP or letter grading.

30. Music and Media. (5) Lecture, four hours; discussion, one hour. Exploration of ways music is mediated to people by industry, technologies, and corporations. Survey of leading theorists of media and exploration of case studies. P/NP or letter grading.
35. Blues, Society, and American Culture. (5) Lecture, four hours; discussion, one hour. Sociocultural history and musical heritage of African American music tradition from its roots in West Africa to its emergence in African American oral culture, with emphasis on philosophical underpinnings and social and political impact of blues and its influence on development of country, jazz, gospel, rock, rap, hip-hop music, and other mediums. P/NP or letter grading.

40. Music and Religion. (5) Lecture, four hours; discussion, one hour. Survey of nature, role, and power of music in religious rituals around world. Covering music and ritual of Hinduism, Buddhism, Judaism, Christianity, and Islam, as well as religious traditions of Native Americans and syncretic religious practices in Americas such as African American gospel music, Brazilian Candomble, Cuban Santeria, and Haitian Vodou. Letter grading.


Upper Division Courses

105. Music Business. (4) Lecture, four hours; outside study, eight hours. Designed for junior/senior Ethnomusicology majors in public ethnomusicology emphasis. How music industry functions and how products are created, marketed, and consumed. Basic information on production of recordings and legal issues faced by musicians, students, and scholars who use music in their work. P/NP or letter grading.


106B. Contemporary North American Indian Music. (4) Lecture, three hours; discussion, one hour. Contemporary Native North American musical expression, including popular styles (folk, country, rock), intertribal Indian musical genres (powwow), syncretic religious music, and traditional/historic Pan-Indian music. P/NP or letter grading.

107. South American Indian Music. (4) Lecture, four hours; outside study, eight hours. Native South American traditional music and its role in indigenous societies. Topics include relationship between speech and song, cosmology, musical structures, and use of indigenous music in creating nationalist and popular music styles. Letter grading.

108A-108B. Music of Latin America. (4-4) Lecture, four hours; discussion, one hour. Course M108A is not required to traditional and contemporary musical culture. M108A, Mexico, Central America, and the Caribbean Isles. (Same as Chicana and Chicano Studies M108A-J; 108B. Latin South America.

109. Women in Jazz. (4) (Same as Afro-American Studies M109 and Women's Studies M109.) Lecture, four hours; discussion, one hour. Sociocultural history of women in jazz and allied musical traditions from the 1880s to the present. Survey of women vocalists, instrumentalists, composers/arrangers, and producers and their impact on development of jazz. P/NP or letter grading.

110A-110B. African American Musical Heritage. (4) (Formerly numbered M110A-M110B.) (Same as Afro-American Studies CM110A-CM110B.) Lecture, four hours. Concurrently scheduled with courses CM210A-CM210B. P/NP or letter grading. M110A. Sociocultural history and survey of African American music covering Africa and its impact on America; music of the 17th through 19th centuries; minstrelsy and its impact on representation of blacks in film, television, and theater; religious music, including hymns, spirituals, and gospel; black music of Caribbean and Central and South America; and music of black Los Angeles. M110B. Sociocultural history and survey of African American music covering blues, pre-1947 jazz styles, rhythm 'n' blues, soul, funk, disco, hip-hop, and syndromes in between recording industry and effects of cultural politics on black popular music productions.

111. Ellingtonia. (4) (Same as Afro-American Studies M114S.) Lecture, three hours. Study of Duke Ellington, his life, and far-reaching influence on American music. Ellington’s music, known as “Ellingtonia,” is one of the largest and perhaps most important bodies of music ever produced in the U.S. Covers the many contributions of other artists who worked with Ellington, such as composer Billy Strayhorn and musicians Johnny Hodges, Cootie Williams, and Mercer Ellington.

CM112. African American Music in California. (4) (Same as Afro-American Studies CM112A.) Lecture, four hours. Historical and analytical examination of African American music in California, including history, migration patterns, and urbanism to determine their impact on development of African American music in California. Concurrently scheduled with course CM212. P/NP or letter grading.


115. Musical Aesthetics in Los Angeles. (4) (Same as Chicana and Chicano Studies M115.) Lecture, three hours. Historical and analytical examination of musical expression of Latino peoples who have inhabited present geographical boundaries of the U.S.

117. American Popular Music. (4) Lecture, four hours. Historical and analytical examination of musical expression of Latino peoples who have inhabited present geographical boundaries of the U.S.

120A-120B. Development of Jazz. (4-4) Lecture, four hours; discussion, one hour. Introduction to jazz; its historical background and its development in the U.S.

121. Cross-Cultural Perspectives in Jazz. (4) Exploration of assimilation and retention of jazz from the U.S. in various countries, with particular emphasis on cultural and social features which form the basis for new jazz-ethnic music blends.

C122A-C122B-C122C. Jazz Styles and Analysis. (4-4-4) Lecture, four hours; outside study, eight hours. Designed for Ethnomusicology, Music, and Music History majors. In-depth analysis of jazz styles and repertoires intended for students with music backgrounds. Concurrently scheduled with courses C222A-C222B-C222C. Lecture grading.

C122A. Early Jazz to Swing Era; C122B. Bebop to Avant-garde; C122C. Jazz since the Sixties.

123. Music of Bebop. (4) Lecture, three hours. Study of jazz bebop tradition, including analysis of compositions and song forms, style of improvisation, and developments from 1940 to the present.

125A-125B-125C. Jazz Composition and Arranging. (2-2-2) Lecture, two hours; outside study, four hours. Examination of various aspects of jazz composition and arranging. Focus on improvisation and notation, as well as between composition and arranging, and introduction to basic arranging concepts. Letter grading.

125A. Early Jazz to Swing Era; 125B. Bebop to Avant-garde; 125C. Jazz since the Sixties.

126A. Introduction to Jazz Arranging and Orchestration. (2) Seminar, two hours. Requisite: course 129C. Study and practice of skills used in arranging and orchestrating music in jazz idiom. Students create and orchestrate their own arrangements. Study of specific instruments and their unique use and application in jazz (jazz notation and terminology, transposition, windwood doublings, brass mutes, etc.). Writing for smaller ensembles, culminating with arrangements to be read by one UCLA Jazz Combo. Letter grading.

126B. Jazz Arranging and Orchestration. (2) Seminar, two hours. Enforced requisites: courses 125A, 129C. Continuation of concepts from course 125A, with focus on full sectional writing and in-depth score analysis. Coordinates with arrangements to be read by UCLA Jazz Orchestra I. Letter grading.

126C. Advanced Jazz Arranging and Orchestration. (2) Seminar, two hours. Enforced requisites: courses 125A, 125B, 125C. Continuation of concepts from course 126B, with focus on full sectional writing and in-depth score analysis. Coordinates with arrangements to be read by UCLA Jazz Orchestra I. Letter grading.

127A-127B-127C. Jazz Keyboard Harmony I, II, III. (2-2-2) (Formerly numbered 127.) Laboratory, two hours; outside study, four hours. Requisites: courses 11A, 11B, 11C. Course 127A is enforced requisite to 127B, which is enforced requisite to 127C. Not open for credit to students with credit for former course 127. Study of jazz harmony through use of piano keyboard. Letter grading.

129A-129B-129C. Jazz Theory and Improvisation. (2-2-2) Lecture, four hours; outside study, eight hours. Elements of jazz theory and improvisation. Letter grading.

129A. Basic jazz harmonic constructions, as well as melodic, rhythmic, and harmonic concepts, and how to apply those elements to personal efforts in improvisations. 129B. Requisite: course 129A with a grade of C or better. Medium-level jazz harmonic constructions. 129C. Requisite: course 129B with a grade of C or better. Advanced-level jazz harmonic constructions.
M130. Culture of Jazz Aesthetics. (4) (Same as Anthropology M142R and World Arts and Cultures M138B.) Lecture, three hours; laboratory, two hours. Requisite: course 20A or 20B or 20C or Anthropology 9 or 33 or World Arts and Cultures 20. Aesthetics of jazz from point of view of musicians who shaped jazz as art form in the 20th century. Listening to and interacting with professional jazz musicians who answer questions and give musical demonstrations. Analytical resources and historical knowledge of musicians and ethnomusicologists combined with those interested in jazz as cultural tradition. P/NP or letter grading.

M131. Development of Latin Jazz. (4) (Same as Music M131.) Lecture, four hours; discussion, one hour. Survey of historical and stylistic development of musical style referred to today as “Latin jazz.” P/NP or letter grading.

133. European Musics: Politics, Identities, Nationalisms. (5) Lecture, four hours; outside study, 12 hours. Limited to Ethnomusicology, Music, Musicology, Music History, and European Studies majors. European folk, popular, and classical music as practice that shapes ideas about national, ethnic, class, and religious identity and as tool of political domination and resistance.

C136A-C136B. Music of Africa. (4-4) Lecture, four hours; outside study, eight hours. Concurrently scheduled with courses C236A-C236B. Letter grading.

C136A. Introduction to music of Africa through general discussion of select topics such as continent and its peoples, function, musician, instruments, musical structure and related arts, and contemporary music. C136B. Introduction to music of various African cultures through readings, lectures, viewing of films, and analysis of music, students gain greater understanding of diverse musical traditions found on African continent and become more cognizant of contributions that people of Africa have made to world music.

146. Folk Music of South Asia. (4) Lecture, three hours; laboratory, one hour. Illustrated survey of some regional genres, styles, and musical instruments found in India and Pakistan, with special reference to religious, social, economic, and cultural context of their occurrence.

147. Survey of Classical Music in India. (4) Examination of melodic, metric, and formal structures of Indian classical music in context of religious, sociocultural, and historical background of the country.

C150. Music and Politics in East Asia. (4) Lecture, four hours. Limited to Ethnomusicology, Music, Music History, World Arts and Cultures, Chinese, Japanese, Korean, and East Asian Studies majors. Political imperatives have long had a direct and often explicit impact on music and composers in East Asia. Examination of interaction of ideology and musical practice in medieval Korea and in contemporary Korea, Japan, Taiwan, and China. Concurrently scheduled with course C250. Letter grading.


C156A. Lecture, four hours. Requisite: course 20C. Limited to Ethnomusicology majors. Survey of traditional, popular, and Western-influenced musics currently widespread in China, including musical analysis of different genres; examination of contexts in which they exist. Investigation of profound effect of Confucian and Communist ideologies on music. Concurrently scheduled with course C256A. 156B. Lecture, three hours; laboratory, two hours. Requisite: course C156A. Introduction to various notational systems. Analysis of representative styles.


158A-158B-158C. Studies in Chinese Instrumental Music. (4-4-4) Lecture, three hours; laboratory, one hour. 158A. Study of literature, major sources, paleography, and philosophy of the P’ei Fa, including transcription and analysis. 158B. Study of literature, major sources, paleography, theory, and philosophy of the P’ei Fa, including transcription and analysis. 158C. Comprehensive study of Chinese musical instruments, classification system, specific musical notation, and use in context of Chinese society.

C159. Music on China’s Periphery. (4) Lecture, four hours. Outside study designed under the guidance of Ethnomusicology, Music History, and World Arts and Cultures majors. Survey of musics from China’s border regions and neighboring countries in terms of their technical musical characteristics and important contextual issues related to traditional and modern styles from Mongolia, Uighurs of Xinjiang, Tibet, Tibet-Burman peoples, Hmong, and indigenous peoples of Taiwan. Concurrently scheduled with course C259. P/NP or letter grading.


161A-161Z. Advanced World Music Performance Organizations. (2 each) (Formerly numbered 191A-191Z.) Activity, three hours; outside practice, three hours. Limited to Ethnomusicology majors. Advanced study of traditional vocal and instrumental world music. May be repeated for credit without limitation. Letter grading.


162. Advanced Private Instruction in Music. (2) (Formerly numbered 192.) Studio, one hour; outside practice, five hours. Preparation: two years of courses 91A through 91Z or 92. Limited to Ethnomusicology majors. Advanced private or semiprivate music instruction in one or more music instruments, with lessons in ensembles of three to 10 musicians. Minimum of 12 units required for jazz studies concentration students. May be repeated for maximum of 18 units. Letter grading.


180. Analysis of Traditional Music. (4) Lecture, four hours; outside study designed under the guidance of Ethnomusicology and Folklore majors. Intensive study of methods and techniques necessary to understand traditional music. P/NP or letter grading.


182. Music Industry. (4) (Formerly numbered C188.) Lecture, four hours; outside study, eight hours. Limited to Ethnomusicology, Music, and Music History majors. Examination of influence of music industry on world music is created, performed, listened to, evaluated, and used today. Historical approach taken, beginning with music published in the 18th century and continuing through development of audio recordings to MTV and popular music today. Concurrently scheduled with course C288. Letter grading.

183. Study of Ethnomusicology. (4) (Formerly numbered 190.) Lecture, three hours; outside study, nine hours. Requisites: courses 10B, 10C, 20A, 20B, 20C. Designed for Ethnomusicology majors. Introduction to history of field, basic fieldwork and analysis methods, and current issues in research. Letter grading.
186. Senior Recital or Project. (1) Tutorial, to be arranged. Limited to seniors. Preparation and performance of one-hour recital of jazz repertoire or preparation of research project as approved by appropriate faculty. P/NP grading.

188. Special Courses in Ethnomusicology. (4) (Formerly numbered 197.) Lecture, four hours; outside study, eight hours. Selected topics in ethnomusicology. Consult Schedule of Classes for topics and instructors. May be repeated for credit. P/NP or letter grading.

193. Journal Club Seminars: Ethnomusicology. (2) Seminar, two hours; outside study, four hours. Limited to undergraduate students. Reading and discussion of writings on subjects in ethnomusicology. P/NP grading.

195. Community or Corporate Internship in Ethnomusicology. (2 to 4) Tutorial, six to 12 hours. Limited to seniors/junior with minimum cumulative 3.0 grade-point average. Internship in supervised setting in community agency or private business. Students meet on regular basis with instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. P/NP or letter grading.

196. World Music Teaching Practicum. (4) Seminar, two hours; fieldwork, three hours; outside study, seven hours. Limited to junior/senior Ethnomusicology majors. Integration of academic work and hands-on training. Participation in theoretical discussions of world music education and application of these theories in elementary and secondary music and social studies classrooms. P/NP or letter grading.

197E. Individual Studies in Ethnomusicology. (2 to 4) (Formerly numbered 199E.) Tutorial, one hour; outside study, five to 11 hours. Preparation: 3.0 grade-point average. Limited to seniors. Individual intensive study in ethnomusicology, with scheduled meetings to be arranged between faculty member and student. Tangible evidence of mastery of subject matter resulting in final research project required. May be repeated for a maximum of 8 units. Individual contract required. P/NP or letter grading.

197S. Individual Studies in Systematic Musicology. (2 to 4) (Formerly numbered 199S.) Tutorial, one hour; outside study, five to 11 hours. Preparation: 3.0 grade-point average. Limited to seniors. Individual intensive study in systematic musicology, with scheduled meetings to be arranged between faculty member and student. Tangible evidence of mastery of subject matter resulting in final research project required. May be repeated for a maximum of 8 units. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Ethnomusicology. (2 to 4) Tutorial, to be arranged. Limited to juniors/senior Ethnomusicology majors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. May be repeated for maximum of 8 units. Individual contract required. Letter grading.

Graduate Courses

201. History of Ethnomusicology. (4) Seminar, three hours; outside study, nine hours. Limited to graduate ethnomusicology students. Basic literature and schools of thought in field of ethnomusicology from the late 19th century to the 1980s. Letter grading.

202. Current Issues in Ethnomusicology. (4) Seminar, three hours; outside study, nine hours. Limited to graduate ethnomusicology students. Current issues, basic literatures, and schools of thought in field of ethnomusicology from the 1980s to the present. Letter grading.


205. Seminar: Information Technology and Research Skills. (4) Seminar, three hours; laboratory, one hour. Limited to graduate ethnomusicology students. Lecture, demonstration, and practice. Basic skills for research on and about music that is essential to student careers as ethnomusicologists, specifically information technology skills, acoustics, and representational tools for nonlinguistic acoustic phenomena. Basic understanding of ability to represent sounds in various graphic forms appropriate to them, and ability to locate and organize information sources related to field of ethnomusicology. Letter grading.


208. Seminar: Latin American Music. (4) Seminar, three hours. Review of bibliographic, methodological, and philosophical bases of musical research in Latin America, working from both general and specific perspectives. Exploration of research problems and investigations on specific musical cultures and distinct genres of musical expression. CM210A-CM210B. African American Musical Heritage. (4-4) (Same as Afro-American Studies CM210A-CM210B.) Lecture, one hour; discussion, four hours; concurrent participation in Near East performance ensemble (course 91N) required. Letter grading.

210A. African Traditional Musics. (4-4) Lecture, four hours; outside study, eight hours. Comparative study of music of Iran and other related areas, including Turkey, with particular reference to their historical and cultural background, sources on music theory and aesthetics, instruments, style, technique of improvisation, and contemporary practice. Concurrent participation in Near East performance ensemble (course 91N) required.


212. African American Music in California. (4) (Same as Afro-American Studies CM212A.) Lecture, four hours. Historical and analytical examination of African American music in California, including history, migrational patterns and urbanism to determine their impact on development of African American music in California. Concurrently scheduled with course CM112. S/U or letter grading.


230. European Musics: Politics, Identities, Nationalisms. (4) Seminar, three hours; outside study, nine hours. Designed for graduate students. European classical, popular, and traditional musics, with particular attention to way in which music mirrors, negotiates, and contests ideas about and practices of national and other forms of identity, ideas developed in other domains of discourse and practice such as philosophy, history, literature, art, and folklore. Examination of ways musicians, ordinary people, and politicians have used music to affect political processes involved in contesting and resolving tensions created between and among these identity formations. Historical period covered primarily from the 19th and 20th centuries, with examples from all over European continent. Letter grading.

C233A-C233B-C233C. European Traditional and Popular Music. (0-0-4) Discussion, one hour. Review of literature on European traditional and popular music, with special attention to major issues and processes. May be repeated for credit. In Progress (C233A, C233B) and letter (C233C) grading.

C236A-C236B. Music of Africa. (4-4) Lecture, four hours; outside study, eight hours. Concurrently scheduled with courses C136A-C136B. Letter grading.

C236A. Designed for graduate students. Introduction to music of Africa through general discussion of selected topics such as music and politics, the state, function, musician, instruments, musical structure and related arts, and contemporary music. C236B. Introduction to music of various African cultures and regions. Through readings, lectures, viewing of films, and analysis of music, students gain greater understanding of diverse musical traditions found on African continent and become more cognizant of contributions that people of Africa have made to world music. Letter grading.


241. Music of Iran and Other Non-Arabic-Speaking Communities. (4) Lecture, three hours. Requires: course 282 or course in ear training, analysis, and theory. Comparative study of music of Iran and other related areas, including Turkey, with particular reference to their historical and cultural background, sources on music theory and aesthetics, instruments, style, technique of improvisation, and contemporary practice. Concurrent participation in Near East performance ensemble (course 91N) required.

248. Classical Music of India. (4) Lecture, three hours; outside study, nine hours. Requires: course 146 or 147. Study of history and practice of north and south Indian classical music. During first term, emphasis on music history and traditional theory; second term, analysis of present-day forms, style, technique, instrumentation. Concurrent participation in Indian performance group (course 91F) required. S/U or letter grading.
250. Music and Politics in East Asia. (4) Lecture, four hours. Designed for graduate students. Political imperialism and the role of music in promoting or hindering pro- and anti-Western political movements in East Asia. Examination of interaction of ideology and musical practice in medieval Korea and in contemporary Korea, Japan, Taiwan, and China. Concurrently scheduled with course C150. Letter grading.

251. Music of Indonesia. (4) Lecture, three hours; outside study, nine hours. Require: course 20C. During first term, emphasis on music and related performance practice in the musical and performing arts of Bali and other Indonesian islands during second term. Concurrent participation in one Indonesian performance group (course 91B or 91H) required. S/U or letter grading.

252. Seminar: Music of Mainland Southeast Asia. (4) Seminar, three hours. Require: course 20C. Presentation of materials concerning musical performance traditions of Laos, Cambodia, Vietnam, Thailand, and Burma, both in mainland Southeast Asia and in the American context, with perspectives from archaeology, history, performance theory, applied anthropology, and ethnomusicology.

256A. Music in China. (4) Require: course 20C. Limited to musicology majors. Survey of traditional, popular, and Western-influenced musics currently widespread in China, including musical analysis of compositional and performance techniques in which they exist. Investigation of profound effect of Confucian and Communist ideologies on music. Concurrently scheduled with course C156A.

259. Music on China's Periphery. (4) Lecture, four hours; outside study, eight hours. Designed for graduate Ethnomusicology, Music, and Musicology majors. Application of science and technology for both creation and dissemination of music. Introduction to tools and techniques such as CD mastering, digital sampling, recording, and music synthesis, as well as scientific principles underlying such technology. Concurrently scheduled with course C169. Letter grading.

271. Seminar: Acoustics of Music. (6) Seminar, three hours. Require: course 170. Selected topics in acoustics, including laboratory methodologies and practical considerations. Topics include Western and non-Western instruments, tuning systems, psychoacoustics, and methods of spectral analysis. May be repeated once for credit.

273. Seminar: Psychology of Music. (6) Seminar, three hours. Require: course 173. Selected topics in psychology of music, including recent findings in brain research, musical perception, learning, cognition, memory, therapy, affect, meaning, and measurement. May be repeated once for credit.

275. Seminar: Aesthetics of Music. (6) Seminar, three hours. Require: course 176. Specific topics in Western and non-Western aesthetic thought, including value, meaning (semiotics), historical development of theoretical perspectives and critical theory, and interpretation. May be repeated once for credit.

280. Teaching World Music and Music Appreciation. (4) Seminar, three hours. Preparation: two ethnomusicology courses or concurrent enrollment in coursework 20A, 20B, or 20C. Designed for graduate students. May be repeated for credit. S/U or letter grading.

281A-281B. Seminars: Field and Laboratory Methods in Ethnomusicology. (4) Seminar, three hours; laboratory, two hours. Require: courses 20A-20B. Fieldwork concepts and methods using technology, conducting interviews, dealing with ethical issues, and designing research projects.

285. Religion and Music. (4) Seminar, three hours; outside study, nine hours. Cross-cultural examination of role of musical expression as spiritual medium and as artistic expression in world's religions. S/U or letter grading.

286. Charles Seeger's Life and Thought. (4) Seminar, three hours; outside study, nine hours. Charles Seeger's (1886 to 1979) major writings and influence on music and musicology. Phenomena include trance, spirit possession, shamanism, religious ecstasy, mysticism, and artistic inspiration. S/U or letter grading.

287. Modernity and Musical Experience. (4) Seminar, three hours; outside study, 10 hours. Limited to graduate students. Examination of possibilities for subject-centered musical ethnography to account for framing music plays in ecstatic experiences. Consideration of local and “world” musics in relation to modernity, postmodernity, globality, notions of self and subject, power, and media images. Letter grading.

289. Research Design and Grant Writing in Ethnomusicology. (4) Seminar, three hours; outside study, nine hours. Design of original research proposal, locating and applying for dissertation fieldwork grants, organizing and presenting advanced academic proposals with sophisticated methods and professional writing skills. S/U or letter grading.


299. Seminar: Psychology of Music. (6) Seminar, three hours. Require: course 20C. Selected topics in psychology of music, including recent findings in brain research, musical perception, learning, cognition, memory, therapy, affect, meaning, and measurement. May be repeated once for credit.

596. Directed Individual Studies. (2, 4, or 6) Directed for graduate ethnomusicology students. Introduction to new trends and issues in discipline of ethnomusicology in effort to strengthen and stimulate intellectual community within department. Topics vary from term to term and consist of presentations by guest lecturers, faculty members, and students. May be repeated for credit. S/U grading.

495A. Teaching Apprentice Practicum. (2) Eight-week student teaching practicum. Designed for graduate ethnomusicology students. May be repeated for credit.
European Studies
Interdepartmental Program
College of Letters and Science

UCLA
10357 Bunche Hall
Box 951487
Los Angeles, CA 90095-1487
(310) 825-5187
fax: (310) 206-3555
e-mail: idps@international.ucla.edu
http://www.international.ucla.edu/idps/euro/

Muriel C. McClendon, Ph.D., Chair

Faculty Advisory Committee
Kathleen Bawn, Ph.D. (Political Science)
Ivan T. Berend, Ph.D. (History)
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Geoffrey W. Symcox, Ph.D. (History)
Dominic R. Thomas, Ph.D. (Comparative Literature, French and Francophone Studies)

Scope and Objectives

The European Studies major equips students to appreciate the richness of European cultures, societies, and languages that are fundamental to the understanding of modern Europe. The program provides the opportunity to study this region from the vantage points of several disciplines in the humanities and social sciences.

The major aims to break down the traditional distinctions between the eastern and western blocs in light of important internal and global transformations pertaining to cultural, economic, political, and social structures that are happening in Europe today.

Undergraduate Study

European Studies B.A.

The B.A. degree in European Studies is based on four principles: (1) students acquire proficiency in a modern European language other than English, (2) students examine European societies and civilization in depth from a pan-European and regional perspective, in addition to the traditional national focus that language instruction typically provides, (3) they do so from an interdisciplinary point of view, taking courses in at least five different academic departments/programs, and (4) they take lower division courses to acquire a broad introduction to European heritage and upper division courses to study modern Europe in greater detail from the 19th century on.

Admission

Interested students should meet with the academic counselor to discuss the program requirements. To enter the major, students (1) must be in good academic standing (minimum 2.5 grade-point average), (2) have completed the foreign language requirements and six preparation for the major courses, (3) are expected to declare the major no later than the end of their sophomore year, and (4) should apply for the major in the academic counselor's office.

Preparation for the Major

The preparation for the major consists of 24 to 30 units of foreign language, 8 units of humanities and arts courses, and 16 units of social sciences courses as follows:

**Foreign Language (24 to 30 units):** Students prepare for the major by studying one modern European language other than English — the declared foreign language — through the intermediate level. Students must fulfill the specific requirements of their selected language department. The relevant language departments are French and Francophone Studies (French), Germanic Languages (Dutch, German, and Yiddish), Italian, Scandinavian Section (Danish, Finnish, Norwegian, and Swedish), Slavic Languages and Literatures (Czech, Hungarian, Lithuanian, Polish, Romanian, Russian, Serbian/Croatian, and Ukrainian), and Spanish and Portuguese.

In most cases, courses 1, 2, 3, 4, 5, 6, or the equivalent fulfill the requirement. The total number of units may vary according to the selected language. Students should complete the lower division foreign language requirement by the end of their sophomore year. If students wish to study a modern European language not taught in full by any UCLA department, they should consult with the academic counselor about how to fulfill the language requirement.

**Humanities and Arts (8 units):** (1) One course in literature or civilization taught in a language department to be selected from Dutch 100, English 90, Dutch 12, 14, 14W, 41, 60, German 50A, 50B, 56, 58, 59, 60W, 61A through 61D, 62W, Italian 42A, 42B, 46, 50A, 50B, Old Norse Studies 40, Portuguese M35, M42, Romanian 90, Russian 25, 25W, 30, 90A, 90B, 90BW, Scandinavian 50, 50W, Slavic 88, 90, Spanish M35, M42, 60A, 60C, 61A, 62A, or Yiddish 121A; (2) one course from Art History 54, Classics 10, 20, 30, 42, 51A, 51B, Comparative Literature 1A, 1B, 1C, Music History 3, 4, 66, Philosophy 1, 5, 6, or 8.

**Social Sciences (16 units):** (1) Two courses from two different departments selected from Economics 1, 2, 5, Geography 4, Information Studies 10, 20, Political Science 10, 20, 50, Sociology 1, 10, Statistics 10, 12; (2) two courses from one of the following series: History 1A, 1B, and 1C, or 2B, 2C, and 2D, or 3A, 3B, and 3C. Variable topics courses such as History 97C may also be applied toward the history requirement after consultation with the academic counselor.

**Transfer Students**

Transfer applicants to the European Studies major with 90 or more units should complete as many of the following introductory courses as possible prior to admission to UCLA: two years of a modern European foreign language other than English, one language department course in European literature or civilization or one course in a European country's literature or civilization, one course in a humanities and arts department with focus on Europe, two courses from different social sciences departments that must have a distinct methodological or European content, and two European history courses.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

The Major

The major consists of European Studies 101 and 11 additional upper division courses with substantial modern European content in at least five different departments/programs, with no more than four courses in any one department/program, as follows:

**Humanities and Arts (16 units):** (1) One course taught in a modern European language other than English, with instruction and reading assignments in that language, to be selected from Dutch 131, French 109, 114A through 120, German 132, 140A through 148, 152 through 162, Italian 105A, 109B, 109C, 113 through 120, Portuguese 120A, 120B, 121A, 121B, Russian 122, 129, 130B, 130C, 140A through 140D, 150, Spanish 119A through 120A, 122 through 133, Yiddish 131A, or 131B; (2) two courses with a pan-European or regional focus from Art History 110C, M110D, Philosophy 118, Scandinavian 142, 143, C144 through C147, C180, C182, 184, CM186, 187 (one course from the list of courses in item 1 may be applied); (3) one course with either a pan-European or regional focus from item 2 or a national focus selected from Art History 110A, 110B, Dutch 113, English 115B, French 137, German 100C, 102A, 102B, Italian 110, M158, Polish 152B, Russian 120 through 128, Scandinavian 181, or Spanish 151A.

**Social Sciences (16 units):** (1) One modern European history course from History 120A through 120D, 121D, 121E, 121F, 122F, 122B, 123C, 131A, 134B, 134C, or 135C; (2) two courses with a pan-European or regional focus from Economics 181B, Geography 152, 183, Political Science 111C, 127A, 153A, 153B, 156B, Sociology M166 (one course from the list of courses in item 1 may be applied); (3) one course with either a pan-European or regional focus from item 1 or 2 or a national focus selected from History 124C, 125C, 125D, 127C, 127D, 128B, Political Science 128B, 152A, 152B, 152C, 156A.

**Electives (12 units):** One course from any approved humanities course list, one course from...
any approved social sciences course list, and European Studies 191 or 199 under the supervision of a faculty member, or a 195 internship course related to Europe.

Variable topics courses such as History 191C may be applied toward any of the above course requirements when they are relevant for the course category under which they are petitioned.

Study in Europe

The program strongly recommends that students spend at least one term studying in the European country most relevant to their work. Participation in the University of California Education Abroad Program or other study abroad programs is strongly encouraged. Students should consult with their academic advisers about how to optimize the choices of courses offered by the host university.

Double Majors

Through judicious use of electives, students may find it possible to obtain the B.A. degree with two majors (e.g., European Studies and History, European Studies and Spanish). Interested students should consult the undergraduate academic advisers of both departments involved as early as possible in their B.A. program.

European Studies

Upper Division Courses

101. Introduction to European Studies. (4) Seminar, three hours. Designed for European Studies majors. Interdisciplinary seminar that introduces students to central topics, themes, and concepts of European studies, including the individual and the state, cultural life, economic relations, nationalism, and international relations. Letter grading.

191. Variable Topics in European Studies. (4) Formerly numbered 102.) Seminar, three hours. Research seminar on selected topics in European studies. Reading, discussion, and development of culminating paper. May be repeated for credit with topic change. Letter grading.


FAMILY MEDICINE

David Geffen School of Medicine

UCLA

50-071 Center for the Health Sciences

Box 951683

Los Angeles, CA 90095-1683

(310) 825-8234

http://fm.mednet.ucla.edu

Chairs

Patrick T. Dowling, M.D., M.P.H., Chair
Michelle Anne Bholt, M.D., M.P.H., Vice Chair, Clinical Affairs

Directors

Daniel Castro, M.D., Harbor-UCLA
Gregory Dalquist, M.D., Pomona Valley

Thomas Dunlop, M.D., Ventura County
Pamela Davis, M.D., Acting Director, Northridge Hospital
James H. Harra, M.D., Kaiser-Sunset
Denise K.C. Sur, M.D., UCLA-Santa Monica

Scope and Objectives

The Department of Family Medicine seeks to provide all students with a basic introduction to family-centered care in both the inpatient and ambulatory settings. During the basic clerkship, students develop (1) an appreciation of the breadth and scope of family medicine, (2) a basic knowledge in the broad content areas of family medicine, and (3) fundamental clinical skills appropriate to family medicine. The overall goal is to provide students with the opportunity to gain an understanding and appreciation of the central role of the primary care physician in the health care system, and to offer advanced clinical training for those students interested in pursuing careers in family medicine.

Further, the basic curriculum includes an overview of health care issues facing underserved and immigrant populations in urban America, as well as an introduction to health services research in family medicine.

Family medicine faculty members are active both in leadership roles in the doctoring curriculum and in the Primary Care College. All first-year students are assigned to work with a family medicine preceptor once a month on a longitudinal basis for the entire year as part of the clerkship during the first four clinical years, required and elective opportunities exist. All students take a required four-week clerkship in the third year, which is offered at over 10 teaching sites.

For further details on the Department of Family Medicine, see http://fm.mednet.ucla.edu.

Family Medicine

Upper Division Course

199. Directed Research in Family Medicine. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

FILM, TELEVISION, AND DIGITAL MEDIA

School of Theater, Film, and Television

UCLA

103 East Melnitz Building

Box 951622

Los Angeles, CA 90095-1622

(310) 825-5761

e-mail: info@ttf.ucla.edu

http://www.ttf.ucla.edu/dof.cfm

Barbara Boyle, J.D., Chair

Professors

Janet L. Bergstrom, Ph.D.

Barbara Boyle, J.D.

Nicholas K. Browne, Ed.D.

John T. Caldwell, Ph.D.

Gilbert Cates, M.A.

Thomas F. Denove

Teshome H. Gabriel, Ph.D.

Gyulza Gazzdag, M.F.A.

Marina Golovskaya, Ph.D.

A.P. Gonzalez

Stephen D. Mamber, Ph.D.

Kathleen A. McHugh, Ph.D.

Dan F. McLaughlin, B.A.

Chon A. Noriega, Ph.D.

Robert Rosen, M.A.

Dean Delia N. Salvii, Ph.D.

Becky J. Smith, M.A.

Richard Walter, M.A.

Professors Emeriti

William B. Adams, M.A.

Jerzy Antczak, M.A.

John D. Boehm, M.A.

William Froug, B.J.

Hugh M. Grauel, M.A.

Richard C. Hawkins, M.A.

Lewis R. Hunter, M.A.

Walter K. Kingson, Ed.D.

Barbara Marks

Mark McCarty, M.A.

William H. Menger, M.A.

Jorge R. Preloran, B.A.

Darrell E. Ross, M.F.A.

Ruth E. Schwartz, Ph.D.

Vivian Sobchack, Ph.D.

Howard Suber, Ph.D.

Robert Trachinger

Peter Wollen, B.A.

John W. Young, M.A.

Associate Professors

Denise R. Marrn, Ph.D.

William McDonald, M.F.A.

Celia L. Mercer, M.F.A.

Nancy Richardson, M.F.A.

C. Fabian Wagramster, M.F.A.

Assistant Professor

Steven Ricci, Ph.D.

Lecturers

Harold Ackerman, M.A.

Bill J. Barminski

Scott M. Brownlee

Jeffery A. Burke

Rhonda Hammer, Ph.D.

Rory M. Kelly

Lisa D. Kernan

Rob J. King

Eric Marin

Belinda S. Starkie, M.F.A.

Linda Voorhees

Douglas A. Ward

Billy Woodberry

Adjunct Professor

Myrl A. Schreibman, M.F.A.

Adjunct Assistant Professors

Dee Caruso, M.A.

Edward J. Monaghan

Visiting Professors

Peter Guber, LL.M.

Cecelia Hall

Jan-Christopher Horak, Ph.D.

Visiting Associate Professor

Jonathan Kuntz, Ph.D.

Visiting Assistant Professors

Tim T. Albaugh

David M. Blackman

Joshua Brand

Vincent M. Brook

Norman L. Buckley

Paul S. Chitlik

Michael Cofeary
Scope and Objectives
The purpose of the Film, Television, and Digital Media Department is to develop in its students a scholarly, creative, and professional approach to film, television, and digital art forms. The aim of the department is to train graduates who will eventually make original contributions in their chosen field.

The department offers an undergraduate program leading to the Bachelor of Arts in Film and Television and graduate programs leading to the Master of Arts, Master of Fine Arts, and Ph.D. degrees in Film and Television.

Undergraduate Study
Film and Television B.A.
The undergraduate Film and Television major encourages development of a personal vision which incorporates creative, practical, intellectual, and aesthetic values. Within the context of a liberal arts education, the program provides a broad background in the field and in the diversity of film and television practice, including courses in history and theory, critical thinking, animation, screenwriting, and the fundamentals of film, video, and television production.

Students are admitted for Fall Quarter only. Admission is highly competitive, and only a limited number of students can be accepted each year. Prior to entry, students are expected to complete at least 90 quarter units (60 semester units) with a 3.0 grade-point average or better and the general education requirements of the School of Theater, Film, and Television. Applicants are also required to submit two letters of recommendation and a portfolio of original written work consisting of (1) a personal essay, (2) a critical essay on a film or major television program, and (3) a creative writing sample. For more specific information on admission requirements, see http://www.filmtv.ucla.edu/dof.cfm.

Due to curriculum changes, students in the Theater major are no longer allowed to change their major to Film and Television at the end of their sophomore year.

Preparation for the Major
Required: Film and Television 106A, 106B or 106C, 110A, and one theater course (history, literature, or production).

The Major

Students should be mindful of the exigencies inherent in filmmaking and be prepared to meet the additional demands of time and costs. Students are required to perform assignments on each other’s projects. In addition, the department reserves the right to hold for its own purposes examples of any work done in classes and to retain for distribution such examples as may be selected.

Consult the Schedule of Classes for courses limited to majors only.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and web sites of the schools, departments, and programs.

Graduate Degrees
The Department of Film, Television, and Digital Media offers Master of Arts (M.A.), Master of Fine Arts (M.F.A.), and Doctor of Philosophy (Ph.D.) degrees in Film and Television.

Film and Television

Lower Division Courses
M50. Introduction to Visual Culture. (5) (Same as English M50.) Lecture, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: satisfaction of Entry-Level Writing requirement. Study of how visual media, including advertising, still and moving images, and narrative films, influence contemporary aesthetics, politics, and knowledge. P/NP or letter grading.

72. Production Practice in Film, Television, and Digital Media. (2 to 4) Lecture, three hours; laboratory, three hours. Exploration of research, analysis, and conceptualization of dramatic narrative and laboratory experience in one or more various aspects of contemporary production and postproduction practices for entertainment media, including television, film, video, and digital media. May be repeated for maximum of 8 units. Letter grading.

Upper Division Courses
100. Undergraduate Symposium. (1 or 2) Laboratory; three hours. Limited to Film and Television majors. Structured forum in which undergraduate majors meet on a regular basis to discuss curricular issues, meet with faculty, and have exposure to an array of guest speakers from within the film industry. May be repeated for a maximum of 4 units. Letter grading.

101. Story and Style: Theory and Practices of Filmmaking. (5) Lecture, three hours; screenings, three hours. Systematic analysis of how filmmakers use sound and image to tell stories on screen. Viewing of selected films as case studies to understand relationship of theory to practice and to develop skills in critical thinking, analytical writing, and strategies for creating original film and video productions. P/NP or letter grading.

106A. History of the American Motion Picture. (6) Lecture/screenings, eight hours; discussion, one hour. Historical and critical survey, with examples, of American motion picture both as a developing art form and as a medium of mass communication. May be repeated once for credit with consent of department and topic change. Letter grading.

106B. History of the European Motion Picture. (6) Lecture/screenings, eight hours; discussion, one hour. Historical and critical survey, with examples, of European motion picture both as a developing art form and as a medium of mass communication. May be repeated once for credit with consent of department and topic change. Letter grading.


107. Experimental Film. (6) Lecture/screenings, eight hours; discussion, one hour. Study and analysis of unconventional developments in the motion picture.

108. History of Documentary Film. (6) Lecture/screenings, eight hours; discussion, one hour. Historical and critical survey of documentary film technique and examination of techniques of teaching and persuasion used in selected documentary, educational, and propaganda films. Letter grading.

110A. American Television History. (6) Lecture/screenings, eight hours; discussion, one hour. Historical and critical survey of American television from 1940s to present, with examination of interrelationships between forms, industry, social trends, and culture. Letter grading.

110C. World Media Systems. (4) Lecture/viewing, four hours; discussion, one hour. Requisite: course 110A. Designed for juniors/seniors. Global analysis of internal and external broadcasting services, with emphasis on their motives, origins, technologies, and programming. Special attention to political, economic, and regulatory constraints and common world media issues.

1110. Women and Film. (6) Same as Women’s Studies 1110.) Lecture, eight hours; discussion, one hour. Historical and critical approaches to women and cinema that may include authorship, stardom, female genres, and images of women in Hollywood cinema, alternative cinema, and independent cinema from silent era to the present. Letter grading.

112. Film and Social Change. (6) Lecture/screenings, eight hours; discussion, one hour. Development of documentary and dramatic films in relation to and as a force in social development. Letter grading.

113. Film Authors. (6) Lecture/screenings, eight hours; discussion, one hour. In-depth study of a specific film author (director or writer). May be repeated once for credit with consent of department and topic change.

Richard Edwards
Michael H. Friend
Sheila Hanahan-Taylor
Laura A. Karpman, D.M.A.
Kevin J. Messick
Rick Mills
Jackie F. Morie
Paul Naple
Barry Primus
Roger J. Pugliese
Daniel J. Payne, M.F.A.
Keith F. Rouse
Fred A. Rubin
Tom R. Sito
Lawrence B. Tuch
Glenn Vilppu
Kris Young

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Keith F. Rouse
Fred A. Rubin
Tom R. Sito
Lawrence B. Tuch
Glenn Vilppu
Kris Young
113A. Hitchcock and His Influence. (6) Lecture, eight hours; discussion, one hour. Study of films of Al- fred Hitchcock and his influence he has had on other filmmakers. Lectures and screenings of Hitchcock films in first seven weeks, with coverage of films that are closely patterned after Hitchcock’s in last three weeks. P/NP or letter grading.

114. Filmwriting. (6) Lecture/screenings, eight hours; discussion, one hour. Study of a specific film genre (e.g., Western, gangster cycle, musical, silent comedy, social drama). May be repeated once for credit with consent of department and topic change.


116. Film Criticism. (4) Lecture, four hours; labora- tory, to be arranged. Study of and practice in film criti- cism.

C117. Chicanos in Film/Video. (6) (Same as Chica- nos and Contemporary Cultures, C114.) Lecture/screenings, eight hours; discussion, one hour. Examination of representation of Mexican Americans and Chicanos in four Hollywood genres — silent “greaser” films, so- cial problem films, musicals, and the gang film — which are major genres that account for films “about” or “with” Mexican Americans produced between 1908 and 1960. Examination of recent Chicanos-produced films that subvert or “signify” on these Hollywood genres, including Zoot Suit, The Ballad of Gregorio Cortez, and Born in East L.A. Consideration of short- er, more experimental work that critiques the Holly- wood image of Chicanos.


126. Acting for Film and Television. (4) Laboratory, six hours. Projects in acting for television, video, and film. May be repeated for credit.

127. Problems and Ethical Issues in Film and Telecasting. (4) Lecture, three hours; laboratory, eight to 10 hours. Relevant and highly interactive lec- ture/discussion/workshop. Student production teams create multimedia presentations designed to provide meaningful information, raise consciousness, stimu- late discussion, and provoke debate about today’s powerful media messages (i.e., news, advertising, vi- olence, sex, minority representation).

128. Media and Ethnicity. (4) Utilizing the Asian American experience, exploration of impact and uses of media on contemporary American ethnic communi- ties. Role and techniques of media influence besides community utilization and production.

CM129. Contemporary Topics in Theater, Film, and Television. (2) (Same as Theater CM129.) Lect- ture, two hours; screenings, two hours. Limited to jun- ior/seniors majoring in theater/film and television stu- dents. Examination of creative process in theater, film, and television, with consideration of writing, di- rection, production, and performance. Overview of in- dividual and collaborative procedural and com- bination of distinctiveness and interrelations among these arts. Individual units include participation of leading members of theater, film, and television pro- fessions. May be repeated twice for credit. Concur- rently scheduled with course CM229.

C130. Screenwriting Fundamentals. (2) Lecture, one hour. Corequisite for graduate students enrolled in course 431. Not open for credit to students with credit for course 135A. Examination of the screen- fundamentals: structure, character and scene devel- opment, conflict, locale, theme, history of drama. Re- view of authors such as Aristotle, Egri. P/NP or letter grading.

C130B. Screenwriting Fundamentals Workshop. (4) Discussion, three hours. Problems in film and televi- sion writing. P/NP or letter grading.

C130C. In-Depth Introduction to Fundamentals of Screenwriting. (4) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 130A. Structure of analysis of feature films and development of professional screenwriters’ vocabu- lary for constructing, deconstructing, and reconstruct- ing their own work. Screenings of films and selected film sequences in class and by assignment. P/NP or letter grading.

131. Nonfictional Screenwriting for Film and Television. (4 or 8) Discussion, three hours. Re- search and writing of documentary, technical, educa- tional, industrial, and propaganda scripts. May be re- peated for a maximum of 12 units.

C135A-135B-135C. Advanced Screenwriting Work- shops. (8-8-8) Laboratory, three hours. Requisite: course 130B. Course 135A is requisite to 135B, which is requisite to 135C. Courses in film and televi- sion screenwriting. Focus on screenplay development in course 135A, followed by second act in course 135B, and third act in course 135C. Letter grading.

140. Interactive Expression. (4) Lecture, six hours. Introduction to history and practice of interactive me- dia, with emphasis on uniqueness of computer-medi- ated expression. Letter grading.


C143. Moving Digital Image. (4) Lecture, three hours; laboratory, three hours. Investigation of differ- ent ways of creating and manipulating linear moving images (digital video) on desktop computers, explor- ing both creative and theoretical aspects of this pro- duction environment. Students conceive and produce a number of digital image visualizations. Concurrently sched- uled with course C243. Letter grading.

C144. Interactive Multimedia Authoring. (4) Lec- ture, three hours; laboratory, three hours. Introduction to expressive and aesthetic potential of interactive digital media and its theoretical issues. Exploration of methodologies and tools for media integration, inter- face design, and interactive audiovisual construction. Students conceive, produce, and master individual in- teractive multimedia projects. May be repeated once for credit. Concurrently scheduled with course C244. Letter grading.


C147. Planning Independent Feature Production. (4) Lecture, three hours; laboratory, three hours. Pro- cess of writing feature-length script for film and television production, with emphasis on role of producer and creative organizational techniques of producing. Concurrently scheduled with course C247. Letter grading.

C148. Advanced Digital Media Workgroup. (4) Dis- cussion, four hours; laboratory, two hours. Designed for students with previous laboratory course experi- ence. Provides opportunity for students to work on larger scale digital media works with advanced software tools and techniques in small process-oriented, cre- ative workshop environment. May be repeated once for credit. Concurrently scheduled with course C248B. Letter grading.

C149A-C149B. Music in Film: Another Way to Tell Stories. (4-4) Lecture, three hours. Course C149A is requisite to C149B. Exploration and dis- cussion of music and related issues that drive creation and use of music in film. Through lecture/discussion and practical assign- ments, examination of deep collaboration between filmmaker and composer. Viewing of noteworthy exam- ples and following of collaboration of filmmakers with composers, with weekly sessions dedicated to tempi, creation and development of new scores, score visits, and creative/conceptual dialogue be- tween musician and filmmaker. Preparation of film ready for temping by end of first quarter and ready for scoring at beginning of second quarter. Concurrently scheduled with courses C455A-C455B. Letter grading.

150. Cinematography. (4) Lecture, three hours; lab- oratory, three hours. Limited to Film and Television majors. Introduction to image control in motion picture photography through exercises in the use of film, camera, and lens. Supervised projects in pho- tography to complement material covered in lecture.

151. Introduction to Experimental Filmmaking. (4) Lecture, three hours; laboratory, to be arranged. Lim- ited to Film and Television majors. Techniques of im- age manipulation, design, and art direction. Production and completion of an exercise (no longer than three minutes), using 16mm nonsync sound film. May be repeated twice for credit. Letter grading.

152. Film and Television Sound Recording. (4) Lecture, three hours; laboratory, to be arranged. Lim- ited to Film and Television majors. Introduction to prin- ciples and practices of motion picture sound re- cording, including supervised exercises.


154. Film Editing. (4) Lecture, three hours; labora- tory, to be arranged. Limited to Film and Television ma- jors. Introduction to editing and post-production pract- ices. Emphasis on technical and aesthetic aspects of film editing, with practical experience in editing of im- age and synchronous sound. Letter grading.

C154B. Advanced Film Editing. (4) Lecture, three hours; laboratory, one hour. Preparation: submission of rough cut of existing project or proposal to edit work of another director. Requisite: course 154A. Limit- ed to film and television majors in postproduction phase with advanced knowledge of organization and operation of postproduction process. Students may also propose to edit significant scene given to them by instructor. Concurrently scheduled with course C454B. Letter grading.

155. Introduction to Digital Media and Tools. (4) Lecture, six hours; laboratory, to be arranged. Limited to Film and Television majors. Exploration of con- cepts in software and electronic exercises in basic concepts and software of virtual produc- tion environments and digital postproduction tools. Letter grading.

163. Directing the Camera. (4) Workshop, eight hours; lecture, 6 hours. Directed to Film and Television majors. Investi- gation of expressive potential of the image within and beyond the narrative from a directoral perspective. Students work with methodologies which stimu- late visual creativity and positioning the image as the fundamental element of cinematic expression.

164. Directing the Actor. (4) Exercises in analysis of script and character for purpose of directing actors. Emphasis on eliciting best possible performance from the actor. May be repeated twice for credit.
185. Advanced Narrative Television Directing. (4) Laboratory, six hours. Requisites: courses 130B, 185. Limited to Film and Television majors. Supervised exercises in television multicamera direction, with emphasis on creative use of cameras, sound, composition, and communication with those in front of and behind the camera. May be repeated twice for credit.

C158. Creative Location Film Production. (8) Lecture, four hours; discussion, four hours; laboratory, to be arranged. Limited to directing or producer's program students. Problems of location, production, directing, and cinematography in various "real-life" practical locations. Practical application of solving problems and communication within limitations of production experience. Concurrently scheduled with course C468. Letter grading.

C170A. Introduction to Digital Effects. (4) Lecture, three hours; laboratory, to be arranged. Introductory study of digital effects production, with specific focus on motion graphics, compositing, effects processing, and title sequences. Concurrently scheduled with course C470A. Letter grading.

175A-175B. Undergraduate Film Production. (8-4 to 8) Limited to Film and Television majors. 175A. Lecture, four hours; laboratory, eight hours. Writing, preproduction, and production for a short 16mm feature film. 175B. Lecture, three hours; laboratory, eight hours. Completion of postproduction (editing, creation of nonsync sound tracks) for short film begun in course 175A.

176A-176B. Advanced Undergraduate Video Production (8-4 to 8). Discussion, three hours; laboratory, to be arranged. Requisite: course 185. Limited to Film and Television majors. Completion of a video production (no more than 20 minutes), including its writing, production, and editing. Letter grading.

M177. Film and Television Acting Workshop. (2) (Same as Theater M178.) Lecture, four hours. Workshop provides opportunities for students to rehearse, perform, and evaluate scenes. Three different production styles to which performers may need to adjust are (1) full rehearsal with director, (2) single-camera experience, and (3) multiple-camera experience. May be repeated twice for credit. Letter grading.

178. Film and Television Production Laboratory. (2 or 4) Laboratory, to be arranged. Supervised laboratory experience in various aspects of film and television production. May be repeated for a maximum of 12 units, but only 8 units may be applied toward Film and Television major.


181B. Writing for Animation. (4 to 8) Lecture, six hours; laboratory, to be arranged. Requisite: course 181A. Research and practice in creative writing and planning for animated film. May be repeated for a maximum of 16 units.

181C. Animation Workshop. (4 or 8) Lecture, six hours; laboratory, to be arranged. Preparation: storyboard at first class meeting. Requisite: course 181A. Organization and integration of various creative arts used in animation to form a complete study of a selected topic. May be repeated for a maximum of 16 units.

184. Overview of Contemporary Film and Television Industries. (4) Formerly numbered 189.) Lecture, three hours. Examination of evolving economic structures and business practices in contemporary Hollywood film and television industries, with emphasis on operating budgets for networks and their marketing and distribution systems, and their relationship to independent producers, talent, and agencies. Letter grading.

185. Undergraduate Television and Video Production. (8) Laboratory, six hours. Limited to Film and Television majors. Instruction and exercises in basic techniques of television and video production. Letter grading.

186. Introduction to Documentary Video Production. (4) Lecture, three hours; laboratory, three hours; fieldwork, 12 hours. Limited to Film and Television majors. Viewing and discussion of selected documentary and television production experiences. Letter grading. 187A-187B-187C. Producing and Directing Remote Multicamera Production. (4-6-8) Lecture/lab, three hours (as both lab hours to be arranged). Letter grading. 187A. Professionally oriented lecture/laboratory/field workshop course designed to provide disciplined planning, responsible leadership, and organization of remote video shows in historical perspective, with eye toward where industry is heading given changes in technology and continuing (and growing) scrutiny of outside forces such as corporations and FCC. Letter grading.

188K. Visual Effects. (4) Lecture, three hours. Introduction to craft and business of writing for animation for television. Examination of issues of ideation, and targeted at new kinds of audiences that are increasingly younger and more global, as illustrated by Hollywood's new star directors: David Fincher, Steven Soderbergh, Paul Thomas Anderson, Quentin Tarantino, Alexander Payne, Wes Anderson, George Clooney, Sofia Coppola, and others. P/NP or letter grading.

188G. Asian Action Films. (8) Lecture, eight hours; discussion, one hour. Historical, cultural, and critical survey of action film from Hong Kong, Taiwan, Japan, and South Korea. Recent global popularity of East Asian action films created new genre that combines elements of American action film, emphasizing spectacular over narrative, with philosophies and action styles of East Asian cultures that produce these films. Exploration of circulation of national-popular traditions within international contexts. Study of more enduring, exciting subgenres and specific characters, techniques and innovations that have shaped its cinematic production and achieved success beyond Asia, including kung fu and other martial arts films, yakuza or gangster films, and flying swordsman films. How martial art action genre, as well as stars like Bruce Lee, Jackie Chan, and Michelle Yeoh. Examination of issues of industry, and themes and producers/directors such as Shaw Brothers, Seijun Suzuki, Tsui Hark, King Hu, and John Woo. P/NP or letter grading.

188L. Writing for Animation Series. (5) Lecture, three hours. Introduction to writing for animation television. Examination of the history of animation production specifically for this medium, along with its many formats. Business model has changed radically over past five decades, as have types of shows that have been created. Designed to put students historically, with eye toward where industry is heading given changes in technology and continuing (and growing) scrutiny of outside forces such as corporations and FCC. Letter grading.

188D. Film Editing: Overview of History, Technique, and Practice. (4) Lecture, three hours. Practical application of film editing techniques, how they have evolved, and continue to evolve. Examination of history of editing, as well as current editing trends, terminology, and workflow. P/NP or letter grading.

188E. Digital Cinematography. (4) Lecture, three hours. With lectures, screenings, and demonstrations, study of principles of digital cinematography. How tools and techniques affect visual storytelling process. Topics include formats, aspect ratios, cameras, lenses, special effects, internal menu picture manipulation, lighting, composition, coverage, high definition digital exhibition, filtration, multiple-camera shooting. P/NP or letter grading.

188F. Hollywood Now! (8) Lecture, eight hours; discussion, one hour. Hollywood film industry from late 1990s to present. Multifaceted industry with interrelated organizational, technological, demographic, narrative, ideological, and aesthetic foundations, Hollywood is dynamic industry marked by contradictory forces of stability and change, continuity, and innovation. Examination of paradigmatic narratives, genres, styles, and modes of address as they are developed by new generation of filmmakers and targeted at new kinds of audiences that are increasingly younger and more global, as illustrated by Hollywood's new star directors: David Fincher, Steven Soderbergh, Paul Thomas Anderson, Quentin Tarantino, Alexander Payne, Wes Anderson, George Clooney, Sofia Coppola, and others. P/NP or letter grading.
206A. Seminar: European Film History. (6) Seminar, three hours; film screenings, four to six hours. Requisite: course 106B. Designed for graduate students. Special emphasis on French, expressionism, realism, surrealism, neo-realism, New Wave, etc. May be repeated for credit.

206B. Selected Topics in American Film History. (6) Seminar, three hours; film screenings, three hours. Recommended preparation: course 106A or 206C. Advanced critical seminar with focus on specific topics of research and discussion. Letter grading.

206C. Seminar: American Film History. (6) Seminar, three hours; film screenings, four hours. Introduction to the commercial, social, and aesthetic history of the American film. Letter grading.

206D. Seminar: Silent Film. (6) Seminar, three hours; film screenings, two to four hours. Discussion of silent film from its beginning in 1895 to its transition to sound cinema in 1927 to 1930. Film viewings discussed in terms of genre, national cinema, formal development, and directors. Readings on film historical and theoretical issues. Letter grading.

207. Seminar: Experimental Film. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Examination of various film canons, both fictional and nonfictional, and of role of structure in motion picture. S/U or letter grading.

208A. Seminar: Film Structure. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Examination of various film conventions, both fictional and nonfictional, and of role of structure in motion picture. S/U or letter grading.

208B. Seminar: Classical Film Theory. (6) Seminar, three hours; film screenings, four to six hours. Study of principal topics and lines of inquiry that characterize film as art. Letter grading.

208C. Seminar: Contemporary Film Theory. (6) Seminar, three hours; film screenings, four to six hours. Study of film theory and its relation to contemporary culture. Letter grading.

209A. Seminar: Documentary Film. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Nonfictional film and its relation to contemporary culture.

209B. Seminar: Fictional Film. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Film as fiction and its relation to contemporary culture. May be repeated once for credit.

209D. Seminar: Animated Film. (4) Seminar, three hours; laboratory, three hours. Designed for graduate students. Critical study of animated film: its historical development, structure, style, use, and relation to contemporary culture.

210. Seminar: Contemporary Broadcast Media. (4) Seminar, three hours (additional hours as required). Designed for graduate students. Consideration of issues raised by recent developments in television and radio, commercial and public, and associated with technology, media, and social issues. Letter grading.

211A. Seminar: Historyography. (4) Seminar, three hours. Limited to Film and Television M.A. candidates. Beginning examination of function and methods of writing film and television history as seen in works of key historians in the U.S. and Europe.

211B. Seminar: Historiography. (4) Seminar, three hours. Limited to Film and Television Ph.D. candidates. Examination of function and methods of writing film and television history as exemplified by key works in this tradition, with attention to central issues of historical thought on the media.

215. Seminar: Theory and Method. (4) Seminar, three hours. Limited to Film and Television Ph.D. candidates. Examination of major models of theoretical reflection that bear on film and television through study of central texts of such traditions as phenomenology, auteurism, or filmic topic or period in U.S. history. May be repeated once for credit.

217A. Seminar: American Television History. (6) Seminar, three hours; screenings, four hours. Critical survey of U.S. television industry from its inception to present. Examination of programming and changes within industry by consideration of technological, economic, aesthetic, social, and cultural dimensions. Letter grading.

217B. Seminar: Selected Topics in Television History. (6) Seminar, three hours; screenings, three hours. Advanced critical seminar, with focus on specific topic or area (historical period, industry, programming, genre, or social formation) in domestic or international television. Letter grading.

218. Seminar: Culture, Media, and Society. (6) Seminar, three hours; screenings, four to six hours. Advanced critical seminar, with focus on specific topic or area (historical period, industry, programming, genre, or social formation) in domestic or international television. Letter grading.

221. Seminar: Film Authors. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Study of works of film authors with consideration of representation and representation of politics through metaphors of (1) difference without opposition, (2) heterogeneity without hierarchy, and/or (3) otherness without ethnic centerism. Examination of otherness in cultural minorities, and Third World peoples have been rendered others; place of cinematic apparatus in this process and how academization of others is positioned vis-a-vis mainstream critical discourse. Letter grading.

229. Seminar: Film and Society. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Study of ways film affects and is affected by social behaviors, belief, and value systems; considered in relation to role of media in society. May be repeated once for credit.

229A. Seminar: Media Industries and Cultures of Production. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Examination and study of research methods, techniques, and resources related to film and television research, including development of computer skills for preparation of bibliographies, on-line database searching and retrieval and, when appropriate, use of computer/videoediting technology for research.

232. Seminar: Media Industries and Cultures of Production. (6) Seminar, three hours; film screenings, four to six hours. Advanced critical seminar, with focus on specific topic or period in U.S. history. May be repeated twice for credit. S/U or letter grading.

224. Computer Applications for Film Study. (4) Seminar, three hours; film screenings, two hours. Aesthetic, psychological, biological, and phenomenological approaches to vision as they relate to ways in which viewers experience and “see” film, television, and digital media. Letter grading.

225. Seminar: Film and Television. (6) Seminar, three hours; screenings, four to six hours. Designed for graduate students. Study of ways television forms affect and are affected by social behavior, belief, and value systems; study of technological and economic aspects of the medium. May be repeated once for credit.

227. Seminar: Film Genres. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Study of patterns, styles, and themes of such genres as the Western, gangster, war, science fiction, comedy, etc. May be repeated twice for credit.

228. Seminar: Film Perception. (4) Seminar, three hours; film screenings, two hours. Aesthetic, psychological, biological, and phenomenological approaches to vision as they relate to ways in which viewers experience and “see” film, television, and digital media. Letter grading.

229. Seminar: Film and Television. (6) Seminar, three hours; screenings, four to six hours. Designed for graduate students. Study of creative process in theater, film, and television, with consideration of writing, directing, production, and performance. Overview of individual contributions in the collaborative effort; examination of distinctiveness and interrelations among these aspects. Individual contract units include participation of leading members of theater, film, and television professions. May be repeated twice for credit. Concurrentlly scheduled with course CM129.

243. Moving Digital Image. (4) Lecture, three hours; laboratory, three hours. Investigation of different ways of creating and manipulating linear moving images (digital video) on desktop computers, exploring both creative and theoretical aspects of this production environment. Students conceive and produce a number of short projects. Concurrently scheduled with course C143. Letter grading.

244. Interactive Multimedia Authoring. (4) Lecture, three hours; laboratory, three hours. Introduction to expressive and aesthetic potential of interactive digital media and its theoretical issues. Exploration of methodologies and tools for media integration, interface design, and interactive audiovisual construction. Students conceive, produce, and master individual interactive multimedia projects. May be repeated once for credit. Concurrently scheduled with course C144. Letter grading.


246. Issues in Electronic Culture. (6) Discussion, three hours; laboratory, three hours. Critical studies seminar with major hands-on laboratory component that explores impact of new digital technologies on contemporary culture and aesthetics. Students do laboratory projects using visualization, image manipulation tools, and Internet authoring tools.

247. Planning Independent Feature Production. (4) (Formerly numbered 247.) Lecture, three hours. Analysis of procedure, problems, and budgets in planning feature-length script for film and television production, with emphasis on role of producer and creative organizational techniques of producing. Concurrently scheduled with course C147. Letter grading.

248. Advanced Digital Media Workgroup. (4) Discussion, four hours; laboratory, two hours. Designed for students who have completed introductory course C19D. Experience, course provides opportunity to create large-scale digital media works with advanced software tools and techniques in small process-oriented, creative workshop environment. May be repeated once for credit. Concurrently scheduled with course C148. Letter grading.

249. Digital Revolution. (4) Lecture, four hours; discussion, one hour; laboratory, one hour. Comprehensive survey to introduce students to emerging digital technologies, resulting new media, and their artistic, economic, and social implications. Topics include digital editing, digital previsualization, multimedia, World Wide Web, interactive television, and virtual reality.

268. Seminar: Short Film. (4) Seminar, two hours; discussion, two hours. Designed for graduate students. Study of problems presented by conceptualization of form and structure of the short film, with classical and student examples.

270. Seminar: Film Criticism. (6) Seminar, three hours; film screenings, four to six hours. Designed for graduate students. Study of key aesthetic questions of analysis and evaluation to central works of motion picture criticism. May be repeated once for credit.

271. Seminar: Television Criticism. (6) Seminar, four hours; screening, three hours. Designed for graduate students. Analysis of major forms of television production and criticism it has elicited. May be repeated once for credit. S/U or letter grading.

273. Seminar: Contemporary Film and Television Criticism. (6) Seminar, three hours; film and television screenings, four to six hours. Limited to Film and Television Ph.D. students. Examination of critical and theoretical roles of analytic and critical response, with emphasis on contemporary film and television. S/U or letter grading.

274. Seminar: Research Design. (4) Seminar, three hours. Designed for second-year Film and Television Ph.D. students. Examination of general principles that govern formulation of major research projects and preparation of a prospectus for Ph.D. dissertation.

276. Seminar: Non-Western Films. (4) Seminar, three hours (additional). Designed for graduate students. Study of aesthetic and ideological impulses of selected films from Asia, Africa, and Latin America.


278A. Introduction to Art and Business of Producing I. (4) Seminar, three hours. Introduction for first-year producers program students to producer’s role in navigating unique dynamic between art and commerce, entertainment industry. Overview of development, production, and distribution of feature films for worldwide theatrical market including identifying material, attracting elements, and understanding basics of studio and independent financing and distribution. S/U or letter grading.

278B. Introduction to Art and Business of Producing II. (4) Seminar, three hours. Requisite: course 278A. Builds on principles taught in course 278A and presents more continuous study of development, production, and distribution of feature films for worldwide theatrical market, including identifying material, attracting talent elements, and understanding basics of studio and independent financing and distribution. Minimum of two unproduced screenplays to be presented for review by class and instructor to begin identifying potential thesis projects. S/U or letter grading.

279. Introduction to Art and Business of Producing III. (4) Seminar, three hours. Requisites: courses 278A, 278B. Builds on principles taught in courses 278A and 278B. Presentation of screenplays prepared in course 278B and review by class and instructor with goal of isolating and identifying primary and secondary thesis projects. Discussions of script analysis and creating set of viable development notes for primary project. Examine guidelines for effective one-line for original projects and pitching of primary projects to panel of industry executives for further feedback. S/U or letter grading.

288A-288B-288C. Feature Film Development I, II, III. (4-4-4) Lecture, three hours. Course 288A is required to 288B, which is requisite to 288C. Practical hands-on approach to understanding and implementing producer’s role in development of feature film screenplay and negotiating particulars of production process. Through in-class discussions, script analysis, story notes, and select guest speakers, exposure to various entities that comprise feature film development process. S/U or letter grading. 288A. Basic introduction to story and exploration of proper technique for evaluating screenplays through writing of coverage. 288B. Deeper evaluation of screenplay through writing of story notes. 288C. Study development and art of pitching. Script evaluation and work in groups of two to build three-act structure and create compelling characters for original ideas pitched in class.

289A. Current Business Practices in Film and Television. (4) Discussion, three hours. Requisite: course C247. Designed for graduate students. Examination of current independent production distribution agreements, union agreements, music, copyright, etc., necessary to understand film and television industry. S/U or letter grading.

289B. Strategy. (4) Lecture, three hours. Course 289A is not requisite to 289B. Examination of business realities of industry, with focus on techniques for analyzing behavior, making strategic decisions, and overcoming obstacles to achieving results as producer, writer, or director. Assignments designed to assist students in articulating and achieving their goals and to help them effectively transition from classroom to their careers in entertainment industry. S/U or letter grading.


290D. Research and Development I. (4) Seminar, three hours. Forum for roundtable strategy sessions and mock story meetings with instructor, students, and various industry guests. Development of one story idea for thesis project. S/U or letter grading.

290E. Research and Development II. (4) Seminar, three hours. Forum for sessions and mock story meetings. Students must make concrete weekly progress on thesis project and adopt strategy based on feedback received. Development of marketing and business strategies for story idea set up in course 290A. S/U or letter grading.

290F. Research and Development III. (4) Seminar, three hours. Final stages of thesis preparation for evaluation. Guidance provided by instructor on how to effectively present selected project. Requirements include industry-related book reports, script analysis, "pitching" selected concept, weekly research to understand marketplace, accumulation and updating of data, and justification for potential “buyers” comprised of industry professionals. S/U or letter grading.

291A. Studios versus Independents: Navigation Process. (4) Lecture, three hours. Tools necessary for producer to navigate Hollywood entertainment industry. Topics discussed through lectures and guest speakers include impact of difficulty to navigate relationship between art and commerce in craft of filmmaking, rapid advance of new technologies, diverse new means of building finance capital for emerging producing entities, and what future may hold for truly independent filmmaker. S/U or letter grading.

291B. Feature Film Marketing. (4) Lecture, three hours. For students who have completed course 291A. Examination of industry professionals. S/U or letter grading.

291C. Feature Film Distribution and Exhibition. (4) Lecture, three hours. Course 291B is not requisite to 291C. Investigation of philosophy, structure, and major players that make up entertainment industry, with emphasis on film distribution and exhibition. Through lectures, readings, and guest speakers, exploration of interrelated arenas of production, marketing, business affairs, media, and impact of international market on distribution and exhibition of studio releases. S/U or letter grading.

292A. Overview of Network Television Management. (4) Lecture, three hours. Designed to expand basic understanding of network and cable television business/corporation of network, cable operators, execu- tives from networks and production companies, pack- aging agents, and studio responsible for developing and creating programming. S/U or letter grading.
292B. Who Produces Television? Showrunner, Nonwriting Producer, Network Executive, Studio Executive. (4) Lecture, three hours. Course 292A is not requisite to 292B. In-depth look at role that key individuals play in getting television shows on air. Discussion of readings, lectures, and distinguished guests from each area of television industry: networks, studios, agencies, and production companies. S/U or letter grading.

292C. Running Shows: Producing for Broadcast and Cable. (4) Lecture, three hours. Course 292B is not requisite to 292C. Exploration of role of writers-producers or showrunners in creating television shows. Designed to train writers who typically enter field as staff writers and to develop concrete tools of producers. Training of next generation of nonwriting network and studio development executives whose job it is to assist writers-producers in highly collaborative process of creating, developing, producing, and scheduling television programming. S/U or letter grading.

293. Seminar: Film and Television Curatorship. (4) Seminar, three hours (additional hours as required). Designed for graduate students. Study and practice of issues in archival research and administration.

294A. Contracts and Negotiation. (4) Lecture, three hours. Survey of range of contracts involved in studio productions, including labor, distribution, and option agreements, artist employment, director employment, writer collaboration agreements, coproduction agreements, music rights license, etc. Actual studio agreements referenced to illuminate potential consequences of each transaction. Negotiation strategy exercises. S/U or letter grading.

294B. Entertainment Law, Business Practices, and Negotiation Strategies. (4) Lecture, three hours. Course 294A is not requisite to 294B. In-depth analysis of structure, economics, and legal aspects of entertainment industry, with emphasis on television and film. Topics include intellectual property and proprietary rights, project development and production, talent, guilds, distribution and financing, ancillary rights, and music rights. Advanced negotiation strategy exercises. S/U or letter grading.

294C. International Financing and Distribution. (4) Lecture, three hours. Course 294B is not requisite to 294A. Legal-based course dealing with independent finance and distribution of feature films. Topics include fundamentals of film financing, domestic distribution, international distribution, European coproductions, role of foreign sales agents and of bankers and completion bond companies. S/U or letter grading.

295A. Art of Presentation. (4) Lecture, three hours. Cultivation of skills needed for students to present themselves and their project goals with clarity and precision to industry professionals. Oral presentations designed to enhance student ability to deliver convincing arguments on range of topics. S/U or letter grading.

295B. Advanced Film and Television Producing Workshop for Producers, Writers, and Directors. (4) Lecture, three hours. Course 295A is not requisite to 295B. Designed to help producers, as well as screenwriters and directors, focus on networking opportunities and to develop strategies to bring their feature and television projects to marketplace. Case study documents (drafts of screenplays, dailies, etc.) from current or recently produced projects provided. S/U or letter grading.

295C. Advanced Producing: Role of Successful Producers. (4) Lecture. Designed to provide producers with comprehensive understanding of business acumen involved in purchasing scripts for studios and independent production companies. Through in-class and off-class discussions, students encouraged to examine not just story elements, but marketing assets inherent in pieces of material. S/U or letter grading.

296A. Role of Talent Agencies. (4) Lecture, three hours. Introductory overview of various departments at agencies, including motion picture literary, talent, story, packaging, and television, and examination of various interactions among each. Exercises encourage producers, writers, and directors to learn how to work effectively with individuals at talent agencies. S/U or letter grading.

296B. Who Represents Me? (4) Lecture, three hours. Course 296A is not requisite to 296B. In-depth analysis of different forms of representation offered by agents, managers, business managers, and lawyers and detail of legal rights and responsibilities of each. Exercises require students to represent rights holders in series of potential projects. S/U or letter grading.

297A-297B-297C. New Media Marketing I, II, III. (4-4-4) Seminar, three hours. Course 297A is requisite to 297B, which is requisite to 297C. Overview of changing world of storytelling through development of new technologies and new media. Development of short teaser/trailer or website using digital resources (digital cameras, editing, and new media effects) to promote student feature or television thesis project. S/U or letter grading.

298A-298B. Special Studies in Film and Television. (2 to 4 each) Lecture/discussion. Designed for graduate students. Seminar on problems of film and television, organized on topic basis. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for course at the University. May be repeated once for credit.

400. Film Image Design Laboratory. (4) Lecture, two hours; laboratory, six hours. Limited to graduate and television students. Conception and design of nonnarrative film imagery. One-minute experiments in the relation of meaning to technique, including manipulation of optics, photography, elements of electronic processes, and display of time and motion. May be repeated once for credit.

401. Film Analysis for Filmmakers. (4) Lecture/ screenings, five hours. Limited to graduate film and television students. Drawing heavily from array of historical examples, examination of many expressive strategies useable in creation of moving image art forms. Unifying theory and practice, presentation of approach to viewing great films of past that empower filmmakers to make and imagine to origi nal stories in present. Focus on strategic decision making in areas of writing, design, cinematography, editing, sound, and performance to enable filmmakers to discover their own personal style for telling stories on screen. Letter grading.

402A-402B. Advanced Narrative Directing Workshops. (4 or 8-8) Limited to nine graduate film and television students. Production of a 10- to 15-minute fiction film or project. Letter grading. 402A. Laboratory, six to 12 hours; fieldwork, to be arranged. Requisites: courses 405, 409, 410A, 410B, 410C, 433. Students budget and preproduce their projects by end of first term. 402B. Laboratory, 12 hours; fieldwork, to be arranged. Requisite: course 402A. In second term students must complete photography on location and/ or in studio.


403A-403B. Advanced Documentary Workshops. (4 to 8 each) Lecture/discussion/laboratory, 16 to 24 hours; fieldwork, to be arranged. Requisites: courses 405, 409, 410A, 410B, 410C. 433. Limited to 10 students per section. Production of a 20-minute abstract or experimental film, video, or multimedia project. Students plan, design, and shoot their projects in first term and work as crew for each other in rotating assignments. In second term students must complete postproduction of their projects.

404A-404B. Advanced Abstract/Experimental Media Workshops. (8-8) Lecture/discussion/laboratory, 12 hours; fieldwork, to be arranged. Requisites: courses 404A, 404B. Completion of all stages of production and postproduction on projects started in courses 404A and 404B. Letter grading.

405. Television Production Workshop. (8) Laboratory, eight hours; other, to be arranged. Limited to graduate film and television students. Basics of television production and direction, focusing on studio multiple-camera camera with minimal use of remote camera. Use of various formats of video production, including scripted and nonscripted projects, culminating in a narrative three-camera project.

406. Experimental Video Workshop. (4) Laboratory, six hours; other, to be arranged. Limited to graduate film and television students. Introduction to independent and experimental video with examination of impact of new video technologies in television, covering concepts of video art, new television, digital video, high-definition TV, and film and tape postproduction.

407. Video Documentary Workshop. (8) Laboratory, 12 hours. Limited to graduate film and television students. Exploration of documentary video, including screening a variety of international works and producing a short documentary project using single-camera field production techniques.

408A-408B. Video Editing. (4-4) Discussion, four hours; laboratory, to be arranged. Limited to graduate film and television students. Individual instruction in electronic editing. 408A. Online Editing; 408B. Offline Editing.

409. Directing the Actor for the Camera Workshop. (4) Workshop, six hours; laboratory, to be arranged; laboratory preparation, two to four hours. Limited to M.F.A. production program students. Team-taught with five weeks designed to give the director actor/camera techniques, and five weeks to offer basic strategies to elicit good performances from actors. Emphasis on problems faced when directing actors for film.

410A. Symposium. (2) Seminar, three hours. Limited to and required of first-year M.F.A. production program students. Exploration of principal concepts of film and television production within context of preproduction, production, and postproduction, providing forum for synthesis of knowledge gained in various first-year technical craft courses. Exploration of strategies for learning production within academic environment. May be repeated for credit. Letter grading.

410B. Cinematography. (2) Seminar, three hours. Limited to and required of first-year M.F.A. production program students. Production workshop designed to give hands-on experience in all aspects of film production (camera and cinematography) and five weeks to offer basic strategies to elicit good performances from actors. Each student writes/directs/edits six-minute film. May be repeated for credit. Letter grading.

410C. Postproduction. (2) Seminar, three hours. Limited to and required of first-year M.F.A. production program students. Production workshop designed to give hands-on experience in all aspects of film production (tools and practices of medium) as each student writes/directs/edits six-minute film. May be repeated for credit. Letter grading.
423B. Advanced Direction of Actors for Film and Television. (4) Studio workshop, six hours. Requir- site: course 423A. Limited to graduate film and television students. Advanced study and practice of directing actors before a camera. Emphasis on developing techniques to immediately enhance communication between director and actor on the set in order to maintain fluidity from shot to shot.

431. Introduction to Film and Television Screenwriting. (4) Lecture, three hours. Limited to graduate film and television students. Introductory course in writing for film and television screenplays and, writing of a six-minute dramatic film script to be produced in courses 410A, 410B, 410C. Letter grading.

433. Writing the Short Screenplay. (4) Lecture, three hours. Limited to and required of first-year M.F.A. production program students. Conception, development, and writing of a six-minute dramatic film script to be produced in courses 410A, 410B, 410C. Letter grading.


435. Advanced Writing for Short Film and Television Screenplays. (4) Discussion, three hours. Req- uisite: course 410C. Limited to graduate film and television students. Advanced study in courses of drama, and writing of dramatic film script to be produced as an advanced or thesis project. Letter grading.

437. Nontheatrical Writing for Film and Television. (4) Discussion, three hours. Limited to graduate film and television students. Principles and practices of solving problems, in the field of documentary and special feature programs, with emphasis on research and preproduction. May be repeated for a maximum of 16 units.


452A. Film and Television Sound Recording. (4) Lecture, three hours; laboratory, four hours. Limited to graduate film and television students. Principles and practices of film and television sound recording, including supervised exercises.

452B. Music Recording Workshop. (4) Lecture, four hours; laboratory, eight hours. Supervised exercises in music recording techniques, with emphasis on special requirements for motion pictures and television.

452C. Film and Television Sound Rerecording. (4) Lecture, three hours; laboratory, three hours. Limited to graduate film and television students. Recording of soundtracks for television programs including 16mm and 35mm film soundtracks to single stripe or three stripe magnet- ic film. Overview of prepping tracks for final mix. Fundamentals of Automatic Dialogue Replacement and Foley Rerecording and video/audio postprodu- ction of unsynchronized media: emphasis on multitrack and nonlinear disk-based recording and editing systems. Includes all track building approaches, from production sound electronic editing, Automatic Dia- logue Replacement, Foley, backgrounds, hard FX and MX through final mix. Techniques of combining sprocketed and unsynchronized media in postprod- uction.

453. Postproduction Sound Design. (2 to 4) (Formerly numbered 298A.) Lecture, three hours. De- signed to give film students insight into world of post- production sound and to provide knowledge and tools necessary to complete postwork on their projects. Ex- ploration of all areas of postproduction sound design from editing to final mixing. How to effectively use sound design to conception, developing capability of films, evaluate music choices, pick composer, music edit, create sound design to enhance story points, discover design opportunities, and select right sound effects. How to edit dialogue, pre for Automatic Dia- logue Replacement and Foley sessions, and super- vise final sound mix. Screening of numerous film clips to provide examples of postsound choices that demonstra- te effective use of sound design, S/U or letter grading.

454A. Advanced Film Editing. (4) Lecture, three hours; laboratory, to be arranged. Preparation: sub- mission of rough cut and/or copy of screenplay. Limited to film and television students. Advanced project work in postproduction phase of thesis or ad- vanced project. Organization and operation of post- production process. Letter grading.

454B. Advanced Film Editing. (4) Formerly num- bered 454B.) Lecture, three hours; laboratory, one hour. Preparation: submission of rough cut of existing project or proposal to edit work of another director. Requisite: courses 414, 415, and work majors in postproduction phase with advanced knowl- edge of organization and operation of postproduction process. Students may also propose to edit signifi- cant scene given to them by instructor. Concurrently scheduled with course C154B. Letter grading.

C455A-C455B. Music in Film: Another Way to Tell Stories. (4-4) Lecture, three hours. Course C455A is requisite to C455B. Exploration of concepts and issues that drive creation and use of music in film. Through lecture/discussion and practical assign- ments, examination of deep collaboration between filmmaker and composer. Viewing of noteworthy ex- amples and following of filmmakers with composers, with weekly sessions dedicated to temping, creation and development of new scores, studio visits, and creative/conceptual dialogue be- tween filmmaker and composer. Preparation of film ready for temping by end of first quarter and ready for scoring at beginning of second quarter. Concurrently scheduled with courses C149A-C149B. Letter grad- ing.

459A-459B. Directing for Film and Television. (4- 4) Lecture, three hours. Limited to graduate film and television students. Analysis and exploration, with specific scenes, of differences and many similarities in directorial approach to same literary material in theater, film, and television.

464A-464B. Advanced Film Directing. (8-8) Hours to be arranged. Limited to graduate film and television students. Special problems in direction of fictional and documentary films.

465. Narrative Television Workshop. (8) Labora- tory, eight hours. Supervised exercises in television multicamera direction, with emphasis on creative use of composition and sound, and communication with those in front of and behind the camera. Letter grad- ing.

466A-466B. Advanced Professional Video Work- shops. (8-8) Lecture, three hours; laboratory, to be arranged (requisites: courses 415, 416, 410B, 410C, 423A. Limited to graduate film and television students. Hands-on problems in working with various intermediates disciplines in a professional production experience, including interaction with students of de- sign and acting from Department of Theater.

C468. Creative Location Film Production. (8) (For- merly numbered 48B.) Lecture, four hours; discussion, four hours; laboratory, to be arranged. Limited to directing or producer’s program students. Problems of location, production, directing, and cinematography in various ‘real-life’ practical locations. Practical applica- tion of solving problems and communication within limitations of production experience. Concurrently scheduled with course C168. Letter grading.

C470A. Introduction to Digital Effects. (4) Lecture, three hours; laboratory, to be arranged. Introductory study of digital effects production, with specific focus on motion graphics, compositing, effects processing, and title sequences. Concurrently scheduled with course C170A. Letter grading.

472. Commercials. (4) Lecture, four hours. Limited to M.F.A. students. Designed to give students oppor- tunity to explore one very specific kind of filmmaking. Through exploration of advertising, students gain knowledge about what kind of work is salable in American and foreign markets and how to work with distinct confines of commercial genre. Letter grading.
480. Timing for Animation. (4) Lecture, three hours; laboratory, three hours. Process of animation timing through lectures and assignments. Letter grading.

482A-482B. Advanced Animation Workshops. (4 or 8 each) Lecture, three hours; laboratory, to be arranged. Requisites: courses 181A, 181B, 181C. Advanced organization and integration of various creative arts used in animation, resulting in production of a complete animated film. May be repeated for a maximum of 16 units.

483A-483B-483C. Advanced Computer Animation. (4 to 8 each) Lecture, four hours; laboratory, four hours. Requisites: courses 181A, 181C, 482A. Recommended: course 181B. Course 483A is requisite to 483B, which is requisite to 483C. Creation and production of a complete and original advanced computer animated film. Letter grading.

484A-484B. Visual Thinking and Organization for Animation. (4-4) Lecture, six hours; laboratory, four hours. Course 484A is requisite to 484B. Systematic approach to analyzing and communicating two-dimensional and three-dimensional form and applying traditional compositional approaches to animation. May be repeated for a maximum of 16 units. Letter grading.

485. Legal Issues in Animation. (4) Lecture, three hours; laboratory, three hours. Examination of legal issues in animation, including copyright, contracts, constitutional issues in animation, competing rights, employer/employee relationships, and representation in animation. S/U or letter grading.

486. Directed Individual Study: Preparation to Advance to Candidacy for M.F.A. in Production. (2 to 4) Preparation for thesis production, four to eight hours. Limited to M.F.A. production program students. Specialized development and organization of proposed thesis project prior to advancement to candidacy. Should be taken before student plans to advance to candidacy.

487. Directed Individual Study: Postproduction Laboratory. (4) Laboratory, eight hours. Limited to M.F.A. production program students. Completion of projects in final stages of postproduction. May not be repeated.

488A. Interactive Animation. (4 to 8) Lecture, six hours; laboratory, to be arranged. Requisites: courses 181A, 181C, 482A. Organization and integration of various creative arts used in animation and interactive media to form complete study of a selective interactive animation project. May be repeated for a maximum of 16 units.

488B. Advanced Interactive Animation. (4 to 8) Lecture, six hours; laboratory, to be arranged. Requisite: course 488A. Organization and integration of various creative arts used in animation and interactive animation to form complete project of a selected interactive topic. May be repeated for a maximum of 16 units.

489A. Computer Animation in Film and Video. (4 to 8) Lecture, six hours; laboratory, four to eight hours; hours may be arranged. Preparation: completed animated film. Requisites: courses 181A, 181C. Instruction in and supervised production of computer animation. May be repeated for a maximum of 16 units. Letter grading.

489B. Production in Computer Animation. (4 to 8) Lecture, six hours; laboratory, four to eight hours. Requisite: course 489A. Instruction in creation, preparation, and production of a complete and original computer animation film or tape. May be repeated for a maximum of 16 units.

495A. Practice of Teaching Film and Television. (2) Seminar, three hours. Required of all teaching assistants and associates in critical studies program. Orientation and preparation of graduate students who have responsibility to assist in teaching undergraduate courses in department; discussion of problems common to teaching experience. S/U grading.

495B. Teaching with Technology in Film and Media Studies. (2) Seminar, three hours. How to use appropriate technology to become more effective teaching assistants. Pedagogical impact of tools, including course management software, presentation technologies, and Internet. Discussion of technological resources available on campus. Use of unfamiliar tools to gain confidence in ability to incorporate new technologies in teaching. S/U grading.

496. Practice of Teaching Film and Television. (2) Discussion. Required once of all teaching assistants and associates in department. Orientation and preparation of graduate students who have responsibility to assist in teaching undergraduate courses in department; discussion of problems common to teaching experience. May not be applied toward M.A., M.F.A., or Ph.D. May be repeated. S/U grading.

498. Professional Internship in Film and Television. (4, 8, or 12) Part-time or full-time at a studio or on a professional project. Designed for M.F.A. program advanced students. Internship at various film, television, or theater facilities acquainting creative contribution, organization, and work of professionals in their various specialties. Given only when projects can be scheduled.

501. Cooperative Program. (2 to 8) Preparation: consent of graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

506. Directed Individual Studies: Research. (2 to 12) Hours to be arranged. Limited to graduate students. May be repeated with consent of instructor.

509. Directed Individual Studies: Writing. (2 to 12) Hours to be arranged. Limited to graduate students. May be repeated with consent of instructor.

594A. Directed Individual Studies: Design. (2 to 12) Hours to be arranged. Limited to graduate students. May be repeated with consent of instructor.

594B. Directed Individual Studies: Acting. (2 to 12) Hours to be arranged. Limited to graduate students. May be repeated with consent of instructor.

595A. Directed Individual Studies: Technical Writing. (2 to 12) Hours to be arranged. Limited to graduate students. May be repeated with consent of instructor.

596A. Directed Individual Studies: Directing. (2 to 12) Hours to be arranged. Limited to graduate students. May be repeated with consent of instructor.

596B. Directed Individual Studies: Writing. (2 to 12) Hours to be arranged. Limited to graduate students. May be repeated with consent of instructor.}

Foreign Literature in Translation

Scope and Objectives

The following courses offered in the departments of language and literature do not require reading knowledge of any foreign language.

Foreign Literature in Translation

Course List

African (Germanic Languages)

40. From Oppressed to Oppressor and Beyond: Literature in Afrikaans from Prepartheid to Postapartheid Era in English Translation

Arabic (Near Eastern Languages)

150A-150B-150C. Survey of Ancient Near Eastern Literatures in English

Armenian (Near Eastern Languages)

150. Classical Armenian Literature in English

151. Modern Armenian Literature in English

Asian (Asian Languages)

151. Buddhist Literature in Translation

154. Survey of Bulgarian Literature

Chinese (Asian Languages)

150A. Lyrical Traditions

150B. Traditional Narrative and Drama

151. Chinese Literature in Translation: Modern Literature

152. Topics in Contemporary Chinese Literature and Culture

151. Chinese Immigrant Literature and Film Classics

151. Reading Greek Literature: Writing-Intensive

115. Reading Roman Literature: Writing-Intensive

140. Topics in History of Greek Literature

141. Topics in History of Latin Literature

142. Ancient Epic

143. Ancient Tragedy

143B. Ancient Comedy

144. Topical Studies in Ancient Culture

Comparative Literature

All undergraduate courses

Dutch (Germanic Languages)

113. Modern Dutch and Flemish Literature in Translation

English

108A-108B. English Bible as Literature

108C. English Bible as Literature: Special Topics

French (French and Francophone Studies)

112. Medieval Foundations of European Civilization

160. Francophone Cultures in English

164. French and Francophone Novel in Translation

166. French and Francophone Autobiography in Translation
Scope and Objectives

The UCLA French and Francophone Studies Department is a major West Coast center for the study of French. In recent decades French critical thought has maintained a dominant position in the Western world. The department seeks to give its students not only a background in the various fields of French and Francophone studies, but also opportunity to relate literary, linguistic, and cultural study to examination of the critical intellectual questions of our time.

The undergraduate lower division program is designed to provide practical competence in French after one year and thorough basic knowledge of the language after two years.

The undergraduate upper division program is chiefly devoted to perfecting linguistic skills and to the study of French and Francophone culture and literature. Courses in linguistics and business French are also offered. Students graduating with a Bachelor of Arts in French should be fully fluent in French and possess a thorough background in French and Francophone literature and culture. All three plans lead to the Bachelor of Arts degree and subsequently to graduate studies in French.

The graduate program offers both M.A. and Ph.D. degrees and comprises training in the various fields of French and Francophone culture, literature, and thought, as well as in literary criticism, analysis, and theory. A number of courses in linguistics and stylistics are also offered.

Undergraduate Study

If students have taken French elsewhere, they must take a placement test administered by the department. Depending on the results of the placement test or with recommendation of

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FRENCH AND FRANCOPHONE STUDIES
College of Letters and Science
UCLA
212 Royce Hall
Box 951550
Los Angeles, CA 90095-1550
(310) 825-1145
fax: (310) 825-9754
http://www.french.ucla.edu/index.html

Dominic R. Thomas, Ph.D., Chair
Françoise Lionnet, Ph.D., Graduate Studies Director
Patrick J. Coleman, Ph.D., Undergraduate Studies Director

Professors
Albert I. Boime, Ph.D.
Jean-Claude Carron, Docteur és Lettres
Patrick J. Coleman, Ph.D.
Eric L. Gans, Ph.D.
Lynn A. Hunt, Ph.D. (Eugen Weber Professor of Modern European History)
Françoise Lionnet, Ph.D.
Allen F. Roberts, Ph.D.
Dominic R. Thomas, Ph.D.
Stephen D. Werner, Ph.D.

Associate Professors
Eleanor K. Kaufman, Ph.D.
Andrea N. Loselle, Ph.D.
Sara E. Melzer, Ph.D.
Malina Stefanovska, Ph.D.

Assistant Professors
Laure Murat, Doctarat en Histoire
Zrinka Stahuljak, Ph.D.

Lecturers
Carole N. Delavault, Ph.D.
Laurence M. Denis, Ph.D.
Nicole I. Dufresne, Ph.D.
Kimberly Jansma, Ph.D.

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167. French and Francophone Intellectual History in Translation
172. Francophone Cinema and Literature in Translation
191A. Variable Topics Research Seminars in Translation

German (Germanic Languages)
50A-50B. Great Works of German Literature in Translation
55. The City as Text: German Exile Culture in Los Angeles
55W. German Exile Culture in Los Angeles
56. Figures Who Changed the World
57. Hollywood and Germany
58. Knights and Ladies, Sex and Power at Medieval Court
59. Holocaust in Film and Literature

Italian
40. Heroic Journey in Northern Myth, Legend, and Old Norse Studies (Germanic Languages)
50A-50B. Masterpieces of Italian Literature in English
50K, 50W. Introduction to Scandinavian Literatures and Culture
121C. Special Topics in Yiddish Literature in English

Japanese
344 / French and Francophone Studies
an instructor, they may be permitted to enroll in a course of study at a more advanced level. Requirements to all upper division courses taken in partial fulfillment of the French major are French 6, 12, or equivalent. Courses 105 through 109 are not sequential and may be taken in any order, provided the requisites for each course are fulfilled.

No credit is allowed for completing a less advanced course after successful completion of a more advanced course in French grammar and/or composition.

French B.A./French and Linguistics B.A.

Preparation for the Majors

Required: French 1, 2, 3, 4, 5, 6, 12, or equivalent. Students normally take course 6 before undertaking course 12. Students who receive a grade of A in course 5 may enroll in course 12 concurrently with course 6, with consent of the instructor. Students in Plan III must also take Linguistics 20.

Transfer Students

Transfer applicants to the French majors with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of French and one French literature course. Students in Plan III must also complete an introduction to linguistics course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Majors

Three plans are offered by the department:

Plan I: French/Francophone Studies in Literature and Culture

Plan I leads to the Bachelor of Arts in French. Required: Thirteen upper division courses, including French 100, 101, 102; two courses from 114A, 114B, 114C; at least six courses in French and Francophone literature and/or culture selected from upper division offerings in the department in language, civilization, literature, or the arts. Two upper division elective courses from outside the department may be substituted in the major program with consent of the undergraduate adviser.

Plan II: Interdisciplinary French/Francophone Studies

Plan II, with emphasis on French and Francophone culture, leads to the Bachelor of Arts in French and is a core program in French allowing for individual selection of relevant courses in related fields such as humanities, social sciences, women’s studies, and linguistics. Required: Thirteen upper division courses, including French 100, 101, 102; two courses from 114A, 114B, 114C; at least two courses in French and Francophone literature; one additional elective course normally selected from upper division offerings in the department in language, civilization, literature, or the arts; five upper division elective courses in fields relevant to French and Francophone studies to be selected in or outside the department in consultation with the undergraduate adviser.

Plan III: French and Linguistics

Plan III leads to the Bachelor of Arts in French and Linguistics. In addition to the normal preparation for the major, students are required to complete the sixth term of work in one other foreign language or the third term in each of two other foreign languages. Linguistics 20 is required as preparation for the major. Required: Twelve upper division courses, including French 100, 101, 102; two courses from 105, 107, 108A, 108B, 109; two courses from 114A, 114B, 114C; Linguistics 103, 110, 120A, 120B, and 165A or 165B.

It is strongly advised that students who intend to pursue advanced degrees begin preparation for the language requirements at the undergraduate level. If students’ knowledge of French exceeds the preparation usually received in courses preparing for the major and if they demonstrate the requisite attainment in French 100, 101, or 102, they may substitute for those courses in grammar and composition an equivalent number of upper division courses in the French and Francophone Studies Department in consultation with an adviser. All prospective French majors who are native or quasi-native speakers of French must see the undergraduate adviser before beginning upper division work in the major.

All majors must complete a minimum of nine courses of appropriate upper division work in the UCLA French and Francophone Studies Department. Freshmen and sophomores may take up to two courses taught in English, selected from French 164 through 167, in fulfillment of major requirements (if taken in the junior or senior year, these courses count as electives). A maximum of 8 units of course 199 may be applied toward the elective requirements for the major if approved in advance by the undergraduate adviser. Students must maintain a C average in upper division major courses in order to remain in any of the French majors.

Coursework taken on a Passed/Not Passed basis is not acceptable in any area of the major program. It is recommended that students intending to major in French consult the undergraduate adviser before enrolling in upper division courses.

Honors Program

The department encourages those students in the French majors with initiative and independence of mind who desire an enriched individualized course of study to apply for the honors program. The honors program is designed for French majors who have fulfilled their lower division requirements and have a 3.5 departmental grade-point average. Students whose GPA falls between 3.3 and 3.5 should submit a composition from an advanced language or literature course to the honors committee. If the work submitted meets with approval, students are admitted to the program.

To graduate with departmental honors, students must complete a minimum of two honors projects in the context of nonhonors upper division courses (French 115 and above) taken for honors credit. They must do an honors project (a research paper of 12 to 15 pages) in addition to the regular course requirements. An honors contract must be signed before the end of the third week of the term. After completing the project, students fill out a completion form.

On the basis of their coursework and field of interest, students are expected to formulate a research topic they wish to pursue in greater depth. They take course 198 where they receive regular personal supervision from a faculty member in the research, methodology, and writing of their approximately 30- to 35-page honors thesis (honors projects and the honors thesis are not to be confused).

Students may begin the honors program toward the end of their junior year or during their senior year. Students are allowed to enroll in graduate courses with the consent of the instructor but cannot use those courses to replace an honors project. Departmental honors are recorded on the final transcript if students fulfill all requirements for the program. They may submit their final honors thesis for the departmental prize.

French Minor

To enter the French minor, students must have an overall grade-point average of 2.0 or better.

Required Lower Division Courses (8 units):
French 6 or equivalent and one course from 12, 14, or 15.

Required Upper Division Courses (20 units): French 100 or 101, and four additional departmental courses in language, culture, or literature to be selected in consultation with an undergraduate counselor.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gradsaa/library/bgrmnintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.
Graduate Degrees
The Department of French and Francophone Studies offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in French and Francophone Studies.

French
Lower Division Courses
1. Elementary French. (4) Lecture, five hours. P/NP or letter grading.
2. Intermediate French. (4) Lecture, four hours. Enforced requisite: course 1 with a grade of C– or better. P/NP or letter grading.
3. Elementary French. (4) Lecture, five hours. Enforced requisite: course 1 with a grade of C– or better. P/NP or letter grading.
7. Intensive First-Year French. (12) Lecture, 15 hours. All-in-French intensive language program equivalent to first year of college French and designed to develop basic language skills. Additional work in language and media laboratory required. Offered in summer only. P/NP or letter grading.
8. Intensive Second-Year French. (8) Lecture, three hours. Media laboratory, three hours. Enforced requisite: course 3. Intensive course equivalent to first two terms of intermediate French and designed to improve proficiency in reading, writing, and speaking. Offered in summer only. P/NP or letter grading.

Upper Division Courses
113. Medieval Foundations of European Civilization. (4) Lecture, three hours; discussion/film screenings, two hours. Medieval texts, culture, social structure, and political history as they lay bases of European modernity. P/NP or letter grading.
114A. Medieval and Renaissance Literature. (5) Lecture, three hours. Requisite: course 12. Masterpieces of medieval and Renaissance literature, including epics of epic (La Chanson de Roland), romance (Chrétien de Troyes’ Yvain), and Renaissance prose and poetry (including Marot, Du Bellay, Ronsard, Rabelais, Marguerite de Navarre, and Montaigne), P/NP or letter grading.
114B. 17th and 18th Centuries. (5) Lecture, three hours. Requisite: course 12. Study of developments from major works of classicism and the Enlightenment, including those by Racine, Pascal, La Fayette, La Fontaine, La Rochefoucauld, Diderot, Voltaire, and Rousseau. P/NP or letter grading.
114C. 19th and 20th Centuries. (5) Lecture, three hours. Requisite: course 12. Study of major artistic movements and writers of the period, including works by Baudelaire, Balzac, Flaubert, Zola, Gide, Proust, Sartre, Robbe-Grillet, and Duras, P/NP or letter grading.
115. Studies in Medieval French Culture and Literature. (4) Formerly numbered 115A. Lecture, three hours. Requisite: course 12 or 100. Taught in French. Study of medieval French culture and literature, including lyric poetry and narrative romance, history of medieval warfare, comedy, and class structures. May be repeated for credit with topic change. P/NP or letter grading.
116. Studies in Renaissance French Culture and Literature. (4) (Formerly numbered 116A.) Lecture, three hours. Requisite: course 12 or 100. Taught in French. Study of French Renaissance culture and literature, including la Pèiade and 16th-century poetry, linguistic and poetic revolution, novel and early prose, and late French humanism. May be repeated for credit with topic change. P/NP or letter grading.
117. Studies in 17th-Century French Culture and Literature. (4) (Formerly numbered 117A.) Lecture, three hours. Requisite: course 12 or 100. Taught in French. Study of 17th-century French culture and literature, including theater, philosophers, moralists, novelists, and cultural, political, social, religious, and courtly aspects. May be repeated for credit with topic change. P/NP or letter grading.
118. Studies in 18th-Century French Culture and Literature. (4) (Formerly numbered 118A.) Lecture, three hours. Requisite: course 12 or 100. Taught in French. Study of 18th-century French culture and literature, including satire, novel, theater, philosophers, and theoretical writings. May be repeated for credit with topic change. P/NP or letter grading.
119. Studies in 19th-Century French Culture and Literature. (4) (Formerly numbered 119A.) Lecture, three hours. Requisite: course 12 or 100. Taught in French. Study of 19th-century French culture and literature, including Romanticism, generation of 1848, naturalism and symbolism, and genres and trends from 1885 through World War I. May be repeated for credit with topic change. P/NP or letter grading.
120. Studies in 20th-Century French Culture and Literature. (4) (Formerly numbered 120A.) Lecture, three hours. Requisite: course 12 or 100. Taught in French. Study of 20th-century French culture and literature, including early 20th-century writers, surrealism, literature from 1915 to 1945, post-World War II literature, existentialism, new novel, theater, and poetry. May be repeated for credit with topic change. P/NP or letter grading.
121. Studies in Francophone Cultures and Literatures. (4) (Formerly numbered 121A.) Lecture, three hours. Requisite: course 12 or 100. Taught in French. Study of Francophone cultures and literatures, including works by poets, playwrights, and novelists from Caribbean, North Africa, Quebec, and sub-Saharan Africa, immigrant narratives, and colonialism and postcolonial studies. May be repeated for credit with topic change. P/NP or letter grading.


137. French and Francophone Intellectual History. (4) (Formerly numbered 158.) Lecture, three hours. Required: course 12 or 100. Taught in French. Exploration of themes that address particular problem of French literature, civilization, or ideas. May be repeated for credit with topic change. P/NP or letter grading.

138. Contemporary French Theory. (4) (Formerly numbered 209.) Lecture, three hours. Required: course 12 or 100. Taught in French. Textual and visual exploration of historical and imaginary (re)constructions of Paris, beginning with its earliest history and gradual formation of this great urban complex in maps from Renaissance to the 20th century. Study of city's streets and quarters, traffic and transportation, multiple layers of past, present, and future, and insurrectionists through wide range of literary and critical texts. Readings cover mainly the 19th and 20th centuries in Paris. Charles Baudelaire, Jules Verne, Emile Zola, Andre Breton, Walter Benjamin, Roland Barthes, and others. P/NP or letter grading.


191A. Variable Topics Research Seminars in Translation. (4) (Formerly numbered 165.) Seminar, three hours. Research seminars on topics to be announced each term. Topics include major writers, genres, cultural movements, or theoretical practices. Reading, discussion, and development of culminating project. May be repeated for credit with consent of major adviser. P/NP or letter grading.

191B. Variable Topics Research Seminars. (4) (Formerly numbered 165.) Seminar, three hours. Taught in French. Research seminars on topics to be announced each term. Topics include major writers, genres, cultural movements, or theoretical practices. Reading, discussion, and development of culminating project. May be repeated for credit with consent of major adviser. P/NP or letter grading.

198. Honors Research in French. (4) (Formerly numbered 170A.) Tutorial, three hours. Limited to junior/senior French majors with 3.5 departmental and 3.25 overall grade-point averages. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty mentor. Individual contract required. Letter grading.


201. Techniques of Literary Analysis. (4) Lecture, three hours. Practice in close analysis of literary texts, including explication de texte. S/U or letter grading.

202. Cultural Studies. (4) Lecture, three hours. Introduction to theoretical approaches to popular and mass culture, and to postcolonial and Francophone cultures. Topics include emergent disciplines and theories such as sociology and structuralism, the city, revolution, avant-garde strategies, media, diaspora during postwar modernization, Algerian War, May 68, and beyond. Theorists include Barthes, de Certeau, Bourdieu, Baudrillard, Lyotard, Ross, Rey Chow, Virilio. S/U or letter grading.

203. Contemporary Francophone Literature. (4) (Formerly numbered 220C.) Lecture, three hours. Study of Francophone African, Caribbean, Vietnamese, or Quebec literature with special attention to issues of cultural contact, language, colonialism, anticolonialism, nationalism, resistance and desistance, and postcolonial theory. S/U or letter grading.


206A-206B. Studies in Generative Anthropology. (4-4) Lecture, three hours. Discussion of principles of generative anthropology and their application to given set of literary, philosophical, and scientific texts and/or other cultural phenomena. S/U or letter grading.

207. Studies in History of Ideas. (4) Seminar, three hours. Problems in French literature and ideas. May be repeated for credit. S/U or letter grading.

208. Studies in Literary Criticism. (4) Seminar, three hours. Readings in literary criticism, theory, and literature from any period or genre in French literature. May be repeated for credit. S/U or letter grading.

209. Studies in Literary Genre. (4) Seminar, three hours. Advanced research and study of literary genres such as poetry, drama, fiction, autobiography, or performance and of theory of these genres. S/U or letter grading.

M210. Paleography of Latin and Vernacular Manuscripts, 900 to 1500. (4) (Same as Classics M218, English M215, and History M218.) Lecture, three hours; discussion, two hours. Introduction to history of Latin and vernacular manuscript book from 900 to 1500 to (1) train students to make informed judgments regarding place and date of origin, (2) provide training in accurate reading and transcription of later medieval scripts, and (3) examine manuscript book as witness to changing society that produced it. Focus on relationship between Latin manuscripts and vernacular manuscripts with regard to their respective presentation of written texts. S/U or letter grading.


215A-215B. Medieval Literature. (4-4) Lecture, three hours. Required: course 214. Development of vernacular culture in Middle Ages. Exploration of social functions of texts designated as literary by modernity as part of social, economic, and political evolutions in which these texts played key roles. 215A. Medieval Subject. S/U or letter grading; 215B. Narrative Types. Letter grading.


220. 20th Century. (4) Lecture, three hours. Overview, both historical and stylistic, of 20th-century French literature set in context of several key critical topics that interrogate canonical interpretation. Letter grading.
FRESHMAN GENERAL EDUCATION CLUSTERS

College of Letters and Science

UCLA
A265 Murphy Hall
Box 951571
Los Angeles, CA 90095-1571
(310) 206-5446
http://www.college.ucla.edu/ge/clusters/

Scope and Objectives

Available to entering freshmen only, cluster courses are an option for satisfying general education requirements. Clusters are yearlong, collaboratively taught, interdisciplinary courses that focus on a topic of timely importance, such as the global environment or interracial dynamics. The courses are taught by some of UCLA's most distinguished faculty members and seasoned graduate students. During Fall and Winter Quarters, students attend lecture courses and small discussion sections and/or laborato-

ries. In Spring Quarter, the same students enroll in one of a number of satellite seminars dealing with topics related to the cluster theme. Freshman clusters are designed to strengthen the writing, quantitative reasoning, critical thinking, and information literacy skills that students need to excel at UCLA. At the conclusion of the entire yearlong cluster, students complete nearly a third of their general education course requirements, satisfy their general education seminar requirement, and fulfill the Writing II requirement. Cluster students enjoy priority enrollment in an English Composition 3 (Writing I) class during Fall or Winter Quarter of their cluster year. They are eligible for three terms of honors credit, with the Spring Quarter seminar providing Honors Collegium credit.

For the current cluster course offerings and general education credit, refer to http://www.college.ucla.edu/ge/clusters/

Lower Division Courses

M1A-M1B-M1CW. Global Environment. (5-5-5) Course M1A is enforced requisite to M1B, which is enforced requisite to M1CW. Letter grading. M1A-M1B, Multidisciplinary Perspective I. II. Lecture, three hours; discussion, two hours. Human effects on Earth's ecosystem and social and technological solutions to environmental problems. History and ecology in lectures; laboratory exercises included in discussions. M1CW. Special Topics. Seminar, three hours. Enforced requisites: course M1B, and English Composition 3 or 3H. Not open for credit to students with credit for former course 96CW. Course M1A includes origins and ideas of performance, art and performance, and music as cultural expression. Satisfies Writing II requirement.

M24A-M24B-M24CW. Work, Labor, and Social Justice in the U.S. (5-5-5) (Formerly numbered 24A-24B-24CW.) (Same as Labor and Workplace Studies M21A-M1B-M1CW.) Course M24A is enforced requisite to M24B, which is enforced requisite to M24CW. Open only to first-year freshmen. Letter grading. M24A-M24B, Lecture, three hours; discussion, two hours. Exploration of ways in which work has been transformed over the last century; impact of this transformation on working people, and role of labor movement as force for social justice. M24CW. Special Topics. Seminar, three hours. Enforced requisites: course M24B, and English Composition 3 or 3H. Topics include labor law, working conditions, race, and workplace. Satisfies Writing II requirement.

60A-60B-60CW. America in Sixties: Politics, Society, and Culture, 1954 to 1974. (5-5-5) Course 60A is enforced requisite to 60B, which is enforced requisite to 60CW. Lecture, three hours; discussion, two hours. Interdisciplinary exploration of U.S. society from Brown versus Board of Education (1954) to resignations of Nixon. Topics include civil rights, Great Society, anti-Vietnam war movement, political and artistic countercultures, and changes in technology, law, and media. 60CW. Special Topics. Seminar, three hours. Enforced requisites: course 60B, and English Composition 3 or 3H. Not open for credit to students with credit for former course 60C. In-depth examination of political and cultural issues afflicting U.S. society from 1954 to 1974. Satisfies Writing II requirement.

66A-66B-66CW. Los Angeles: The Cluster. (5-5-5) Course 66A is enforced requisite to 66B, which is enforced requisite to 66CW. Limited to first-year freshmen. Letter grading. 66A-66B, Lecture, three hours; discussion, two hours. In-depth look at city in which UCLA is located. Drawing on concept of Los Angeles as laboratory, students engage in systematic way with urban area that is to be their home for next several years. As they do, they come to understand peoples, spaces, politics, and cultures of Los Angeles and its metropolitan region in both present and past, as well as Los Angeles' place in urban world. 66CW. Special Topics. Seminar, three hours. Enforced requisites: course 66B, and English 3 or 3H. Topics may include musical cultures of Los Angeles, Los Angeles as global city, Los Angeles in Southern California and environment, planning for 21st-century Los Angeles, and housing and homelessness in Los Angeles. Satisfies Writing II requirement.
70A-70D. Evolution of Cosmos and Life. (5 each) Course 70A is enforced requisite to 70B, which is enforced requisite to 70C or 70D. Letter grading. 70A-70B, Lecture, three hours; discussion, two hours. Use of concept of evolution, as it applies to biological organisms, Earth, solar system, and the universe itself, to introduce students to both the life and physical sciences. Examination of evolution of the universe, galaxy, solar system, and Earth in course 70A; focus on evolution of life in course 70B. 70CW, Special Topics in Life Sciences. Seminar, three hours. Enforced requisites: course 70B, and English Composition 3 or 3H. Not open for credit to students with credit for course 70D or former course 70C. Examination in depth of various issues of evolution in cosmos from life sciences perspective. Satisfies Letters and Science Writing II requirement. 70DW. Special Topics in Physical Sciences. Seminar, three hours. Enforced requisites: course 70B, and English Composition 3 or 3H. Not open for credit to students with credit for course 70D or former course 70C. Examination in depth of various issues of evolution in cosmos from physical sciences perspective. Satisfies Writing II requirement.

71A-71B-71CW, Biotechnology and Society. (5-5-5) Course 71A is enforced requisite to 71B, which is enforced requisite to 71CW. Letter grading. 71A-71B, Lecture, three hours; discussion, two hours; laboratory, two hours. Exploration of methods, applications, and implications of biotechnology and of ethical, social, and political implications as well as biological underpinnings. 71CW, Special Topics. Seminar, three hours. Enforced requisites: course 71B, and English Composition 3 or 3H. Topics include in-depth examination of ethics and human genetics, biowarfare, and bioterrorism. Satisfies Writing II requirement.

72A-72B-72CW, Sex from Biology to Gendered Society. (5-5-5) Course 72A is enforced requisite to 72B, which is enforced requisite to 72CW. Limited to first-year freshmen. Letter grading. 72A-72B, Lecture, three hours; discussion, two hours. Examination of many ways in which sex and sexual identity shape and are shaped by biological and social forces, approached from complementary perspectives of anthropology, biology, medicine, and sociology. Specific topics include biological origins of sex differences, intersex, gender identity, gender inequality, homosexuality, sex differences, sex/gender and law, and politics of sex research. 72CW, Special Topics. Seminar, three hours. Enforced requisites: course 72B, and English 3 or 3H. Topics may include politics of reproduction, sexuality, sexual identity, social construction of gender, and reproductive technologies. Satisfies Writing II requirement.

80A-80B-80CW, Frontiers in Human Aging: Biomedical, Social, and Policy Perspectives. (5-5-5) Course 80A is enforced requisite to 80B, which is enforced requisite to 80CW. Letter grading. 80A-80B, Lecture, three hours; discussion, two hours. Examination of aging process from vantage points of multiple disciplines, including biology, psychology, sociology, ethics, and public policy. Study of biomedical and biological aging and psychological, social, and ethical implications of phenomena. 80CW, Special Topics. Seminar, three hours. Enforced requisites: course 80B, and English Composition 3 or 3H. Not open for credit to students with credit for former course 80C. In-depth examination of gender and aging, cellular aging, cancer, and aging of brain. Satisfies Writing II requirement.

97A-97Z. Cluster Colloquia. (1 each) Seminar, one hour; reading period, two hours. Designed for students who have completed a GE cluster. Study, through small-group discussion and projects, of selected topics related to a cluster theme or topic. Consult Schedule of Classes for topics and instructors. May be repeated once for credit. P/NP grading.

GEOGRAPHY
College of Letters and Science
UCLA
1255 Bunche Hall
Box 951524
Los Angeles, CA 90095-1524
(310) 825-1071
tax: (310) 206-5976
http://www.geog.ucla.edu

David L. Rigby, Ph.D., Chair
Denis E. Cosgrove, D.Phil., Vice Chair

Professors
John A. Agnew, Ph.D.
Judith A. Carney, Ph.D.
William A.V. Clark, Ph.D.
Denis E. Cosgrove, D.Phil. (Alexander von Humboldt Endowed Professor of Geography)
Michael R. Curry, Ph.D.
Jared M. Diamond, Ph.D.
J. Nicholas Entrikin, Ph.D.
C. Cindy Fan, Ph.D.
Glen M. MacDonald, Ph.D.
Antony R. Orme, Ph.D.
Marlyn N. Raphael, Ph.D.
David L. Rigby, Ph.D.
Allen J. Scott, Ph.D.
Laurence C. Smith, Ph.D.
Stanley W. Trimble, Ph.D.
Hartmut S. Walter, Ph.D.
Yongkang Xue, Ph.D.

Professors Emeriti
Charles F. Bennett, Jr., Ph.D.
Henry J. Bruman, Ph.D.
Gary S. Dunbar, Ph.D.
Gerry A. Hale, Ph.D.
Howard J. Nelson, Ph.D.
Jonathan D. Sauer, Ph.D.
Melissa Savage, Ph.D.
Werner H. Terjung, Ph.D.
Benjamin E. Thomas, Ph.D.
Norman J.W. Thrower, Ph.D.

Associate Professors
Stephen A. Bell, Ph.D.
Thomas W. Gillespie, Ph.D.

Assistant Professors
Lisa Kim Davis, Ph.D.
Gregory S. Okin, Ph.D.
Yongwei Sheng, Ph.D.
Michael E. Shin, Ph.D.

Scope and Objectives
Geography is the study of the natural world and how humans have changed it. It examines the physical Earth and life on it, looking at the world’s diverse cultures and economies and at the environmental problems they produce. Geography addresses many issues about the contemporary world. Some are local, such as documenting the development of ethnic neighborhoods within Los Angeles. Others are regional, such as determining the best locations for nature reserves in California. Many are global, such as the study of greenhouse gases and how they affect climates, culture and resource issues in developing countries, and the impact of information technologies on people in different places.

The work of geographers often takes them out of the classroom into the field to collect information on topics that range from the settlement of new immigrants to the distribution of endangered species, the erosion of shorelines, and the location of high-tech businesses. On other occasions, geographers work in laboratories, using techniques such as the computer analysis of satellite photographs to look for changes in river courses and the computer modeling of shifts in global vegetation patterns and the distribution of human populations. Research is also conducted in libraries and archives, probing documentary sources on human interaction with the natural world and how that world is imagined.

Geography graduates have a wide variety of career opportunities because of their combination of geographical/environmental perspectives and technical skills. UCLA geography students have gone on to become university scholars, school teachers, members of government and nongovernmental planning, development, and conservation agencies, business executives, lawyers, and specialists in geographical information analysis for government and private business. Because of its sophisticated focus on the relationship of the global to the local, geography is particularly useful for those who wish to pursue careers with an international focus.

The department has one of the top programs in the U.S. and offers two undergraduate majors that lead to the Bachelor of Arts degree: Geography and Geography/Environmental Studies. The Geography major combines a broad background in the field with specific tracks. The Geography/Environmental Studies major focuses on the impact of humans on the natural environment. Also offered is an undergraduate minor in Geospatial Information Systems and Technologies.

The department also offers M.A. and Ph.D. degrees. Student research projects are conducted in collaboration with a faculty adviser and advisory committee. Graduate students work in most major areas of geography and on projects around the world. Graduate alumni of the department have teaching positions at many leading universities in the U.S. and abroad.

Undergraduate Study
Geography B.A.

The Geography major allows students to combine a broad background in the field with more specific interests and career goals. Students can select classes in several areas of geography such as urban, economic, cultural, environmental, physical, or biogeography. They should consult with the undergraduate adviser to plan a program suitable to their personal objectives.

Preparation for the Major
Required: Three courses (15 units) as follows: Geography 1 or 2, 3 or 4 or 6, and Statistics 12. All courses must be taken for a letter grade.
Transfer Students
Transfer applicants to the Geography major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one physical geography or biogeography course, one cultural geography or economic geography course, and one statistics course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Twelve upper division geography courses (48 units minimum) taken for a letter grade.

Geography/Environmental Studies B.A.
The major in Geography/Environmental Studies develops and deepens students’ understanding of environmental issues; it explores problem-solving approaches from an interactive people/nature viewpoint and involves analysis of social, physical, and biotic environmental systems. The major’s uniqueness lies in its emphasis on its geographical perspective of human impacts on natural systems, as well as of implications of global change on local and regional human systems.

Preparation for the Major
Required: Geography 1 or 2, 3 or 4 or 6, 5, and Statistics 12. All courses must be taken for a letter grade. Students are strongly advised to complete all preparation for the major courses before beginning upper division work in the major.

Transfer Students
Transfer applicants to the Geography/Environmental Studies major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one physical geography or biogeography course, one cultural geography or economic geography course, one people and ecosystems course, and one statistics course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: Twelve upper division geography courses for a letter grade. Two courses (8 units) from 100A (2 units), 100B (2 units), 105A (2 units), 162, 163, 167 (6 units), 168, 169, 170, M171, 172; and (5) regions — one course from 122, 135, 136, M137, 152, 156, 180, 181, 182A, 182B, 183, 184, 185, 186, 187.

Geography/Environmental Studies majors are advised to complete the required courses in the natural and human systems cores before taking courses in the environmental studies cluster.

Honors Program
The honors program is designed for Geography and Geography/Environmental Studies majors who are interested in completing a research project that culminates in an honors thesis.

To qualify for graduation with departmental honors, students must have a cumulative grade-point average of 3.5 or better in all upper division geography courses and a 3.0 overall GPA. They must enroll in Geography 198A and 198B in two consecutive terms and earn grades of A– or better. They may elect to work with one or two faculty sponsors. Students are awarded highest honors, honors, or no honors based on an evaluation of the thesis by the faculty sponsor(s). Contact the undergraduate advising office for further information.

Computing Specialization
Majors in Geography and Geography/Environmental Studies may select a specialization in Computing by (1) satisfying all the requirements for a bachelor's degree in the specified major, (2) completing Program in Computing 10A, 10B, 30, 60, and Mathematics 61 with a minimum grade of C in each course (Mathematics 32A and 32B are also highly recommended), and (3) completing at least two courses from Geography 104, 167, 168, M171. Students graduate with a bachelor’s degree in their major and a specialization in Computing.

Geography Minor
The Geography minor is designed for students who wish to deepen and/or broaden their major program of study with a distinctive yet flexible program of courses encompassing the relationship between environment and society. The minor allows students to develop a coherent strategy for understanding and explaining the manner in which people and the Earth interact. Students have the opportunity to explore the origins, development, morphology, and processes of landscapes inherited from nature, as well as those institutions and cultural, economic, political, and social patterns associated with the human development, occupancy, organization, perception, and use of these landscapes.

To enter the minor, students must have an overall grade-point average of 2.0 or better and file a petition in the Geography Department Advising Office, 1255 Bunche Hall, (310) 825-1166. Courses should be selected in consultation with the departmental adviser.

Required Lower Division Courses (10 units):
Two courses from Geography 1, 2, 3, 4, 6. It is recommended that students take these courses before attempting upper division courses.

Required Upper Division Courses (20 units):
Any five upper division geography courses.

No more than 8 units may be applied toward both this minor and a major or minor in another department or program, and at least three of the five upper division courses must be taken in residence at UCLA. Transfer credit for any of the above is subject to departmental approval.

All minor courses must be taken for a letter grade. Successful completion of the minor is indicated on the transcript and diploma.

Geography/Environmental Studies Minor
The Geography/Environmental Studies minor is intended for students interested in environmental issues and emphasizes a systems approach to gaining a causal understanding of major environmental problems facing our society and the world at large. The uniqueness of the minor lies in its geographical perspective on the impact, at various geographical scales, of human activity on natural systems and on the implications of global environmental change on local, regional, and global human systems.

To enter the minor, students must have an overall grade-point average of 2.0 or better and file a petition in the Geography Department Advising Office, 1255 Bunche Hall, (310) 825-1166. Courses should be selected in consultation with the departmental adviser.

Required Lower Division Courses (10 units):
Geography 5 and one course from 1, 2, 3, 4, or 6. It is recommended that students take these courses before attempting upper division courses.

Required Upper Division Courses (20 units):
Three courses from the environmental studies cluster specified within the major and two geography courses from outside the environmental studies cluster.

No more than 8 units may be applied toward both this minor and a major or minor in another department or program, and at least three of the five upper division courses must be taken in residence at UCLA. Transfer credit for any of the above is subject to departmental approval.

All minor courses must be taken for a letter grade. Successful completion of the minor is indicated on the transcript and diploma.
Graduate Degrees

Ofﬁcial, speciﬁc degree requirements are de- tailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/ gasaa/library/pgmrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and pro- grams.

Graduate Degrees

The Department of Geography offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Geography.

Geography

Lower Division Courses

1. Earth’s Physical Environment. (5) Lecture, three hours; laboratory, two hours. Study of Earth’s physical environment, with particular reference to nature and distribution of landforms and climate and their signiﬁ- cance to people. P/NP or letter grading.


3. Cultural Geography. (5) Lecture, three hours; dis- cussion, two hours. Introduction to cultural geography of modern world, with examination of key concepts of space, place, and landscape as these have shaped and been shaped by connections between societies and their natural environments. Examples from vari- ety of landscapes and places since 1800 and espe- cially from Los Angeles region. P/NP or letter grading.

4. Globalization: Regional Development and World Economy. (5) Lecture, three hours; discuss- ion, one hour. Economic geography explores spatial distribution of all forms of human productive activity at number of geographical scales — local, regional, na- tional, and global. Key theme is impact of increasingly powerful global economic forces on organization of production. P/NP or letter grading.

5. People and the Earth’s Ecosystems. (5) Lecture, three hours; laboratory, two hours. Exploration of ways in which human activity impacts natural environ- ment and how modiﬁcation of environment can even- tually have signiﬁcant consequences for human activ- ity. Examination, using case studies, of real environ- mental problems that confront us today. P/NP or letter grading.

6. World Regions: Concepts and Contemporary Issues. (5) Lecture, three hours; discussion, two hours. Insights into global diversity through analysis of environmental, cultural, economic, and historical factors that deﬁne major world regions. Emphasis on contemporary issues that make these regions signiﬁ- cant in current world affairs and on their histories and past and present connections with other regions. Ex- amination of criteria used to construct regions and con- ﬂicts that occur over choices of how best to divide world into discrete and identiﬁable geographic areas. P/NP or letter grading.

88A-88Z. Lower Division Seminars: Geography. (4 each) Discussion, three hours; reading period, one hour. Seminars designed to explore various themes and issues pertinent to environment and people. Seminar topics advertised in department during previ- ous term. P/NP or letter grading.

Upper Division Courses

100. Principles of Geomorphology. (4) Lecture, three hours; reading period, one hour. Requisite: course 1. Recommended: course 100A. Study of pro- cesses that shape the world’s landforms, with empha- sis on weathering, mass movement and ﬂuvial ero- sion, transport, deposition; energy and material trans- fers; space and time considerations.

100A. Principles of Geomorphology: Field and Labora- tory. (2) Laboratory/workshop, six hours. Corequisite: course 100. Field and laboratory investi- gations of weathering, mass movement, ﬂuvial ero- sion, transport, deposition; related geomorphic phe- nomena. P/NP or letter grading.

101. Coastal Geomorphology. (4) Lecture, three hours; reading period, one hour. Requisite: course 1. Recommended: course 101A. Study of origin and de- velopment of coastal landforms, emphasizing past and present changes, hydrodynamic processes, sedi- ment transfers, and such features as beaches, estu- aries, lagoons, deltas, wetlands, dunes, seafloor, and coral reefs, together with coastal zone management. P/NP or letter grading.

101A. Coastal Geomorphology: Field and Labora- tory. (2) Laboratory/workshop, six hours. Corequisite: course 101. Field and laboratory investigations of coastal landforms, emphasizing past and present changes, hydrodynamic processes, sediment trans- fers, and such features as beaches, estuaries, la- goons, deltas, wetlands, dunes, and seafloor, togeth- er with coastal zone management.

102. Tropical Climatology. (4) Lecture, three hours. In-depth exploration of development of tropical cli- mate, with special reference to hurricanes, ENSO, and monsoons. Examination of human interaction with tropical climate processes and human-induced climate change in tropics. Use of climatological infor- mation to foster sound environmental management of climate-related resources in tropics. P/NP or letter grading.

103. Paleoclimatology and Ice-Age Environments. (4) Lecture, three hours; discussion, one hour. Requi- site: course 1. Study of past climates and their envi- ronmental impact, with emphasis on the last three million years, including evidence for glacial and inter- glacial oscillations, historic changes, paleogeographic reconstruction, external and internal forcing mecha- nisms, and human implications. P/NP or letter grading.

104. Climatology. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Exam- ination of the many relations between climate and the world of man. Application of basic energy budget con- cepts to the microclimates of relevance to ecosys- tems of agriculture, animals, man, and urban places. P/NP or letter grading.


105A. Hydrology: Field and Laboratory. (2) Labo- ratory/workshop, six hours. Corequisite: course 105. Field and laboratory investigations into role of water in geographic systems: hydrologic phenomena in rela- tion to climate, landforms, soils, vegetation, and cul- tural processes and impacts on the landscape. Students solve applied hydrology problems in laboratory and make hydrologic measurements in the ﬁeld.

M106. Applied Climatology: Principles of Climate Impact on Natural Environment. (4) (Formerly numbered 106.) (Same as Atmospheric and Oceanic Sciences M106.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Exploration of knowledge and tools to solve complex problems in contemporary applied climatology, including current practices, inﬂuence of climate on environment, and human inﬂuence on changing climates. P/NP or letter grading.

M107. Soil and Water Conservation. (4) (Same as Environment M114.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Systematic study of processes of and hazards posed by erosion, sedimentation, and pollution and techniques needed to conserve and maintain environmental quality. Scope includes agriculture, forest engineering, min- ing, and other rural uses of land. P/NP or letter grad- ing.

108. World Vegetation. (4) Lecture, three hours; reading period, one hour. Designed for juniors/se- niors. Characteristics, distribution, environmental and cultural relationships of world’s principal vegetation patterns. P/NP or letter grading.

M109. Human Impact on Biophysical Environment: What Science Has Learned. (4) (Formerly numbered 109.) (Same as Environment M109.) Lect- ure, three hours; reading period, one hour. Designed for juniors/seniors. Examination of history, mecha- nisms, and consequences of interactions between humans and environment. Exploration in depth of three thematic topics (deforestation, desertiﬁcation, and greenhouse gas increase and ozone depletion) and four major subjects (soil, biodiversity, water, and landforms). P/NP or letter grading.
110. Population and Natural Resources. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Discussion of the changing relationship of human beings to their environment, and the role of human sciences in the evaluation of this relationship. Three hours lecture. P/NP or letter grading.


113. Humid Tropics. (4) Lecture, three hours. Requisite: course 2 or 5 or Life Sciences 1. Designed for seniors/juniors. Examination of humid tropics, with emphasis on rainforests, their ecological principles, and forms of land use. Letter grading.


125. Health and the Global Environment. (4) Lecture, three hours; reading period, one hour. Impact of the environment and lifestyle on individual health ex- amined from a geographical perspective, with exam- ples from both developed and developing countries. P/NP or letter grading.

126. Geography of Extinction. (4) Lecture, three hours; reading period, one hour. Requisite: course 5. Designed for seniors/juniors. Geographic and taxo- nomic survey and analysis of biotic extinctions over the past 50,000 years, with an emphasis on extinction fac- tors and pathways through case studies of extinct and endangered species and communities. P/NP or letter grading.

M127. Soils and Environment. (5) (Same as Eco- logy and Evolutionary Biology M127 and Environment M127.) Lecture, five hours; discussion, one hour; field trips. General treatment of soils and environmental implications: soil development, morphology, and worldwide distribution of soil orders; physical, chemi- cal, hydrological, and biological properties; water use, erosion, and pollution; management of soils as relat- ed to plant growth and distribution. P/NP or letter grading.


129. Seminar: Environmental Studies. (4) Semi- nar, three hours; reading period, two hours. Prepara- tion: one course in Urban Planning CM 165, one of: three environmental studies cluster courses. Limited to seniors. Qualitative/quantitative analysis of problems associated with national protec- tion and use of selected environmental systems (ur- ban, rural, forest, desert, coastal, water, soil, or oth- ers). P/NP or letter grading.

130. Geographical Discovery and Exploration. (4) Lecture, three hours; reading period, one hour. Requir- estes: courses 1, 3. Designed for seniors/juniors. Survey of history of exploration, from earliest times to modern, with emphasis on period from Marco Polo to the present.


132. Food, Environment, and Agriculture. (4) Lecture, three hours; discussion, one hour. Designed for seniors/juniors. Historical and thematic orientation to agriculture revolutions and their role in environmental and cultural transformations in human history. P/NP or letter grading.

133. Cultural Geography of Modern World. (4) Lecture, three hours; reading period, one hour. De- signed for seniors/juniors and graduate students. His- torical and structural approaches to cultural geography of modern world system, with particular emphasis on structure and functioning of its core, semi-periphery, and periphery. P/NP or letter grading.

134. Space, Place, and Nature in Western Thought. (4) Lecture, three hours. Designed for juni- ors/seniors. History of development of basic ideas of geography — space, place, and nature — in Western thought. Relationship between ideas and polit- ical, economic, and cultural frameworks. P/NP or letter grading.


M137. Historical Geography of the United States. (4) (Same as Environment M137.) Lecture, three hours. Designed for juniors/seniors. Study of systematic changes of natural environment in the U.S. from its earliest historical time, with emphasis on the interaction between and among natural factors of climate, soils, vegetation, and landforms, and human factors of set- tlement, economic activity, technology, and cultural traits. P/NP or letter grading.

138. Place, Identity, and Networked World. (4) Lecture, three hours; reading period, one hour. Commu- nications technologies, such as personal computers and Internet, seem to be connected to dramatic changes in identities of people and places. Exploration of those changes and their implications for social institutions and human values and practic- es. P/NP or letter grading.

140. Political Geography. (4) Lecture, three hours; reading period, one hour. Designed for seniors/juniors. Spatiality of political activity, spatial constitution of political power, control over space as central com- ponent of political struggles. Studies at local, national, state, and global scales. P/NP or letter grading.

142. Population Geography. (4) Lecture, three hours; reading period, one hour. Designed for seniors/juniors. Study of social and behavioral perspectives influencing people in the social dynamics change, migration, and mobility, with special empha- sis on spatial relationships and selected case studies. P/NP or letter grading.

144. Ethnicity in the American City. (4) Lecture, three hours; reading period, two hours. Limited to juni- ors/seniors. Designed to encourage and facilitate crit- ical thinking about geographical aspects of ethnicity in contemporary America. Use of comparative perspec- tive to explain changing distribution, social, economic, and political behavior, and adjustment problems eth- nic groups face in contemporary American city. P/NP or letter grading.

145. Landscapes and American Dreams. (4) Lecture, three hours; one-half-day field trip. Introduction to concepts, methods, and skills of landscape study in cultural and historical geography through reflections on cultural landscapes and their representation in Europe, the U.S., and California. Survey of specific con- cept or method of landscape study each week, with detailed discussion of its expression in American and Californian geography. P/NP or letter grading.

M146. Feminist Geography. (4) (Same as Women's Studies M146.) Lecture, three hours; discussion, one hour. Critical engagement of gender as concept of geographic inquiry. Gender as spatial process, analy- sis of feminist geographic theory and methods, land- scapes of gender, challenges of representing gender. Spaces of femininity, masculinity, and sexuality. P/NP or letter grading.
147. Social Geography. (4) Lecture, three hours; discussion, one hour. Study of spatiality of social differences such as race, gender, age, disability, location. Critical explorations of identity, social categories, and spatial structures. Importance of space and place in social life. P/NP or letter grading.

148. Economic Geography. (4) Lecture, three hours; reading period, one hour. Requisite: course 3 or 4. Designed for juniors/seniors. Study of geographical aspects of transportation, with focus on characteristics and functions of various modes and on complexities of intra-urban transport. P/NP or letter grading.


152. Cities of Europe. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Urbanization of Europe, growth of city systems and internal spatial structure, functions, and geographic problems of contemporary European cities. Particular attention to historical development and landscapes of cities such as Rome, Paris, and Berlin. P/NP or letter grading.

153. Past Societies and Their Lessons for Our Own Future. (5) (Same as Anthropology M158Q and Honors Collegium M152.) Lecture, two hours; discussion, two hours. Examination of modern and past tribal and band societies (Amazonian Indians, Kalahari bushmen, and others) that met varying fates, as background to examination of how modern state societies are coping or failing to cope with similar issues. P/NP or letter grading.

154. Images of Earth: World from Above. (4) (Formerly numbered 186.) Lecture, three hours. Use of maps, or other media, to show how Earth has been represented through ages, how they have been influenced by current ideas and, in turn, how they have themselves influenced course of events. P/NP or letter grading.

155. Industrial Location and Regional Development. (4) Lecture, three hours. Requisite: course 4 or Economics 1 or 2 or 5 or 11. Designed for juniors/seniors. Reexamination of industrial location theory in light of contemporary theories of industrial organization and local labor markets. Consideration of empirical patterns of industrialization and regional growth, with special reference to Frostbelt/Sunbelt shifts and offshore locations. P/NP or letter grading.

156. Metropolitan Los Angeles. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Study of origins, growth processes, internal structure and pattern, interactions, environmental and spatial problems of the Los Angeles metropolitan area. P/NP or letter grading.

157. Models of Regional Growth and Change. (4) Lecture, three hours; reading period, one hour. Requisite: course 4 or Economics 1 or 2 or 5 or 11. Examination of empirical and theoretical issues of regional growth and change. Introduction to supply and demand-based models of regional development.

159A-159E. Problems in Geography. (4 each) Discussion, three hours; reading period, one hour. Preparation: completion of three courses in a concentration. Limited to seniors. Sequence in which students carry out intensive research projects developed from courses within a concentration. P/NP or letter grading.

159A. Urban and Regional Development Studies; 159B. Spatial Demography and Social Processes in the City; 159C. Culture and Environment in the Modern World; 159D. Physical Geography; 159E. Biogeography.

Procedures

162. Glacier Environments of California’s High Sierras. (4) Fieldwork, 10 hours; discussion, four hours. Introduction to alpine glacial environment through three hours of introductory lecture followed by intensive seven-day field trip to California’s High Sierras. Students carry out laboratory exercises, as well as data collection for research projects designed around their individual interests. Presentation of additional evening lectures, using presentation facilities at Sierra Nevada Aquatic Research Laboratory (SNARL). Offered in summer only. P/NP or letter grading.


168. Introduction to Geographic Information Systems. (4) Lecture, two hours; laboratory, two hours. Designed for juniors/seniors. Introduction to basic geographic information systems (GIS) concepts and spatial analysis. Data structures, topology, and attribute information. Laboratory exercises use database query, manipulation, and spatial analysis to address ‘real world’ problems. P/NP or letter grading.

169. Satellite Remote Sensing and Imaging Geographic Information Systems. (4) Lecture, two hours; laboratory, one hour. Introduction to fast-growing field of environmental applications of space. Application of Landsat, radar, Global Positioning System (GPS), and Earth Observing System satellites to land-use change, oceanography, meteorology, and environmental and ecological monitoring. Introduction to digital image processing and imaging geographic information system (GIS) software. P/NP or letter grading.


172. Advanced Remote Sensing and Data Processing. (4) Lecture, three hours; laboratory, one hour. Requisite: course 160. Digital processing methods for manipulating and analyzing image data. Topics include statistical description, geometric and radiometric correction, classification, image enhancement and filtering, and change detection schemes. Reinforcement of procedures presented in lecture with laboratory exercises and student project. P/NP or letter grading.

Regions


181. North America, Caribbean. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Study of geographic factors, physical and cultural, that are basic to understanding the historical development of North America and the contemporary economic and cultural geography of Mexico and countries of Central America and the West Indies. P/NP or letter grading.

182A. Spanish South America. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Study of geographic factors, physical and cultural, that are basic to understanding the historical development of Spanish South America and the contemporary economic and cultural geography of Brazil. P/NP or letter grading.

183. Europe. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Study of geographic conditions and their relation to economic, social, and political problems in Europe. P/NP or letter grading.

184. California. (4) (Formerly numbered 191.) Lecture, three hours; reading period, one hour. Limited to juniors/seniors. Systematic and regional treatment of geography of California, including physical, cultural, and economic aspects and detailed studies of various regions. P/NP or letter grading.

185. South and Southeast Asia. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Regional synthesis with varying emphasis on the people of South or Southeast Asia in their physical, biotic, and cultural environment and its dynamic transformation. P/NP or letter grading.

186. Contemporary China. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Systematic geographic analysis of elements of landscape, resources, population, and socioeconomic characteristics of the People’s Republic of China. Dynamics that have led to China’s major role in the East Asian and international scene, with special attention to China-Japan and Sino-American relations and their regional geographic basis. P/NP or letter grading.

187. Middle East. (4) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Analysis of economic, social, and political geography of the area extending from Iran to Morocco and from Turkey to Sudan. Emphasis on geographical themes and problems during historical and modern times. P/NP or letter grading.

Special Studies

194. Research Group Seminars: Geography. (2) Seminar, two hours; research group meeting, two hours. Designed for undergraduate students who are part of research group. Discussion of research methods and current literature relating to geographic field research of faculty members or students. May meet concurrently with graduate research seminar. May be repeated for credit with topic change. P/NP grading.

195. Mexican Central America, Caribbean. (2) Seminar, two hours. Designed for undergraduate students who are part of research group. Biweekly seminar to discuss emerging issues and controversies of field research in Mexican Central America and the Caribbean. Topics include climate, biogeography, soils, land-use, land tenure, and political economy. P/NP grading.

197. Central America, Caribbean. (4) Lecture, two hours; laboratory, two hours. Designed for juniors/seniors. Study of geographic factors, physical and cultural, that are basic to understanding the historical development of Spanish Central America and the contemporary economic and cultural geography of Mexico and countries of Central America. P/NP or letter grading.
195. Community or Corporate Internship in Geography. (Formerly numbered 199.) Tutorial, four hours. Limited to seniors. Internship in supervised setting in community agency or business. Students meet on regular basis with instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. P/NP or letter grading.

198A-198B. Honors Research in Geography I, II. (4-4) (Formerly numbered 199HA-199HB.) Tutorial, to be arranged. Preparation: 3.25 grade-point average overall, at least five upper-division geography courses with 3.5 grade-point average. Limited to juniors/seniors. Development and completion of honors thesis or comprehensive research project under direct supervision of one or two faculty members. Individual contract required. Letter grading.

199. Special Studies. (2 to 8) Tutorial, to be arranged. Limited to juniors with a B average in the major or seniors.

Graduate Courses

Environment

200. History and Paradigms of Geomorphology. (4) Lecture, two hours; discussion, one hour; reading period, eight hours. Preparation: two courses from 101, 103, 105, M107. Requisite: course 100. Analysis of geomorphic theories since the scientific revolution, with emphasis on catastrophism, uniformitarianism, glacial theories, eustasy and eustasy, evolution and cyclicity, thermodynamics and mechanics, quantification, and current paradigms. View of each theme in its contemporary milieu.

201. Coastal Geomorphology Seminar. (4) Discussion, three hours; reading period, five hours; fieldwork. Requisites: courses 100, 101. Discussion of selected topics pertaining to geomorphic processes and responses observable in the coastal zone. May be repeated for credit.

202. Fluvial Geomorphology Seminar. (4) Discussion, three hours; reading period, five hours; fieldwork. Requisites: courses 100 and 105, or Civil Engineering 150. Discussion of selected topics pertaining to action of running water in shaping the physical landscape. May be repeated for credit.

203. Glacial Geomorphology Seminar. (4) Discussion, three hours; reading period, five hours; fieldwork. Requisites: courses 100, 103. Discussion of selected topics pertaining to action of snow and ice in arctic and alpine environments. May be repeated for credit.

204A-204B-204C. Advanced Climatology. (4) Lecture, three hours; laboratory, one hour; preparation: first year of calculus and acquaintance with Fortran IV. Requisite: course 104. Courses must be taken in sequence. Introduction to tools and concepts of environmental physics of relevance to natural and man-made landscapes. Such basic intellectual, mathematical, and computer programming tools are of special concern to physical geographers, ecologists, and architcets.

205. Seminar: Climatology. (4) Discussion, three hours; reading period, one hour. Requisites: courses 204A, 204B, 204C. Selected topics. May be repeated for credit.

206. Introduction to Biophysical Modeling of Land Surface Processes and Land/Atmosphere Interactions. (4) Lecture, two hours; laboratory, one hour; reading period, one hour. Designed for graduate students. Presentation of introductory knowledge for graduate students to understand nature, principles, and scope of biophysical modeling of land surface processes, including ideal canopy model, radiation, heat and CO2 fluxes transfer, and satellite data application. Laboratory sessions included. S/U or letter grading.

207. Regional Climate and Terrestrial Surface Processes. (4) Seminar, three hours. Designed for graduate students. Physical concepts and basic principles of land-surface interactions. Exploration of topics in terms of regional and global perspective and implications. Human activities cause changes in land cover, which in turn affect regional climate. Some regions, in particular, appear as "hot spots." Regions to be studied in detail. S/U or letter grading.

208. Advanced Biogeography: Plants. (4) Lecture, two hours; discussion, one hour; reading period, one hour. Requisites: courses 108, and 110 or 116. Interactive review and analysis of physical and cultural factors influencing plant distributions.

212. Advanced Biogeography: Animals. (4) Lecture, two hours; discussion, one hour; reading period, one hour. Requisite: course 112. Intensive review and analysis of biophysical and cultural factors influencing animal distributions. S/U or letter grading.

213. Seminar: Biogeography. (4) Discussion, three hours; reading period, two hours. Requisite: course 208 or 212. Related research projects growing out of course 208 or 212. May be repeated for credit.

216. Advanced Ecological Geography. (4) Lecture, two hours; discussion, one hour; reading period, two hours. Preparation: at least one course from 200 through 205 or one appropriate graduate course in atmospheric and oceanic sciences or Earth and space sciences. Analysis of changing physical environment of Quaternary period. May be repeated for credit.

217. Quaternary Studies: Ecological Aspects. (4) Discussion, three hours; reading period, two hours. Requisites: courses 202 or 204A, 204B, and 204C or 208 or 212 or one appropriate graduate course in anthropology, botany, Earth and space sciences, or zoology. Analysis of ecological aspects of environmental change during Quaternary period. May be repeated for credit.

218. Advanced Medical Geography. (4) Lecture, two hours; discussion, one hour; reading period, one hour. Requisite: course 118. In-depth study of selected topics in medical geography and intense review of recent research.

223. Seminar: Humid Tropics. (4) Seminar, three hours; reading period, two hours. Designed for graduate students. Selected topics. Biophysical and cultural complexes of the humid tropics, with emphasis on problems related to human settlement and livelihood. May be repeated for credit. S/U or letter grading.

M229. Resource-Based Development. (4) (Same as Urban Planning M234C.) Discussion, three hours. Recommended preparation: Urban Planning 234A. Some major issues associated with development of specific natural resources. Topics include nature of particular resource (or region associated with it), its previous management, involvement of the state, corporations, and local groups, and environmental and social impact of its development. Letter grading.

Human Geography

231. Terminology and Theory in Political Economy: Deconstruction and Reconstruction of Approaches in Research, Writing, and Practice. (4) Discussion, three hours; reading period, three hours. Designed for graduate students. Deconstruction of oft-used terms in intellectual discourse with goal of making assumptions more explicit, analysis more concise, and use of theory to inform practice (and vice versa) more successful. Attempt to reconstruct a more concise and useful terminology to inform theoretical discussions of recent research in social/cultural geography, particularly around topics of gender, race sexuality, subjects and spatiality resistance and agency, and social difference and identity. S/U or letter grading.

232. Advanced Cultural Geography. (4) Lecture, two hours; discussion, one hour; reading period, one hour. Requisite: course 133. Lectures and discussions around specific aspects of development of cultural landscape in different geographic environments.

233. Seminar: Cultural Geography. (4) Seminar, three hours; reading period, two hours. Discussions on particular topics in cultural geography. Content may vary from year to year. May be repeated for credit. S/U or letter grading.

234. Environment and Subsistence in Indigenous Cultures. (4) Seminar, three hours. Discussion on resource-management strategies and environmental issues in indigenous cultures. Topics vary from year to year.

235. Seminar: Social Geography. (4) Seminar, three hours; reading period, one hour. Process of doing social/cultural geography entails conceptualizing, adapting, and reformulating social and critical theories of space, subject, and power. Examination of this process by considering theoretical themes that shape concepts of social space and social research. Theoretical discussions of recent research in social/cultural geography, particularly around topics of gender, race sexuality, subjects and spatiality resistance and agency, and social difference and identity. S/U or letter grading.

237. Seminar: Historical Geography. (4) Seminar, three hours; reading period, two hours. Theory and practice of historical geography in North America and Europe. May be repeated for credit. S/U or letter grading.

240. Advanced Political Geography: Geopolitics. (4) Lecture, two hours; discussion, one hour; reading period, one hour. Intensive study of theories and principles of geopolitics. Selected regions used as examples of differing techniques of study in geopolitics. S/U or letter grading.

241. Seminar: Political Geography. (4) Discussion, three hours; reading period, two hours. Requisite: course 240. Related research projects growing out of course 240. May be repeated for credit.


248. Location and Space Economy. (4) Lecture, two hours; discussion, one hour; reading period, one hour. Methods of locational analysis as applied to problems of regional growth and development. S/U or letter grading.

249. Seminar: Economic Geography. (4) Discussion, three hours; reading period, two hours. Requisite: course 248. Related research projects growing out of course 248. May be repeated for credit.

250. Urban Systems. (4) Lecture, two hours; discussion, one hour; reading period, one hour. General study of hierarchy of urban places, including diffusion within urban hierarchy and theories to account for location and size distribution of cities. S/U or letter grading.

251. Seminar: Urban Geography. (4) Discussion, three hours; reading period, two hours. Requisite: course 250. Related research projects growing out of course 250. May be repeated for credit.

Procedures

260. Advanced Field and Laboratory Analysis in Geomorphology. (4) Laboratory/fieldwork, 10 hours. Preparation: two courses from 200, 201, 202, 203, 215. Designed for graduate students. Examination of advanced field and laboratory procedures used in contemporary geomorphic research, with emphasis on scientific design, instrumentation, and data evaluation.

262. Advanced Field Analysis: Biogeography. (8) Fieldwork, 10 hours. Observation, measurement, and analysis of biogeographic phenomena, including identification and evaluation of biotic populations and communities and their modifications resulting from the impact of human activity.
269. Remote Sensing of Environment. (4) Laboratory, three hours; independent study, two hours. Requirement: course 169 or 170 or Earth and Space Sciences 150. Familiarity with a GIS or image processing package expected. Individualized research projects conducted on UNIX platforms within a structured course. All aspects of a modest but original project, including data acquisition, ingestion, and analysis; interpretation of results and presentation in publication-style format.

270A-M270B-M270C. Seminars: Climate Dynamics. (2 to 4 each) (Same as Atmospheric and Oceanic Sciences M270A-M270B-M270C and Earth and Space Sciences M270A-M270B-M270C.) Seminar, two hours. Archaeological, geochemical, micropaleontological, and stratigraphic evidence for climate change throughout geologic past. Rheology and dynamics of climatic subsystems: atmosphere and oceans, ice sheet and marine ice, lithosphere and mantle. Climate of other planets. Modeling, simulation, and prediction of modern climate on monthly, seasonal, and interannual time scale. May be repeated for credit, S/U or letter grading.


282. South America. (4) Seminar, three hours; reading period, two hours. Introduction to main issues in geography of South America, with focus mainly on cultural/historical geographical perspectives on the national period, themes and periods, and may be adapted to individual interests, S/U or letter grading.

283. Europe. (4) Seminar, two hours; discussion, two hours. Requirement: course 183. May be repeated for credit, S/U or letter grading.

286. Geography of Contemporary China. (4) Seminar, three hours; reading, two hours. Designed for graduate students. May be repeated for credit, S/U or letter grading.

299B. Geographic Data Visualization and Analysis. (4) Lecture, three hours; laboratory, two hours. Requirement: course M171. Use of linear models, discriminant functions, and factor analysis to analyze problems in geography, S/U or letter grading.

299D. Research Design in Geography. (4) Seminar, three hours; laboratory, two hours. Requirement: courses M40, 168. Development of broad base of knowledge and set of skills that foster conduct of high-quality geographic data analysis, S/U or letter grading.

319. Qualitative Methods and Methodology. (4) Seminar, three hours; laboratory, two hours. Examination of definition and use of qualitative methodology and methods in social-cultural geographic research. Exploration of relationship between methodology and epistemology; review of range of research methods and techniques, including interviewing and focus groups, observation, action research, ethnography, and interpretation of material culture, and identification of ethical and practical issues of conducting qualitative research, S/U or letter grading.

399. Research Design in Geography. (4) Lecture, three hours; laboratory, two hours. Preparation for and prevention of M.A. Thesis, (2 to 8) Independent study. May be repeated for credit, S/U grading.

399. Research for and Preparation of M.A. Thesis. (2 to 8) Independent study. May be repeated for credit, S/U grading.


**GERMANIC LANGUAGES**

College of Letters and Science

UCLA

212 Royce Hall Box 951539

Los Angeles, CA 90095-1539

(310) 825-3955

fax: (310) 825-9754

http://www.germanic.ucla.edu

Andrew R. Hewitt, Ph.D., Chair

Professors

Jesse L. Byock, Ph.D.

Sue-Ellen Case, Ph.D.

Andrew R. Hewitt, Ph.D.

Douglas M. Kellner, Ph.D. (George F. Kneller Professor of Education and Philosophy)

Robert S. Kirsner, Ph.D.

Kathleen L. Komar, Ph.D.

John A. McCumber, Ph.D.

Wolfgang Nehring, Ph.D.

James A. Schultz, Ph.D.

Hans Wagener, Ph.D.

Professors Emeriti

Ehrhard Bahr, Ph.D.

Franz H. Baulm, Ph.D.

Mariana D. Birnbaum, Ph.D.

Kenneth Chapman, Ph.D.

Carl W. Hagge, Ph.D.

William J. Mulloy, Ph.D.

Erik Wahlgren, Ph.D.

Associate Professors

Christopher M. Stevens, Ph.D.

Christopher J. Wild, Ph.D.

Assistant Professor

Todd S. Presner, Ph.D.

Adjunct Associate Professor

Peter I. Tokofsky, Ph.D.

**Scope and Objectives**

The Department of Germanic Languages offers an extraordinary array of courses in languages, literatures, and cultures. This broad range of studies offers training in specialized fields such as film, linguistics, folklore, and critical theory. Courses prepare students for a variety of careers, including law, business, international relations, academic professions, and publishing.

Undergraduate majors earn a Bachelor of Arts degree. The graduate program offers Master of Arts and Ph.D. degrees. Refer to the Scandinavian Section later in this catalog for information about the degrees in Scandinavian studies.

At all levels of study various specializations are possible. Language, literature, and culture studies are available in Afrikaans, Dutch, Old Norse, and Icelandic, in addition to German. The program also provides opportunity for study, work-study, and internships in a Ger-
man-speaking country or in a country related to the course of study.

**Undergraduate Study**

**Grammar/Composition Courses**
No credit is allowed for completing a less advanced course after successful completion of a more advanced course in Afrikaans, Dutch, German, and Old Norse grammar and/or composition. Students with demonstrated preparation may be permitted to transfer to a more advanced course with consent of the instructor.

**German B.A.**

**Preparation for the Major**
Required: German 1, 2, 3, 4, 5, 6, or equivalent. Students who have completed one year of college-level German language courses should enroll in course 4. Students who are in doubt as to their level of language proficiency or who are native speakers should consult the language program supervisor. Students in Plan C must also take Linguistics 20.

**Transfer Students**
Transfer applicants to the German major with Transfer Students C must also take Linguistics 20. or who are native speakers should consult the tract must then be read in the original language. The constructor that all texts authored in German are any course taught in English translation in the department must sign a contract with the instructor that all texts authored in German are to be read in the original language. The contract must then be filed with the undergraduate adviser. Only two such contract courses may be applied toward the major. All courses must be taken for a letter grade.

**Plan C: Germanic Languages/Linguistics**
Plan C is intended for students interested in the study of languages and linguistics and allows students to study more than one Germanic language.
Required: German 130A, 130B, 150, 170, C172, and eight additional upper division courses as follows: three courses in one other Germanic language (Scandinavian languages taught in the Scandinavian Section may be applied by petition to the undergraduate adviser), three linguistics courses from outside the department (i.e., anthropology, applied linguistics, linguistics, sociology) selected in consultation with the undergraduate adviser, and two electives from department offerings (excluding German 100A, 100B, 100C, and courses taught in English translation). All courses must be taken for a letter grade.

**Honors Program**
To qualify for graduation with departmental honors, students must earn a cumulative grade-point average of 3.6 or better in upper division German courses and a 3.3 overall GPA, and complete German 199 with a grade of A. Contact the departmental honors adviser for procedures, special arrangements, possible exceptions, and other information.

**German Minor**
To enter the German minor, students must have an overall grade-point average of 2.0 or better.

**Required Lower Division Courses (8 units):**
German 5 and 6 or equivalent.

**Required Upper Division Courses (20 units):**
Any five German courses (excluding German literature in translation).
All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Germanic Languages Minor**
To enter the Germanic Languages minor, students must have an overall grade-point average of 2.0 or better.

**Required Upper Division Courses (28 units):**
Seven courses in any of the following languages and literatures: Afrikaans, Dutch, German (excluding German literature in translation), Hungarian, Old Norse, Scandinavian languages, Yiddish.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Graduate Study**
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalbib/pgmgrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**
The Department of Germanic Languages offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Germanic Languages and a Master of Arts (M.A.) degree in Scandinavian (see Scandinavian Section).

**Afrikaans**

**Lower Division Course**
40. From Oppressed to Oppressor and Beyond: Literature in Afrikaans from Preapartheid to Post-apartheid Era in English Translation. (5) Lecture, four hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H. Development of all literature in Afrikaans, with special attention to authors and poets who protested apartheid — Brink, Breytenbach, Van Heerden, Jonker, Joubert, Krige, Krog, Leroux, Rabie, Small, and Willems. Additional readings by Coetzee, De Lange, Krog, and others on censorship, imprisonment, South African history, and post-colonial literary theory. P/NP or letter grading.

**Upper Division Courses**
105A. Elementary Afrikaans. (4) Lecture, four hours; language laboratory. Introduction to a sister language of modern Dutch and a national language of South Africa. Grammar, practice in listening, speaking, reading, and writing. P/NP or letter grading.
105B. Intermediate Afrikaans. (4) Lecture, four hours; language laboratory. Requisite: course 105A. Grammatical exercises; reading and linguistic analysis of texts from both literary and nonliterary sources. P/NP or letter grading.
135. Introduction to Afrikaans Literature. (4) Discussion, three hours. Requisite: course 105B. Analysis of selected works from founding of the Genootskap van Rege Afrikaaners in 1875 to the present time, including novels by recent writers such as Louw and Brink, as well as work of poets such as Eybers, Opperman, W.E.G. Louw, Van Wyk Louw, and Breytenbach. P/NP or letter grading.
199. Special Studies in Afrikaans. (2 to 4) Tutorial, to be arranged. Independent studies course for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a requisite. Letter grading.
Graduate Courses

596. Directed Individual Study or Research in Afri-" kaans.  (4) Tutorial, to be arranged with faculty mem-ber who directs the study or research (course section to be identified by two-letter code using initials of sponsoring instructor — see department for I.D. num-ber). May be repeated once. S/U grading.

597. Preparation for Ph.D. Qualifying Examina-tions.  (4) Tutorial, to be arranged with instructor (see department for I.D. number). S/U grading.

German

Lower Division Courses

1. Elementary German.  (4) Lecture, five hours; labo-ratory, one hour. Enforced requisite: course 1G. P/NP or letter grading.

2. Elementary German.  (4) Lecture, five hours; labo-ratory, one hour. Enforced requisite: course 2G. P/NP or letter grading.

3G. German for Graduate Students.  (4) Reading and translation, three hours. Requisite: course 2G. Preparation for Graduate Division foreign language reading requirement. May not be applied to-ward degree requirements. S/U grading.

5. Intermediate German.  (4) Lecture, four hours; labo-ratory, one hour. Enforced requisite: course 3G. P/NP or letter grading.

6. Intermediate German.  (4) Lecture, four hours; labo-ratory, one hour. Enforced requisite: course 4G. P/NP or letter grading.

8. Elementary German: Intensive.  (12) Lecture, 15 hours; laboratory, five hours. Intensive basic course in German equivalent to courses 1, 2, and 3. P/NP or letter grading.


12. German Conversation.  (4) Discussion, three hours. Enforced requisite: course 3. Discussion course designed for intermediate and advanced stu-dents who wish to improve their spoken command of the language. Topics of current student interest to be used as basis for conversation. P/NP or letter grading.

56. Figures Who Changed the World.  (5) Lecture, three hours; discussion, one hour. Historical exploration of major figures in German thought and action from pre-Christian times to the present, including novels by such writers as E.T.A. Hoffmann, Heine, Fontane, Rilke, Kafka, Brecht, Thomas Mann, Hesse, Grass, Böll, and Christa Wolf. P/NP or letter grading.

58. Knights and Ladies, Sex and Power at Medi-eval Court.  (5) Lecture; three hours; discussion, one hour. Introduction to culture of high medieval court, one of great achievements of European Middle Ages. P/NP or letter grading.

59. Holocaust in Film and Literature.  (5) Lecture/ screen-ings, five hours; discussion, one hour. Examination of images of Germany generated by Hollywood, cultural/ historical interface between Hollywood and Germany, and contemporary critiques of long-standing relation-ship between these cultural sites. Discussion of how and why cultural stereotypes are generated and maintained, and why film is a powerful tool in ideological discourse. P/NP or letter grading.

62. Technoscience and German Culture.  (5) Lecture, three hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Focus on history of Holocaust and its present memory through exami-nation of challenges and problems encountered in trying to imagine its horror through media of literature and film. P/NP or letter grading.

63W. German Exile Culture in Los Angeles.  (5) Lecture; three hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 55W. Focus on history of German exile culture in Los Angeles (lit-erature, film, music, architecture, philosophy) during the 1940s - 1960s, through anthropological, philosophical, political, and historical perspectives. Satisfies Writing II requirement. Letter grading.

65. Figures Who Changed the World.  (5) Lecture, three hours; discussion, one hour. Introduction to strains of German philosophy and political thought that resonated internationally. Use of version of “great man” model of history to move beyond such models in its understanding of how, exactly, intellectual cur-rents actually changed the world. P/NP or letter grading.

57. Hollywood and Germany.  (5) Lecture/screen-ings, five hours; discussion, one hour. Examination of images of Germany generated by Hollywood, cultural/ historical interface between Hollywood and Germany, and contemporary critiques of long-standing relation-ship between these cultural sites. Discussion of how and why cultural stereotypes are generated and maintained, and why film is a powerful tool in ideological discourse. P/NP or letter grading.

55W. German Exile Culture in Los Angeles.  (5) Lecture; three hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 55W. Focus on history of German exile culture in Los Angeles (lit-erature, film, music, architecture, philosophy) during the 1940s - 1960s, through anthropological, philosophical, political, and historical perspectives. Satisfies Writing II requirement. Letter grading.

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Dutch

Upper Division Courses

100. Modern Dutch Culture and Society.  (4) Lect-ure, three hours. Lectures, discussions, and readings in English. Survey of art, architecture, literature, film, Dutch government (including “Pillarization” — verzuil-ving), the two World Wars, housing policy, mass media, and rise of a multiracial society. Letter grading.

103A-103B. Elementary Dutch.  (4-4) Lecture, four hours; language laboratory. Course 103A is a prerequisite to 103B. Introduction to the standard language of the Netherlands and one of the three standard languages of Belgium. Practice in grammar, listening, speaking, reading, and writing. P/NP or letter grading.

3. Elementary German for graduate students.  (4) Reading and translation, three hours. Requisite: course 3G. Preparation for Graduate Division foreign language reading requirement. May not be applied to-ward degree requirements. S/U grading.

5. Intermediate German.  (4) Lecture, four hours; labo-ratory, one hour. Enforced requisite: course 3G. P/NP or letter grading.

6. Intermediate German.  (4) Lecture, four hours; labo-ratory, one hour. Enforced requisite: course 4G. P/NP or letter grading.

8. Elementary German: Intensive.  (12) Lecture, 15 hours; laboratory, five hours. Intensive basic course in German equivalent to courses 1, 2, and 3. P/NP or letter grading.


12. German Conversation.  (4) Discussion, three hours. Enforced requisite: course 3. Discussion course designed for intermediate and advanced stu-dents who wish to improve their spoken command of the language. Topics of current student interest to be used as basis for conversation. P/NP or letter grading.

50A-50B. Great Works of German Literature in Transl-a tion.  (4-5) Lecture. May not be applied to-ward completion of the major in German. P/NP or let-ter grading.

56. Figures Who Changed the World.  (5) Lecture, three hours; discussion, one hour. Historical exploration of major figures in German thought and action from pre-Christian times to the present, including novels by such writers as E.T.A. Hoffmann, Heine, Fontane, Rilke, Kafka, Brecht, Thomas Mann, Hesse, Grass, Böll, and Christa Wolf. P/NP or letter grading.

58. Knights and Ladies, Sex and Power at Medi-eval Court.  (5) Lecture; three hours; discussion, one hour. Introduction to culture of high medieval court, one of great achievements of European Middle Ages. P/NP or letter grading.

59. Holocaust in Film and Literature.  (5) Lecture/ screen-ings, five hours; discussion, one hour. History of Holocaust and its present memory through exami-nation of challenges and problems encountered in trying to imagine its horror through media of literature and film. P/NP or letter grading.

60W. War.  (5) Lecture; three hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Reflection on cultural history of war — on its sig-nificance from anthropological, cultural, and philo-sophical perspectives rather than from perspective of political and historical gains and losses. Emphasis on World War I, a war in which political and military con-frontment seemed particularly attuned to a sense of confrontationalism and scandal in cultural life. Satis-fies Writing II requirement. Letter grading.

61A-61D. Transatlantic Culture: Modern City in Central Europe.  (5 each) Lecture; three hours; dis-cussion, one hour. Historical exploration of major Central European cities and their cultures. P/NP or letter grading.

61G. Elementary German for graduate students.  (4) Reading and translation, three hours. Requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 55W. Focus on history of German exile culture in Los Angeles (lit-erature, film, music, architecture, philosophy) during the 1940s - 1960s, through anthropological, philosophical, political, and historical perspectives. Satisfies Writing II requirement. Letter grading.

62. Technoscience and German Culture.  (5) Lecture, three hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Focus on history of Holocaust and its present memory through exami-nation of challenges and problems encountered in trying to imagine its horror through media of literature and film. P/NP or letter grading.

63W. German Exile Culture in Los Angeles.  (5) Lecture; three hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 55W. Focus on history of German exile culture in Los Angeles (lit-erature, film, music, architecture, philosophy) during the 1940s - 1960s, through anthropological, philosophical, political, and historical perspectives. Satisfies Writing II requirement. Letter grading.
Upper Division Courses

110A. German History and Culture before 1500. (4) Lecture, three hours; discussion, one hour. Lectures, discussions, and readings in English; knowledge of German not required. Study of German culture and society from the beginning to 1500 as represented in literature, art, and architecture. P/NP or letter grading.

110B. German History and Culture from 1500 to 1914. (4) Lecture, three hours; discussion, one hour. Lectures, discussions, and readings in English; knowledge of German not required. Study of German culture and society as represented in literature, art, music, and architecture from Reformation and invention of printing to start of World War I. P/NP or letter grading.

110C. War, Politics, Art. (5) Lecture, three hours; discussion, one hour. Analysis of interrelationship between politics, social conditions, and the arts with respect to war. World Wars I and II and German history to be used as model for principal questions of society and philosophical thinking. P/NP or letter grading.

112. Jewish Writing and Thought in German Culture. (4) Lecture, three hours. Analysis of major issues in German Jewish thought (e.g., status, creative work, and reception of women writers in various periods such as Romanticism, Fascism, and/or divided [unified] Germany). Letter grading.

114. German Exile Culture in Los Angeles. (4) Lecture, three hours. Cultural and historical exploration of exile as site of creative activity for German writers and other artists during and after World War II. General questions of cultural migration and cultural transfer to be thematized. P/NP or letter grading.

116. Special Topics in Modern Literature and Culture. (4) Lecture, three hours. Content varies with instructor and may include works by authors such as Thomas Mann, Jakob Kliek, Brecht, Christa Wolf, and others. May be repeated for credit. Letter grading.

117. Thomas Mann, Hesse, Böll, and Grass: German Nobel Prize Winning Authors. (4) Lecture, three hours. Survey of Nobel Prize-winning German texts with eye for degree to which these authors’ visions reflect Nobel’s ideals of peace and progress of humanity. Texts include Weavers (Hauptmann), excerpts from Buddenbrooks (Mann), and Siddharta (Hesse). Viewing of films based on Lost Honor of Katharina Blum and Tin Drum. Letter grading.

118. Feminist Issues in German Literature and Culture. (4) Lecture, three hours. Analysis of major issues in German feminism today (e.g., status, creative work, and reception of women writers in various periods such as Romanticism, Fascism, and/or divided [unified] Germany). Letter grading.

119A. Introduction to German Drama. (5) Lecture, four hours. Enforced requisite: course 3. Introduction to four German plays (readings variable) and to different types of drama — tragedy, comedy, tragicomedy, absurd comedy, and short plays. Manipulation of drama theory. Reading, discussion, and analysis of plays in detail, practice in performing roles in class, and writing of short responses in German. May be repeated for credit. Letter grading.

119B. German Play Production. (5) Lecture, four hours. Requisites: courses 3 (enforced), 119A. Staging of production of play in German, working intensively on German pronunciation together in class and individually over Pure Voice. Students responsible for different tasks in theater production, including dress rehearsals and technical jobs such as costumes, set, lighting, and props. Students with minor parts work collaboratively on technical aspects and program notes, which involve further reading (in consultation with instructor). Two performances take place at end of quarter. May be repeated for credit. Letter grading.

120. German Folklore. (4) Lecture, three hours. Survey of various folk genres in cultural context, including legends, proverbs, and cultural enactments such as carnival. Letter grading.

122. Fairy Tales and the Fantastic. (5) Lecture, three hours; discussion, one hour. History and reception of folklore collections in Europe, with particular attention to ideology and influence of Grimms’ tales. Interpretation of selected tales and their transformation and interpretation of second half of two-century history of German philosophy, which may generally be characterized as philosophy that takes activity rather than passive subsistence to be fundamental nature of all things, is one of Germany’s greatest gifts to humanity. Exploration of first half of two-century history of German philosophy — period from Kant to Hegel, including Heidegger, Gadamer, Jaspers, and Frankfurth School theorists. Letter grading.


124. Advanced German Language through Cultural History and Current Affairs. (4) Lecture, three hours. Requisites: courses 130A, 130B. Advanced German language course that juxtaposes cultural history with current cultural, political, and public affairs. Students learn to use their own interactive media presentations. Letter grading.

130A-130B. Conversation and Composition on Contemporary German Culture and Society I, II. (4-4) Lecture, three hours. Requisite: course 6. Course 130A is requisite to 130B. Structured around themes as they emerge in contemporary German texts ranging from news magazine articles to literature, with emphasis on speaking and writing proficiency. Presentation software featured. P/NP or letter grading.


134. Advanced German Language through Cultural History and Current Affairs. (4) Lecture, three hours. Requisites: courses 130A, 130B. Advanced German language course that juxtaposes cultural history with current cultural, political, and public affairs. Students learn to use their own interactive media presentations. Letter grading.


140A. Introduction to German Poetry. (4) Lecture, three hours. Close reading of representative examples of German lyric poetry from early as well as recent literary periods, including systematic consideration of poetic conventions and forms, diction, imagery, symbolism, and metrics. Letter grading.

140B. Introduction to German Drama. (4) Lecture, three hours. Analysis of major issues in German literary periods such as Carnival, one-act play, lyric drama, lyric theater, historical drama, etc., including systematic review of dramatic forms, techniques, and theories. Texts selected from both contemporary and earlier periods. Letter grading.

140C. Introduction to German Narrative Prose. (4) Lecture, three hours. Analysis of narrative prose genres (e.g., short story, novella, fairy tales, etc.), including systematic review of narrative forms, techniques, and styles. Texts selected from both contemporary and earlier periods. Letter grading.

142. Introduction to 18th-Century Studies. (4) Lecture, three hours. Topics include German literature, culture, and society, works by Goethe, Lessing, Schiller, Kant, Mozart, and others. Letter grading.

144. Introduction to 19th-Century Studies. (4) Lecture, three hours. Presentation of major texts from Romanticism to realism, including Heine, Büchner, Heine, Fontane, and others. Letter grading.

145. 19th-Century German Philosophy. (4) Lecture, three hours. Analysis of selected modern works written between 1890 and 1945, including texts by authors such as Thomas Mann, Kafka, Rilke, Brecht, and others. Letter grading.

147. 20th-Century German Philosophy. (4) Lecture, three hours; discussion, one hour. German philosophy, which may generally be characterized as philosophy that takes activity rather than passive subsistence to be fundamental nature of all things, is one of Germany’s greatest gifts to humanity. Exploration of second half of two-century history of German philosophy — period from Kant to Hegel, including H. J. Gell, Kierkegaard, and Marx. Letter grading.

146. Introduction to Modern Literature. (4) Lecture, three hours. Analysis of selected modern works written between 1890 and 1945, including texts by authors such as Thomas Mann, Kafka, Rilke, Brecht, and others. Letter grading.

148. Introduction to Contemporary Literature. (4) Lecture, three hours. Analysis and discussion of German, Austrian, Swiss, and ex-GDR literatures from 1945 to the present. Examination of works such as Heinrich Böll, Günter Grass, Friedrich Dürenmatt, Elfielted Jelinek, and Christa Wolf with a view to their specific political and cultural context. Letter grading.

150. Language and Linguistics. (4) Lecture, three hours. Requisite or corequisite: course 130A. Theories and methods of linguistics, with emphasis on structure of modern standard German, its phonology, morphology, syntax, semantics, and pragmatics. Other topics include diachronic, spatial, and social variation of German (i.e., its historical development, dialectology, and sociolinguistic dimensions). Letter grading.

152. Studies in German Literature before 1750. (4) Lecture, three hours. Requisite: course 140A. Readings and analysis of major works from the Middle Ages to the baroque. Letter grading.

156. Goethe’s Faust. (4) Lecture, three hours. Requiae: course 130A. Detailed interpretation of Goethe’s major work, Faust, with special attention to other treatments of the Faust theme in European literature. Letter grading.


162. Advanced Study of Contemporary Literature and Culture. (4) Lecture, three hours. Requisite: course 130A. In- depth investigation of one topic in field of Germanic linguistics, such as phonetics and phonology, morphology and syntax, semantics and pragmatics, social and spatial variation (i.e., sociolinguistics and dialectology) of German, history of German. Letter grading.


178. Undergraduate Seminar. (4) Formerly numbered 190.) Seminar, three hours. Requisite: course 130A. Reading and analysis of major works of German classicism. May include problems in reception of classicism by later authors and cultural theorists. Letter grading.

190. Directed Research or Senior Project in German. (4) Formerly numbered 195.) Tutorial, three hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of study. Letter or P/N. Letter grading.


202A. Middle High German. (4) Lecture, three hours. Introduction to Middle High German language, with particular focus on developing facility in reading. Study of grammar, syntax, and vocabulary combined with introduction to poetic forms and cultural context. Letter grading. 202B. Readings in Middle High German Literature. (4) Lecture, three hours. Introduction to medi- eval German literature and literary history and to use of contemporaneous scholarship. Continued practice in reading Middle High German, although most texts to be read in modern translation. Letter grading.

217. History of the German Language. (4) Lecture, three hours. Selected readings from 1500 to 1700, with introduction to development of German as a modern literary language and to literary genres and cultural models. Involvement in German literary production and reception in German baroque. Letter grading.


207. Weimar Classicism. (4) Lecture, three hours. Reading and interpretation of major works of German classicism. May include problems in reception of classicism by later authors and cultural theorists. Letter grading.

208. Romanticism. (4) Lecture, three hours. Analy- sis of selected works of German Ro- mantics such as Friedrich Schlegel, Novalis, and Hoffman, with attention to relationship between Ro- manticism and other periods. Letter grading.


210A. Naturalism, Symbolism, and Expressionism. (4) Lecture, three hours. Analysis of selected works (poetry, drama, prose) of early modernism from Hauptmann to Kafka. Discussion of sociological spectaculum and pluralism of styles and forms. Letter grading.

210B. 20th-Century Novel to 1945. (4) Lecture, three hours. Prose works in first half of 20th cen- tury as they express war experience, crisis of con- sciousness, and social conditions, decision-making, as well as innovations in narrative technique. Letter grading.

211. Postwar Literature. (4) Lecture, three hours. Study of major works by German-speaking authors writing since World War II. Examination of issues such as identity crises, nationalism and the divided Germany, gender expectations, and social-political at- titudes. Letter or P/N. Letter grading.

212. Contemporary Literature and Culture. (4) Lecture, three hours. Analysis of current cultural is- sues and their relation to literary production and inter- pretation. Topics may include areas such as femi- nism, postcolonialism, postmodernism, and contem- porary theories of textuality. Letter grading.

213. Topics in Literature and Film. (4) Lecture, three hours. Focus on two different modes of cul- tural representation, examination of topics in German literature and film from Weimar Republic to the present. Study of media theory, feminist film theory, and interrelationships between film, literature, and social history. Letter grading.

217. History of the German Language. (4) Histori- cal survey of development of the standard literary German language from the time of Indo-European unity through proto-Germanic, West Germanic, medi- eval period, Reformation, baroque period, and En- lightenment until its final codification at the end of the 19th century.


232. Old High German. (4) Introduction to earliest phases of German literature, with extensive readings in major documents of that period (750 to 1050). Em- phasis on grammatical interpretation of these docu- ments and identification of dialects used in their com- position.


C238. Linguistic Theory and Grammatical Des-cription. (4) Lecture, three hours. Requisite: course 150 or 20. Problems in structure of Dutch and German, considered from theoretical frameworks such as sign-oriented linguistics, func- tional linguistics, discourse grammar, and cognitive linguistics. Discussion of formal linguistic approaches. Concurrently scheduled with course C172. Graduate students meet as a group one additional hour each week and write research papers of greater length and depth. Letter grading.

251. Seminar: Germanic Linguistics. (4) Seminar, three hours. Current topics in synchronic or diachron- ic linguistics, such as specific issues in generative grammar, sociolinguistics and dialectology, or lan- guage contact. Letter grading.

252. Seminar: Historical and Comparative Ger- manic Linguistics. (4) Topics selected from the field of historical German phonology and syntax according to needs and preparation of students enrolled (e.g., West Germanic and classification of the Ger- manic languages, development of Germanic verbal and nominal morphology, proto-Germanic syntax). Letter grading.


257. Seminar: Age of Goethe. (4) Seminar, three hours. Topics selected topics in literature and culture to be between 1775 and 1832, with special emphasis on work of Goethe and Schiller as it relates to philosophic texts such as Hegel’s Phänomenologie des Geistes or as it relates to historical events such as the French and American Revolutions. Letter grading.

258. Seminar: Romanticism. (4) Discussion of a specific author or topic from the Romantic period, possibly in close connection with course 208. Critical review of secondary works.


260. Seminar: Modern Period. (4) Seminar, three hours. In-depth analysis of a particular issue or area of post-1945 German literature and culture. Letter grading.


263. Seminar: Literary Theory. (4) Seminar, three hours. Special focus on particular theoretical school or interpretive paradigm. Content varies with instruc- tor. Letter grading.
Old Norse Studies
Lower Division Course

40. Heroic Journey in Northern Myth, Legend, and Epic. (4) Comparison of the Journeys of heroes. Readings in mythology, legend, folktales, and epic, including Nibelungenlied, Volsunga saga, Eddas, and Beowulf. Cultural and historic backgrounds to the texts. All readings in English.

Upper Division Courses

135. Vikings. (5) Lecture; three hours; discussion, one hour. Survey of history, anthropology, and archaeology of Viking Age society. Readings drawn on medieval sagas as well as secondary material, focus on impact of Vikings on northern Europe, and consider in which European and Scandinavian societies evolved in response to Viking incursions. P/NP or letter grading.

C139. The Saga. (4) Seminar; three hours. The sagas are the largest extant medieval prose literature. Texts in English, with selections from the different types of Icelandic sagas. Consideration of the history and society that produced these narratives. Concurrency scheduled with course C241.

C140. Viking Civilization and Literature. (4) Lecture; three hours. History, society, and culture of early Scandinavians. All texts in English, including readings in Old Norse sagas and Eddas. Concurrently scheduled with course C241.

C145. Old Norse Literature and Society. (4) Seminar, three hours. Critical issues in medieval Scandinavian studies. May be repeated for credit. Concurrently scheduled with course C140.

Graduate Courses

221. Advanced Old Norse Prose. (4) Requisite: course 152. Readings of major saga texts. Also, secondary sources which bear on specific issues in Old Norse literature and medieval Scandinavian history.


C241. Viking Civilization and Literature. (4) Lecture; three hours. History, society, and culture of early Scandinavians. All texts in English, including readings in Old Norse sagas and Eddas. Concurrently scheduled with course C140. Graduate students do additional readings and write more extensive research papers.

245A. Germanic and Scandinavian Mythology. (4) Seminar, three hours. Study of Northern myth and religion through close reading of Eddic texts and secondary sources.

C268. The Saga. (4) Seminar; three hours. The sagas are the largest extant medieval prose literature. Texts in English, with selections from the different types of Icelandic sagas. Consideration of the history and society that produced these narratives. Concurrently scheduled with course C241. Graduate students do additional readings and write more extensive research papers.

C272. Old Norse Literature and Society. (4) Seminar, three hours. Critical issues in medieval Scandinavian studies. May be repeated for credit. Concurrently scheduled with course C145. Graduate students do additional readings and write more extensive research papers.

596. Directed Individual Study or Research. (4 to 12) Tutorial, three hours. To be arranged with faculty member who directs study or research. Required research paper must be filed with department chair. S/U grading.

597. Preparation for Ph.D. Qualifying Examinations. (4) To be arranged with faculty member who directs the study or research (course section to be identified by two-letter code using initials of sponsoring instructor — see department for I.D. number). May be repeated once; however, only one course in the 500 series may be applied toward M.A. graduate course requirement. S/U grading.

Yiddish

Upper Division Courses

101A. Elementary Yiddish. (4) Lecture; four hours. Introduction to grammar; instruction in listening, speaking, and writing skills. P/NP or letter grading.


101C. Elementary Yiddish. (4) Lecture; four hours. Requisite: course 101B. P/NP or letter grading.

102A-102B. Accelerated Elementary Yiddish (5-6). Lecture; five hours; laboratory; one hour. Covers material in courses 101A, 101B, 101C in two terms rather than three. P/NP or letter grading.


121C. Special Topics in Yiddish Literature in English Translation. (4) Lecture; three hours. Varying topics of importance and relevance to Yiddish literary study. Reading and analysis of a wide range of 19th- and 20th-century literature. P/NP or letter grading.


131C. Special Topics in Yiddish Literature. (4) Lecture; three hours. Requisite: course 131A or 131B. Varying topics of importance and relevance to Yiddish literary study. Reading and analysis of a wide range of 19th- and 20th-century literature. P/NP or letter grading.

197. Individual Studies in Yiddish. (2 to 4) (Formerly numbered 199.) Tutorial, to be arranged. Limited to juniors/seniors. Individual intensive study of more specialized investigation of topics in Yiddish, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.
All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Gerontology**

**Upper Division Courses**

**M104C. Diversity in Aging: Roles of Gender and Ethnicity.** (Same as Social Welfare M104C and Women’s Studies M104C.) Lecture, four hours. Exploration of complexity of variables related to diversity of the aging population and variability in aging process. Examination of gender and ethnicity within context of both physical and social aging, in a multidisciplinary perspective utilizing faculty from a variety of fields to address issues of diversity. Letter grading.

**M104D. Public Policy and Aging.** (Same as Social Welfare M104D.) Examination of theoretical models and concepts of the policy process, with application to aging policy. Analysis of decision-making processes that affect aging policy. Description of history of contemporary aging policy. Exploration of current policy issues affecting the elderly. P/NP or letter grading.

**M104E. Social Aspects of Aging.** (Same as Social Welfare M104E.) Topics include theories of aging, economic factors, changing roles, social relationships, and special populations. Weekly seminars organized around a key aspect of social gerontology. P/NP or letter grading.

**M119O. Psychology of Aging.** (Same as Psychology M119O.) Requisite: Psychology 115. Designed for juniors/seniors. Aging refers to developmental changes occurring at end stages of life. Some alterations that occur represent improvement, others are detrimental. Examination of impact of aging process on mental phenomena and exploration of ways in which positive changes can be maximally utilized and impact of detrimental alterations minimized. P/NP or letter grading.

**M119X. Biology and Behavioral Neuroscience of Aging.** (Same as Psychology M119X.) Lecture, three hours. Designed for juniors/seniors. Biologic mechanisms of aging process and its terminal phase, death, have been increasingly studied in recent years. Establishment of what is known experimentally about biology and behavioral neuroscience of aging and evaluation of theories developed to account for this knowledge. P/NP or letter grading.

**120. Sex and Aging.** (4) Lecture, three hours. Sexuality in aging from psychological, physiological, physical, and psychosocial perspectives, with emphasis on differences between females and males concerning physical and social changes that occur with aging and how this impacts on emotional well-being and human sexual response. P/NP or letter grading.

**M140. Introduction to Study of Aging.** (4) Same as Psychology M140 and Social Welfare M140.) Lecture, three hours. Designed for juniors/seniors. Perspectives on major features of human aging — biological, social, psychological, and humanistic. Introduction to information on the range of influences on aging to prepare students for subsequent specialization. P/NP or letter grading.

**M141. Women, Health, and Aging: Policy Issues.** (4) Same as Health Services CM141 and Women's Studies M141.) Lecture, three hours; discussion, one hour. Preparation: two upper division social sciences courses, two upper division biological sciences courses. Social and economic context of older women's aging, major physical and psychological changes older women experience, delivery of health services to this population, and policies that respond to their health needs. Letter grading.

**M150. Sociology of Aging.** (4) Same as Sociology M150.) Lecture, three hours; discussion, one hour. Study of sociological processes shaping definition, experience, and response to aging in contemporary society. Topics include race, class, and gender in aging over life course; interpersonal relations and social worlds of aged; caregiving relations and institutions; professions concerned with aged and Aging.

**195. Community or Corporate Internship in Gerontology.** (4) Tutorial, one hour; internship (approved community setting), eight hours. Requisites: courses M119O or M119X, and M140. Limited to juniors/seniors. Internship in applications of gerontology in supervised setting in community agency or business. Students meet on regular basis with sponsor and provide periodic reports of their experience. Culminating report required. May be repeated for credit, but only 8 units may be applied toward minor. Individual contract with supervising placement sponsor required. Information and contracts may be obtained from Gerontology Advising Office, 8631 Franz Hall. P/NP or letter grading.

**199A. Directed Research or Senior Project in Gerontology.** (2 to 4) Tutorial, six to 12 hours. Requisites: courses M119O or M119X, and M140. Limited to juniors/seniors. Entry-level research apprentice with practical applications of gerontology through research under guidance of faculty mentor. Individual contract required. Information and contracts may be obtained from Gerontology Advising Office, 8631 Franz Hall. P/NP or letter grading.

**199B. Guided Research or Senior Project in Gerontology.** (4) Tutorial, to be arranged. Requisites: courses M119O or M119X, and M140. Limited to juniors/seniors. Supervised individual research under guidance of gerontology faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. Information and contracts may be obtained from Gerontology Advising Office, 8631 Franz Hall. Letter grading.

**GLOBAL STUDIES**

**Interdepartmental Program College of Letters and Science**

**GLOBAL STUDIES / 361**

**Global Studies / 361**

**John A. Agnew, Ph.D., Chair**

**Faculty Advisory Committee**

John A. Agnew, Ph.D. (Geography)
Andrew Apter, Ph.D. (Anthropology, History)
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Dominic R. Thomas, Ph.D. (Comparative Literature, French and Francophone Studies)
Daniel S. Treisman, Ph.D. (Political Science)
Amy B. Ziegart, Ph.D. (Public Policy)
Scope and Objectives

The Global Studies major provides undergraduates with a rigorous interdisciplinary education in the principal issues confronting today's globalized world. The curriculum features three thematic pillars that capture the principal dimensions of the unprecedented depth and breadth of interconnectedness among nation-states, ethnic and religious groups, and individuals. *Culture and society* courses concentrate on the tensions between local ways of life with deep historical, linguistic, ethnic, and religious roots and today's pressures for transnational cultures and multiple identities, fueled by the communication of ideas and the movement of people all around the world. *Governance and conflict* courses focus on challenges to the nation-state from forms of governance above (regional and global forms of governance) and below (autonomy and secessionist movements) and from security threats beyond interstate warfare (ethnic conflict, terrorism, civil wars). *Markets* courses address the interactions among global, regional, national, and subnational economic processes and market dynamics, their effects on different societies with respect to economic growth, poverty, inequality, and the interactions among market forces, political institutions, and public policy.

The curriculum draws on insights from disciplines across the humanities and social sciences to give students the theoretical and methodological skills and knowledge base necessary to understand this complex and rapidly changing world.

Undergraduate Study

**Global Studies B.A.**

**Admission**

To enter the Global Studies major, students must have a minimum grade-point average of 2.5 and must have completed all non-language preparation for the major courses and one modern foreign language equivalent to level 3 at UCLA. Interested students are strongly advised to meet with the academic counselor to discuss the requirements and must file a petition in the Undergraduate Advising Office, 10375 Bunche Hall, to declare the major.

**Preparation for the Major**

*Required:*

- Global Studies 1; one statistics course selected from Political Science 6, 6R, Statistics 10, 11, or 12; demonstrated proficiency equivalent to level 5 at UCLA in one modern foreign language; and five additional courses as follows: (1) one *culture and society* course selected from Anthropology 9, Comparative Literature 1C or 2C, 1D or 2D, Ethnomusicology 25, Geography 3, 6, History 2B, or World Arts and Cultures 20, (2) one *government and conflict* course selected from History 22, Political Science 10, 20, 30, 50, 50R, or Sociology 1, and (3) one *markets* course selected from Economics 1, 2, or Geography 4.

- The remaining two courses, taken from two separate categories, may be selected from the three lists above. One course from the following list may be applied toward the *culture and society* category: Asian 70C, French 14, 14W, Italian 42A, 42B, Near Eastern Languages 50C, Portuguese M42, M44, Russian 90B, 90BW, Spanish M42, M44.

*Transfer Students*

Transfer applicants to the Global Studies major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one modern world history course, one major world region languages and cultures course, one international politics course, one macroeconomics or microeconomics course, one statistics course, and demonstrated proficiency equivalent to level 3 at UCLA in one modern foreign language.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

*Required:*


- During their senior year, students must also take Global Studies 191, 194, 199A, and 199B.

Global Learning Institutes

After successful completion of Global Studies 100A and 100B, majors are expected to attend a summer Global Learning Institute at one of several locations around the world in which they enroll in Global Studies 110A and 110B. Students who cannot attend the summer travel study program must instead take two upper division courses on the globalization of one of the world's regions, subject to approval by the program chair.

At the end of the institute, students may stay in several locations around the world in which they enroll in Global Studies 110A and 110B.

Global Studies Minor

The Global Studies minor offers students a multidisciplinary curriculum in the humanities and social sciences through which they can explore the complex and multifaceted interconnections that characterize the contemporary world. The minor is designed to complement and enrich studies in their major.

To enter the minor, students must (1) be in good academic standing (minimum 2.0 grade-point average) and (2) have completed Global Studies 1 and one course in two of the following three categories: (a) *culture and society* — Anthropology 9, Asian 70C, Comparative Literature 1C or 2C, 1D or 2D, Ethnomusicology 25, French 14, 14W, Geography 3, 6, History 2B, Italian 42A, 42B, Near Eastern Languages 50C, Portuguese M42, M44, Russian 90B, 90BW, Spanish M42, M44, World Arts and Cultures 20, (b) *government and conflict* — History 22, Political Science 10, 20, 30, 50, 50R, Sociology 1, and (c) *markets* — Economics 1, 2, Geography 4.


Global Studies minors are highly encouraged to participate in a summer Global Learning Institute. The courses offered, Global Studies 110A and 110B, may be applied toward any two of the elective categories (*culture and society, government and conflict, and markets*).

No more than two upper division courses (8 to 10 units) may be applied toward both this minor and a major or minor in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.
Global Studies

Lower Division Course

1. Introduction to Global Studies. (5) Lecture, three hours; discussion, one hour. Introduction to phenomenon of globalization and broad range of cultural, economic, political, and social issues confronting globalized world today. Structured around three thematic categories — culture and society, governance and conflict, and markets — designed to capture principal dimensions of multifaceted connections among nation-states, nongovernmental organizations, ethnic, cultural, and religious groups, and populations around world. P/NP or letter grading.

Upper Division Courses

100A. Globalization: Concepts and History. (5) Lecture, three hours; discussion, one hour. Enforced requisite: course 1. Introduction to concepts and history of globalization, addressing different processes and forms of globalization while attempting to develop methods and theories through which aspects of globalization can be more readily understood. Letter grading.

100B. Globalization: Contemporary Issues. (5) Lecture, three hours; discussion, one hour. Requisite: course 100A. Application of theoretical tools and historical perspective of course 100A to most pressing contemporary issues concerning globalization. Issues include globalization and Americanization; migration, culture, and identity; terrorism and civil war; global and regional governance; global media, entertainment, and communication; and globalization and inequality. Letter grading.

110A. Globalization in Context. (5) Lecture, six hours. Requisite: course 100B. Corequisite: course 110B. Cultural, economic, history, and politics of different locations around world and how they are affected by globalization. Field trips included to gain first-hand experience of these processes. Offered in summer only. P/NP or letter grading.


announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Health Services offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Health Services.

Health Services

Upper Division Courses

100. Health Services Organization. (4) Lecture, four hours; discussion, one hour. Preparation: 4 units of social sciences. Structure and function of American healthcare system; issues and forces shaping its future. P/NP or letter grading.


C121. Tobacco: Prevention, Use, and Public Policy. (4) Lecture, four hours. Designed for seniors/internees. Study of tobacco use and its health consequences, including interplay of historical, biological, sociocultural, political, and economic forces with knowledge, attitudes, and behavior choices of individuals. Introduction to prevention interventions, cessation interventions, anti-tobacco efforts in the U.S., and international trends in tobacco use. Concurrently scheduled with course CM221. Letter grading.

CM141. Women, Health, and Aging: Policy Issues. (4) (Same as Gerontology M141 and Women’s Studies M141.) Lecture, three hours; discussion, one hour. Preparation: two upper division social sciences courses, two upper division biological sciences courses. Social and economic context of older women’s aging, major physical and psychological changes older women experience, delivery of health services to this population, and policies that respond to their health needs. Concurrently scheduled with course CM241. Letter grading.

197. Individual Studies in Health Services. (2 to 4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Graduate Courses

200A-200B. Health Systems Organization and Financing. (4-4) Lecture, four hours; discussion, two hours. Limited to graduate health services students. In-depth analysis of health services systems in the U.S.; using relevant theories, concepts, and models. S/U or letter grading.

M204A-M204B-M204C. Seminars: Pharmacoeconomic Analysis and Policy. (1-1-2) (Same as Economics M204L-M204M-M204N.) Seminar, three hours every other week for three terms. Requisites: course M236, Economics 201A, 201B, 201C. Limited to graduate public health and economics students. Various topics in economics of pharmaceutical industries, including costs of innovation, drug regulation, and economic impact of pharmaceuticals. In Progress (M204A, M204B) and S/U or letter (M204C) grading.

205. Pharmaceutical Policy. (4) Lecture, three hours. Policy issues pertaining to pharmaceutical sector. Topics include determinants of expenditures on drugs, price setting in industry, health insurance coverage for pharmaceuticals, and research and development process. Letter grading.


207A-207B-207C. Current Health Services Topics. (3-3-3) Seminar, two hours per month. Designed for graduate students. Examination and discussion of current health services topics in various practice sectors, with focus on organizational leadership and direction in addressing these issues. In Progress (207A, 207B) and S/U or letter (207C) grading.


220. Seminar: Cost Containment. (4) Seminar, three hours. Through lectures and discussion of journal articles, analysis of success and failure of alternative methods. Discussion of integer programming. Examination of how other countries have controlled their costs. Letter grading.

CM221. Tobacco: Prevention, Use, and Public Policy. (4) (Same as Community Health 122C and Public Health 222C.) Lecture, four hours. Designed for juniors/seniors and graduate students. Study of tobacco use and its health consequences, including interplay of historical, biological, sociocultural, political, and economic forces with knowledge, attitudes, and behavior choices of individuals. Introduction to prevention interventions, cessation interventions, anti-tobacco efforts in the U.S., and international trends in tobacco use. Concurrently scheduled with course C121. Letter grading.

231. History of Public Health. (4) Discussion, three hours. Designed for doctoral students. Emphasis on topics which illuminate current issues in public health policy. Discussion of historical perspectives on healthcare providers, healthcare institutions, healthcare reform movements, public health policies, childbirth, and AIDS. S/U or letter grading.

232. Governmental Health Services and Trends. (4) Lecture, four hours. Preparation: two upper division social or behavioral sciences courses. Requisite: course 100. Systematic analysis of interface between governmental and private health services and agencies at all jurisdictional levels. Study of changing relationships between traditional public health and newer medical and quality control functions. S/U or letter grading.


M236. Microeconomic Theory of Health Sector. (4) (Same as Public Policy M236.) Lecture, four hours; discussion, two hours. Preparation: intermediate microeconomics. Requisites: Biostatistics 100A, Microeconomic aspects of healthcare system, including health manpower substitution, choice of efficient modes of treatment, market efficiency, and competition. Letter grading.

237A. Special Topics in Health Services Research Methodology. (4) Lecture, four hours. Requisites: Biostatistics 200A, Approaches to conceptualization, modeling, design, literature reviews, sampling, data collection, and research. Development of health services research proposal required. Letter grading.


239. Aging and Long-Term Care. (4) Lecture, four hours. Requisites: courses 100, 238, Community Health Sciences 270A, 270B. Long-term care of the chronically ill elderly examined from perspective of political and socioeconomic trends, including population projections at risk, policy options, and alternative forms of care such as nursing homes, home care, and care by informal support systems. Letter grading.


CM241. Women, Health, and Aging: Policy Issues. (4) (Same as Social Welfare M290D.) Lecture, three hours; discussion, one hour. Preparation: two upper division biological sciences courses. Social and economic context of older women’s aging, major physical and psychological changes older women experience, delivery of health services to this population, and policies that respond to their health needs. Concurrently scheduled with course CM141. Letter grading.

M242. Determinants of Health. (4) (Same as Community Health Sciences M232.) Lecture, three hours; discussion, one hour. Preparation: two upper division social sciences courses, two upper division biological sciences courses. Social and economic context of older women’s aging, major physical and psychological changes older women experience, delivery of health services to this population, and policies that respond to their health needs. Concurrently scheduled with course CM141. Letter grading.


249A-249Z. Special Topics in Health Services. (2 to 4 each) Hours to be arranged. Requisites for each offering to be announced by department. Advance seminars covering current issues and special topics in health policy, health financing, and organization and administration of health services. Sections offered on regular basis, with topics announced in preceding term. May be repeated for credit with topic change.

249D. Principles of Organization Leadership: Applications in Public Health and Welfare. (4) Lecture, three hours; discussion, three hours. Designed for graduate students. Examination of principles and models of organization leadership, including presentation by current leaders in the fields of health and welfare. Theories and empirical investigations of leadership qualities. Letter grading.

M249E. Advanced Topics in Health Economics. (4) (Same as Public Policy M266.) Seminar, four hours. Requisites: courses 200A, 200B, M236. Advanced treatment of number of topics in health economics, including mental health economics, pharmaceutical economics, and relationships between labor supply, welfare, and health. Letter grading.

249F. Quality Assessment and Assurance. (4) Seminar, four hours. Requisites: course 249D or equivalent. Focus on one health service or epidemiology course. Requisites: course 100, Biostatistics 100A, Epidemiology 100. Fundamental issues in quality assessment, quality assurance, and measurement. Letter grading.


249H. Current Research Issues. (2 to 4) Discussion, two hours. Designed for doctoral students. Review of articles in health services journals nominated as the best published during 1990. Analysis of articles to determine contribution to theory, methods, and or implications for management or policy in health services organizations or health services as a field. S/U or letter grading.

249L. Seminar Series. (2 to 4) Seminar, two hours. Designed for doctoral students. Presentation of proposed or ongoing research projects by faculty and students. Requisites: one hour of preparation: one health services or epidemiology course. Requisites: course 100, Biostatistics 100A, Epidemiology 100. Fundamental issues in quality assessment, quality assurance, and measurement. Letter grading.

M249M. Mental Health Services. (4) (Same as Psychiatry M251L.) Lecture, three hours. Requisites: courses 200A, 200B. Designed for doctoral students. Survey of contemporary American delivery of health services to emotionally and mentally ill and retarded. Analysis of characteristics of such services, with historical background of their evolution and projections of their future prospects. Letter grading.


M249L. Ethical Issues in Public Health. (4) (Same as Community Health Sciences M249L.) Lecture, four hours. Requisites: courses 200A, 200B. Case conferences on real-life experience, focus on ethical issues in health service organization and management, including ethical issues related to conflict of interest, quality of care, health insurance selection, choice of drugs, reproductive rights, AIDS, and resource allocation. Letter grading.

249M. Review of Current Health Services Management Literature. (2) Lecture, two hours. Designed to help students remain current on developments in health services management and to place these current developments in proper context of academic research and theory. Letter grading.

249N. Accessing, Analyzing, and Presenting Health Care Management Data. (2) Lecture, two hours. Designed to provide first-year M.P.H. health professional students with basic skills, and acquisition and quantitative analysis of data for healthcare management, as well as written and oral presentation of those results. Letter grading.

249O. Tobacco and Public Policy. (4) Lecture, four hours. Information and analysis of principal issues in tobacco control. As administrators, researchers, and activists in field of tobacco control, professionals in all specialties of public health should be fully informed on strategies to combat worldwide tobacco epidemic. Letter grading.

249P. Ethical Issues in Healthcare Executive. (2) Lecture, two hours. Introduction to ethical issues facing managers in healthcare organizations today. Understanding and resolving these issues within a framework. Ethical aspects of management and administration of health care organizations, impact of judicial and legislative actions on scope of decision making, analysis and resolution of ethical issues within context of organizational decision support system. Letter grading.

249Q. Editorial Board Apprenticeship. (2) Seminar, two hours. Designed for postdoctoral fellows and advanced Ph.D. students. Participation in peer review process for academic journal, Health Psychology, with consideration of interface between behavioral science, health, and medicine. Reading and discussion of submissions and advising of editor on suitability for full review. S/U grading.

249R. Cancer Prevention and Control Research. (2) Seminar, two hours. Limited to graduate students. Presentations by faculty members and outside speakers, as well as students, on research topics in cancer prevention and control as well as care delivery issues such as grant writing, scientific review process, research funding, and other academic issues. Presentation of student research in progress as well as solicitation of feedback from class regarding grant proposals, manuscript submissions, and future directions for research. Possible reviews of assigned articles, with focus on particular topics in cancer prevention and control. S/U grading.

250. Evolution of Health Professions in the 20th Century. (4) Lecture, two hours; discussion, two hours. During the 20th century there have been dramatic changes in composition of health professions. Review of changes and description of processes by which lay persons are educated/socialized into major subgroups of health professions. Review of major social forces external to healthcare system that affect its composition. Letter grading.

251. Quality Improvement and Informatics. (4) Lecture, four hours. Requisites: course 100, Biostatistics 100A. Introduction to concepts of health quality measurement, process improvement, and information systems, as well as organizational aspects of implementing them. Letter grading.

M252. Medicare Reform. (4) (Same as Public Policy M252.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Analytical and managerial skills learned earlier to be used to analyze problems with existing medicare program and to develop specific options for reforming features of program to accommodate coming pressures generated by retirement of baby-bloom generation. Letter grading.
286. American Political Institutions and Health Policy. (4) Lecture, three hours; discussion, one hour. To effectively participate in policy process as analyst, policymaker, advocate, or citizen, it is necessary to understand institutional and political context within which policy is made. Introduction to federal and state policy-making, with focus on health policy. Discussion of federalism and constitutionalism. Examination of stakeholders, public, interest groups, and nature of issues space for health policy. Structure and process of political institutions; Congress, Presi- dent, executive agencies, courts, and administrative law. State responsibilities and federal/state relations. How analysis enters policy process with examination of roles of federal analytic agencies and private research and advocacy groups. Letter grading.

M287. Politics of Health Policy. (4) (Same as Community Health Sciences M287.) Lecture, three hours; discussion, one hour. Requisites: courses 200A and 200B, or Community Health Sciences 210. Examination of politics of health policy process, including effects of political structure and institutions; economic and social factors; interest groups, classes, and social movements; and public opinion; and other factors. Letter grading.

288. Role and Impact of Technology on Health Services. (4) (Lecture, four hours. Examination of role and impact of technology on health services in the U.S. from point of view of system itself. Exploration of various types of technologies for their policy, economic, and organizational impact. S/U or letter grading.

400. Field Studies in Health Services. (2 or 4) Lecture, three hours. Preparation: summer internship. Required of all graduate M.P.H. students. Continuation of summer placement in organizations for delivery, financing, and evaluation of health services. Preparation of consulting report based on organizational problem or project from summer internship. Exposure to selected professional development issues. Letter grading.

401. Public Health Informatics. (4) Lecture, three hours. Preparation: general familiarity and understanding of basic information technologies. Recommended requisite: course 251. Introduction to field of public health informatics and examination of impact of information technology on practice of public health. Entire process, from systems conceptualization and design to project planning and development to system implementation and use. Letter grading.


M411. Issues in Cancer Prevention and Control. (4) (Same as Community Health Sciences M411.) Lecture, four hours for juniors or seniors, and graduate students. Introduction to causes and characteristics of the cancer epidemic, cancer control, goals for the nation, and interventions designed to encourage smoking cessation/prevention, cancer screening, and other dietary, psychosocial, and lifestyle changes. Letter grading.


430. New Developments in E-Health and Internet. (4) Lecture, four hours. Introduction of new technologies in healthcare e-commerce/internet/mobile area, with emphasis on general background, review of applications, and discussion of organizational and managerial issues dealing with successful use and implementation of technologies. S/U or letter grading.

431. Managerial Processes in Health Services Organizations. (4) Lecture, one hour; laboratory, three hours. Requisites: courses 100, 234. Managerial skills assessment and development, with emphasis on organizations at several levels: individual, interpersonal, group, intergroup, system, and interorganization. Unique features of health services organizations are stressed as applications are presented. Letter grading.

432. Integrative Seminar: Health Services Management. (4) Seminar, four hours. Requisite: course 431. Experience in development and presentation of cases involving administrative problems for solution by teams of students and faculty. S/U or letter grading.


434. Employer/Employee Health Management. (4) Lecture, two hours; discussion, two hours. Preparation: a combination of three graduate courses in health planning, hospital finance, health policy, health insurance, occupational health, health services research, and health information systems. Requisite: course 100. Preview and analysis of how employer and employee groups provide, sponsor, and manage health-related services for others. S/U or letter grading.


438. Issues and Problems of Local Health Admin- istration. (4) Lecture, three hours. Preparation: one health services course covering courses 200, 200B, Epi- demiology 100. Overview of administrative issues currently faced by local health departments, including providing public health programs during fiscal contrac- tions, quality improvement, interagency relation- ships and partnerships, and political and public inter- actions. Letter grading.

439. Dental Care Administration. (4) Lecture, three to four hours. Requisites or corequisites: Biostatistics 100A, Epidemiology 100. In-depth examination of several specific dental care policy issues: manpower, relationship of treatment to disease, national health program strategies, and evaluation mechanisms. Letter grading.


441. Ambulatory Care in the U.S. (4) Seminar, three hours. Requisites: courses 200A, 200B, 403, Management 403. Introduction to organization and management concepts, problems, and issues in ambulatory health services, including financial manage- ment and information systems requirements. Letter grading.


443A. Biological and Social Bases of Prevention. (4) Lecture, two hours; discussion, two hours. Requi- sites: courses 200A (or 200B and 203B). Biostatistics 100A, Epidemiology 100. Designed for graduate stu- dents. Development, current status, and potential of preventive medicine in public health practice, focusing on risk indicator approach (exercise, alcohol, stress, etc.), with consideration of program settings, delivery problems, and issues. Letter grading.


447. State Health Policy Issues. (4) Seminar, three hours. Preparation: course in health policy development and implementation at state govern- ment level, with emphasis on financing, direct provi- sion, and regulation of healthcare services, facilities, equipment technology, and manpower. Exploration of intergovernmental relationships. S/U or letter grading.


M448D. Case Studies in Dental Practice. (2) (Same as Dentistry M433A.) Lecture, two hours. Pro- vides students with practice methodology for evalua- tion of dental care setting and experience, providing foundation for evaluation of programs. S/U grading.

M449A-M449B. Child Health, Programs, and Poli- cies. (4-4) (Same as Community Health Sciences M433A.) Lecture, four hours. Requisite: course 200. Course M449A is requisite to M449B. Ex- amination of history of child health policy trends and determinants of health, structure, and function of health service system; needs, programs, and policies affecting especially at-risk populations. Letter grading.

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. No more than 8 units may be applied toward master’s degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. Limited to graduate students. Individual guided studies under direct faculty supervision. Only 4 units may be applied toward M.Ph. and M.S. minimum total course requirement. May be repeated for credit; S/U or letter grading.

597. Preparation for Master’s Comprehensive or Doctoral Qualifying Examinations. (2 to 12) Tutorial, to be arranged. Limited to graduate students. May not be applied toward any degree course requirements. May be repeated for credit; S/U grading.

598. Master’s Thesis Research. (2 to 8) Tutorial, to be arranged. Only 4 units may be applied toward M.Ph. and M.S. minimum total course requirement; may not be applied toward minimum graduate course requirement. May be repeated for credit; S/U grading.

599. Doctoral Dissertation Research. (2 to 12) Tutorial, to be arranged. May not be applied toward any degree course requirements. May be repeated for credit; S/U grading.

HISTORY
College of Letters and Science
UCLA
6265 Bunche Hall
Box 951473
Los Angeles, CA 90095-1473
(310) 825-4601
fax: (310) 206-9630
http://www.history.ucla.edu

Edward A. Alpers, Ph.D., Chair

Professors
Edward A. Alpers, Ph.D.
Francis R. Anderson, B.A.
Andrew Apter, Ph.D.
Stephen A. Aron, Ph.D.
Peter Baldwin, Ph.D.
Ivan T. Berend, Ph.D.
Kathryn Bernhardt, Ph.D.
Ruth H. Bloch, Ph.D.
Robert P. Brenner, Ph.D.
Brian P. Copenhaver, Ph.D. (Steven F. and Christine L. Udvar-Hazy Professor)
Sonaya de Chadarevian, Ph.D., Acting
Ellen C. DuBois, Ph.D.
John Duncan, Ph.D.
Christopher Ehret, Ph.D.
Caroline C. Ford, Ph.D.
Robert G. Frank, Jr., Ph.D.
Saul P. Friedlander, Ph.D. (1939 Club Professor)
Patrick Geary, Ph.D.
James L. Gelvin, Ph.D.
J. Arch Getty, Ph.D.
Juan Gómez-Quiñones, Ph.D.
Robert A. Hill, M.Sc.
Lynn A. Hunt, Ph.D. (Eugen Weber Professor of Modern European History)
Margaret C. Jacob, Ph.D.
Russell Jacoby, Ph.D., in Residence
Sanford M. Jacoby, Ph.D. (Howard Noble Professor of Management)
Naomi R. Lamoreaux, Ph.D.
Ronald J. Mellor, Ph.D.
Michael Meranze, Ph.D.
Melissa L. Meyer, Ph.D.
Michael G. Morony, Ph.D.
José C. Moya, Ph.D.
David N. Myers, Ph.D.
Fred G. Notelohoff, Ph.D.
Patricia O’Brien, Ph.D.
Herman Ooms, Ph.D.
Anthony R. Pagden, Ph.D.
Theodore M. Porter, Ph.D.
Claudia Rapp, D.Phil.
Peter H. Reill, Ph.D.
Teofilo F. Ruiz, Ph.D.
David Sabean, Ph.D. (Henry J. Bruman Professor of German History)
Miriam R. Silverberg, Ph.D.
Debra L. Silverman, Ph.D.
Brenda Stevenson, Ph.D.
Sanjay Subrahmanyan, Ph.D. (Navin and Pratima Doshi Professor of Indian History)
William R. Summerrhill, Ph.D.
Kevin B. Tenaciano, Ph.D.
Richard von Glahn, Ph.D.
Scott L. Waugh, Ph.D.
Dora B. Weiner, Ph.D., in Residence
James W. Wilkie, Ph.D.
Matthew Norton Wise, Ph.D.
Robert Wohl, Ph.D.
R. Bin Wong, Ph.D.
William H. Worger, Ph.D.

Professors Emeriti
Joyce O. Appleby, Ph.D.
Kees W. Bolle, Ph.D.
Giorgio Buccellati, Ph.D.
Robert I. Burns, S.J., Ph.D.
Robert N. Burr, Ph.D.
Mortimer H. Chambers, Jr., Ph.D.
Claude-Peter Clasen, Ph.D.
Robert Daleik, Ph.D.
Benjamin A. Elman, Ph.D.
Frank O. Gatell, Ph.D.
Carlo Ginzburg, Laurea in lettere (Franklin D. Murphy Professor Emeritus of Italian Renaissance Studies)
Thomas S. Hines, Ph.D.
Richard G. Hovannisian, Ph.D. (Armenian Educational Foundation Professor Emeritus of Modern Armenian History)
Daniel W. Howe, Ph.D.
Philip C. Huang, Ph.D.
Norris C. Hundley, Ph.D.
Nikki Keddie, Ph.D.
Barbara Kricke, Ph.D.
John H. Laslett, D.Phil.
James Lockhart, Ph.D.
Peter J. Loewenberg, Ph.D.
Atif Maros, D.Phil.
Lauro R. Martins, Ph.D.
Gary B. Nash, Ph.D.
Merrick Posansky, Ph.D.
Richard H. Rouse, Ph.D.
Damodar R. SarDesai, Ph.D. (Navin and Pratima Doshi Professor Emeritus of Indian History)
Alexander P. Saxton, Ph.D.
Geoffrey W. Symcox, Ph.D.
Richard Weiss, Ph.D.
Stanley A. Wolpert, Ph.D.

Associate Professors
Eric R. Avila, Ph.D.
Stephen A. Bell, Ph.D.
Joel T. Braslow, M.D., Ph.D., in Residence
Scott D. Brown, Ph.D.
Stephen P. Frank, Ph.D.
Frank Tobias Higbie, Ph.D.
Vinay Lal, Ph.D.
Valerie J. Matsumoto, Ph.D.
Muriel C. McClendon, Ph.D.
Kathryn Norberg, Ph.D.
Gabriel Piterberg, D.Phil.
Janice L. Reiff, Ph.D.
Geoffrey Robinson, Ph.D.
Michael Salaman, Ph.D.
Mary Terrall, Ph.D.
Sharon J. Tracewek, Ph.D.
Albion M. Urdank, Ph.D.
Jessica A. Wang, Ph.D.
Joan Waugh, Ph.D.
Mary A. Yeager, Ph.D.

Henry S.N. Yu, Ph.D.

Assistant Professors
Ra’anan S. Boustan, Ph.D.
L. Robin Derby, Ph.D.
Ghislaine E. Lydon, Ph.D.
Kelly Lylte Hernández, Ph.D.
William Marotti, Ph.D.
David D. Phillips, Ph.D.
Craig B. Yirush, Ph.D.

Senior Lecturer S.O.E.
S. Scott BARTCHY, Ph.D.

Lecturer
Mary F. Corley, Ph.D.

Adjunct Professor
Robert C. Ritchie, Ph.D.

Scope and Objectives
History is the study of the past of our own society and how it emerged out of the traditions that produced it. At the same time, self-knowledge for students of history comes not only from self-discovery, but from a comparison of their own tradition and experience with those of others. It is only by studying the history of other civilizations and cultures that we can hope to gain perspective on our own.

The course offerings in history at UCLA are designed to bring about an understanding of the forces that have shaped the many cultures of this country and the world. UCLA has one of the largest, most distinguished, and most diverse history faculties in the country. Its main emphasis is on the many aspects of social history, but intellectual, cultural, and political history are also strongly represented.

Of all undergraduate majors, History is probably the most flexible and far-reaching. Leading to a Bachelor of Arts degree, it is excellent preparation for a wide variety of careers — law, teaching, business, the communications media, public services, and medicine.

The graduate program leads to the Ph.D. degree in History (a master’s degree may be earned in the process of completing Ph.D. requirements). Traditionally, the M.A. and Ph.D. in History have led to careers in high school, college, and university teaching. Increasingly, they are also being put to use in government service, international business, museum and archival work, and journalism.

Undergraduate Study

History B.A.

The History Department’s undergraduate program consists of 16 courses in history (six lower division — the Preparation for the Major, including the premajor requirements; 10 upper division — the Major). All courses must be taken for a letter grade.

Preparation for the Premajor and Major

Required for the Premajor: Three courses, including two in Western civilization (History 1A, 1B, 1C) or two in world history (courses 20, 21,
22), and one course from 96W or 97A through 97O.

After completing the three courses with a minimum grade-point average of 2.0, students should petition to enter the major at the undergraduate counselor's office in 6248 Bunche Hall.

Required for the Major: Three additional lower division history courses.

Transfer Students
Transfer applicants to the History major with 90 or more units must complete the following introductory courses prior to admission to UCLA:

- one semester or two quarters of history of Western civilization or world history, one historical practice course, and three additional lower division history courses.

Transfer credit for the premajor courses is subject to department approval. Transfer students should consult the undergraduate counselor before enrolling in any courses for the major.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: At least 10 upper division history courses, including (1) two courses in U.S. history, (2) two courses in non-Western history from the same area (i.e., Latin America, Asia, Near East, Africa), (3) two courses in European history or in history of science, and (4) History 191.

The requirements for U.S., non-Western, and European history may be fulfilled with either upper or lower division courses, but majors are required to take a minimum of 10 upper division history courses.

There is no required requirement for the major; however, students wishing to enter the honors program or planning to do graduate work in history are urged to pursue language study early in their undergraduate careers.

Advanced Placement Credit in History
Effective Fall Quarter 2002 for entering freshmen, no course credit is granted for any AP Test.

Honors Program
The honors program is designed for History majors who are interested in completing a year-long research project that culminates in an honors thesis. A 3.5 departmental grade-point average is required for admission. To graduate with departmental honors, students must have a cumulative or overall GPA of at least 3.0 in all University-level coursework and at least a 3.5 GPA in all coursework required for the major.

The honors thesis must be completed in three terms, on the basis of work carried out in History 198A, 198B, and 198C. Students must register their intention to undertake an honors thesis with the undergraduate affairs vice chair no later than Spring Quarter of their junior year.

When students register for honors, they must provide the undergraduate affairs vice chair with a two-paragraph description of their thesis project, which must be approved in writing by the faculty member who agrees to act as their adviser. The undergraduate affairs vice chair must also approve the proposed project in writing.

The faculty adviser is primarily responsible for guiding the thesis work to its completion and assigns grades for the honors courses after the thesis is complete. The honors thesis should be 40 to 60 pages in length and be based on primary source material. Determination of the level of honors awarded (no honors, honors, or highest honors) is made by the undergraduate affairs vice chair, acting in conjunction with the honors committee, at the end of the term in which the thesis is completed.

History of Science and Medicine Minor
The History of Science and Medicine minor is designed for students who wish to augment their major, perhaps in one of the sciences, with a series of courses that explore the historical, cultural, and intellectual dimensions of science and medicine in Western and world cultures. The minor consists of a choice of lower division courses that expose students to overviews of science and medicine in large time periods or to specific thematic concerns. Upper division courses offer more focused and often smaller classes that explore crucial episodes or areas with a more rigorous and sophisticated content and methodology.

To enter the minor, students must be in good academic standing (2.0 grade-point average), have completed 45 units and at least one lower division course in the history of science or medicine for a letter grade, and file a petition with the minor adviser in 6265 Bunche Hall.

Required Lower Division Courses (12 units):
Three courses from History 2B, 2D, 3A through 3D, Philosophy 8.

Required Upper Division Courses (20 units):
Five courses from Anthropology 182, 183, History 179A through 180C, any upper division History 191 sequence are designated as applicable to the upper division minor requirements. Students may also petition to have other relevant courses, including those from other departments, applied toward the upper division requirements.

At least one upper division course, to be selected and approved in consultation with the undergraduate or faculty adviser, must involve writing a research or interpretative paper of significant length and intellectual content. No more than one upper division course may be applied toward both this minor and a major or minor in another department or program. Transfer credit for courses may be subject to departmental approval.

One course may be taken on a Passed/Not Passed basis; all other minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of History offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in History.

History
Lower Division Courses
1A-1B-1C. Introduction to Western Civilization. (5-5-5) Lecture, three hours; discussion, two hours. Broad, historical study of major elements in Western heritage from the world of the Greeks to that of the 20th century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and acquaint them, through reading and critical discussion, with representative contemporary documents and writings of enduring interest. P/NP or letter grading.

1A. Ancient Civilizations from Prehistory to Circa A.D. 843. 1B. Circa A.D. 843 to Circa 1715; 1C. Circa 1715 to the Present.

1A1-1B1-1C1. Introduction to Western Civilization (Honors). (5-5-5) Lecture, three hours; discussion, two hours. Honors sequence parallel to courses 1A, 1B, 1C. P/NP or letter grading. 1A2. Ancient Civilizations from Prehistory to Circa A.D. 843 (Honors); 1B2. Circa A.D. 843 to Circa 1715 (Honors); 1C2. Circa 1715 to the Present (Honors).

2A. Power, Ethics, and Technological Change. (4) Lecture, three hours; discussion, two hours. Examination of historical and theoretical relationships between ethical behavior, corporate power, and technological change. Topics include engineering practice and business profits, gender and engineering cultures, product liability and consumer safety, and engineering and computer ethics. Historical case studies include Three Mile Island, Chernobyl, the DC-10, and Challenger Disaster. P/NP or letter grading.

2B. Social Knowledge and Social Power. (5) Lecture, three hours; discussion, two hours. History of social knowledge and social power in the 19th and 20th centuries. Everyday ideas and practices about human nature, common sense, and community and relation of those practices to social thought, social engineering, and social science. Themes include development of social knowledges through public activities and discourses; how social knowledge differs in agricultural, mercantile, industrial, and information-based political economies; and how social science addresses these issues. P/NP or letter grading.
4. Introduction to History of Religions. (5) Lecture, three hours; discussion, two hours. Discussion of various systems, ideas, and fashions of thought that have dominated Western approaches to religions of the world since antiquity. Survey of development from classical Greek and early Christian theories to modern history with its discoveries of religions of India, China, Islam, and Japan, etc., and problem of encounter of various religions in the 19th and 20th centuries. P/NP or letter grading.

8A. Colonial Latin America. (5) Lecture, three hours; discussion, two hours. General introduction to Latin American history from contact period to independence. Emphasis on con- vergence of Native American, European, and African cultures in Latin America; issues of ethnicity and gender; development of colonial institutions and societ- ies; and emergence of local and national identities. Readings focus on writings of Latin American men and women from the period studied. P/NP or letter grading.

8AH. Colonial Latin America (Honors). (5) Lecture, three hours; discussion, two hours. Honors course parallel to course 8A. P/NP or letter grading.

8B. Political Economy of Latin American Underde- velopment, 1750 to 1930. (5) Lecture, three hours; discussion, two hours. Interaction of precapitalist and modern modes of social organization in Latin Ameri- can history, particularly during the "long" 19th century, by focusing on relationship between economic change, social and cultural structures, and politics in the region. P/NP or letter grading.

8BH. Political Economy of Latin American Under- development, 1750 to 1930 (Honors). (5) Lecture, three hours; discussion, two hours. Honors course parallel to course 8B. P/NP or letter grading.

8C. Latin American Social History. (5) Lecture, three hours; discussion, two hours. Historical and contemporary perspective of role of ordinary people in Latin American society. Focus centers on a major Latin American movie illustrative of a theme in social history. P/NP or letter grading.

8CH. Latin American Social History (Honors). (5) Lecture, three hours; discussion, two hours. Honors course parallel to course 8C. P/NP or letter grading.

9A-9E. Introduction to Asian Civilizations. (5 each) Lecture, three hours; discussion, two hours. P/NP or letter grading.

9A. History of India. (5) Lecture, three hours; discus- sion, two hours. History survey for beginning stu- dents of major cultural, social, and political ideas, tra- ditions, and institutions of Indian civilization. P/NP or letter grading.

9B. History of Japan, (5) Lecture, three hours; discus- sion, two hours. History survey for beginning stu- dents of major cultural, social, and political ideas, tra- ditions, and institutions of Indian civilization. P/NP or letter grading.

9C. History of China, (5) Lecture, three hours; discus- sion, two hours. Overview of Chinese history from earli- est recorded time to the present, with emphasis on development of China as a cultural daughter of Chi- na. Attention to manner in which Chinese culture was Japanized and aspects of cultural civilization which became unique. Creation of the modern state in the last century and impact of Western civilization on Jap- anese culture. P/NP or letter grading.

9CH. History of Japan (Honors). (5) Lecture, three hours; discussion, two hours. Honors course parallel to course 9C. P/NP or letter grading.

9D. History of the Near and Middle East, (5) Lecture, three hours; discussion, two hours. Introduction to history of Muslim world from advent of Islam to the present day. P/NP or letter grading.

9E. Southeast Asian Crossroads. (5) Lecture, three hours; discussion, two hours. Overview history of a region united by its wet tropical environment and di- vided by great religious, cultural, and political plural- ism, with focus on Vietnamese, Thai, Filipino, Khmer, Burmese, and Malayo-Indonesian patterns. P/NP or letter grading.

M10A-10B. History of Africa, (5-5) P/NP or letter grading.

M10A. History of Africa. (5) Lecture, three hours; discussion, one hour. Exploration of de- velopment of African societies from earliest times to late 19th century. 10B. To Present. Lecture, three hours; discussion, two hours. Not open for credit to students with credit for course 10B or 10BW. Survey of social, economic, and political develop- ment of Africa from slave trade, imperialism and colonialism, and nationalism and in- dependence. Attention to different ideologies (nationalism, socialism, apartheid), rural/urban tensions, changing role of women.

20. World History to A.D. 600. (5) Lecture, three hours; discussion, two hours. Overview of early civilizations of Asia, North Africa, and Europe — Mesopotamia, Egypt, Israel, India, China, Greece, and Rome — from development of settled agricultural communities until about A.D. 500, with focus on rise of cities, organization of society, nature of kingship, writing and growth of bureaucracy, varieties of religi- ous expression, and mobility between culture and society. P/NP or letter grading.

21. World History, Circa 600 to 1760. (5) Lecture, three hours; discussion, two hours. Outline of world history from rise of Islam to start of Industrial Revolu- tion, structured around contemporaneous global narra- tive of salient developments. Use of thematic and comparative approaches, with certain recurring themes and institutions that modulate from culture to culture. Reading of variety of contemporary accounts to look at way people conceived cultures outside their own. P/NP or letter grading.

22. Contemporary World History, 1760 to the Present. (5) Lecture, three hours; discussion, two hours. Broad thematic survey of world history since the mid-18th century. Examination, through lecture and discussion, of global implications of imperialism, total war, nationalism, cultural change, decoloniza- tion, changes in women's rights and roles, and eclipse of world communism. Designed to introduce students to historical study, help them understand is- sues and dilemmas faced today, and prepare them for more in-depth work in history of specific regions or countries of the world. P/NP or letter grading.

88. Sophomore Seminar: History. (4) (Formerly numbered B8A-B8U) Seminar, three hours. Limited to maximum of 20 lower division students. Readings and discussions designed to introduce students to current research in discipline. Culininating project may be required. P/NP or letter grading.
97N. 97L. some practical applications. cal archaeology in North America, particularly to M102B. breadth of discipline both in Old World and Americas. Perspective. Historical archaeology requires appreci- nation of historical sources, archaeology, and material 97I. 97F. 97D. 97C. 97B. 97A. 97. 96W. Introduction to Historical Practice. (5) (Formerly numbered 99W.) Seminar, three hours. En- forced requisite: English Composition 3 or JH. Not open for credit to students with credit for former course 99W. Introduction to study of history, with em- phasis on historical theory and research methods. Satisfies Writing 1 requirement. Letter grading. 97. Historical Practices Adjunct Seminar. (1) Semin- ar, one hour. Course open from History 97A through 97O. Limited to History majors. Emphasis on topics of covered in courses 97A through 97G in greater depth through supplemental readings, discussions, or other activities. P/NP or letter grading. 97A-97O. Introduction to Historical Practice: Vari- able Topics. (4 each) (Formerly numbered 99.) Semin- ar, three hours. Discussion classes of no more than 15 students, study of one topic, with emphasis on histori- cal theory and research methods. Variable topics courses; consult Schedule of Courses for topics to be offered in specific term. P/NP or letter grading. 97A. Ancient History; 97B. Medieval History; 97C. European History; 97D. U.S. History; 97E. Latin American History; 97F. Near Eastern History; 97G. East Asian History; 97H. History of Science/Technology; 97J. African History; 97K. History of Religion; 97L. Jewish History; 97M. Southeast Asian History; 97N. Indian History; 97O. World History. Upper Division Courses 100. History and Historians. (4) Lecture, three hours; discussion, one hour (when scheduled). De- signed for majors in history, including intellectual processes by which history is writ- ten, results of these processes, and sources and de- velopment of history. Attention also to representative historians, P/NP or letter grading. 101. Topics in World History. (4) Lecture, three hours; discussion, one hour (when scheduled). De- signed for juniors/seniors. Examination of specific histor- ical theories from world historical perspective. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or letter grading. 102. Explorations in Psychoanalysis and History. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Art of psych- ological and historical interpretation; assessment of recent writings in field of psychohistory. M102A-M102B. Historical Archaeology. (4-4) (Former- ly numbered M102A-M102B.) (Same as Anthrop- ology M115A-M115B.) Lecture, three hours; discus- sion, one hour (when scheduled). Designed for jun- iors/seniors. P/NP or letter grading. M102A. World Perspective. Historical archaeology requires appreci- ation of historical sources, archaeology, and material culture. Thematic emphasis, with exploration of breadth of discipline both in Old World and Americas. M102B. American Perspective. Emphasis on histori- cal archaeology in the Americas, particularly to some practical applications. M103A-M103B. Ancient Egyptian Civilization. (4- 4) (Formerly numbered M104A-M104B.) (Same as Ancient Near East M103A-M103B.) Lecture, three hours; discussion, one hour (when scheduled). Course M103A is not requisite to M103B. Designed for juniors/seniors. Political and cultural institutions of ancient Egypt and how they were based. P/NP or letter grading. M103A. Chronological discus- sion of Prehistory, Old and Middle Kingdom. M103B. New Kingdom and Late period until 332 B.C. M104. History of Ancient Mesopotamia and Syria. (4) and Ancient Near East M104.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/se- niors. Political and cultural development of "Fertile Crescent," including Palestine, from Late Uruk to neo- Babylonian period. Letter grading. 105A-105B-105C. Survey of Middle East from 500 to the Present. (4-4-4) (Formerly numbered 106A- 106B-106C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Background and circumstances of rise of Islam, cre- ation of Islamic Empire, and its development. RISE of Dynastic Successor States and Modern Nation States. Social, intellectual, and economic de- velopment. P/NP or letter grading. 105A. 500 to 1300; 105B. 1300 to 1700; 105C. 1700 to the Present. 106A. Preindustrial Social. (4) Designed for juniors/seniors. Re- examination of early development of Islam with spe- cial attention to doctrine of nature of God, human respon- sibility, violence, revelation and religious authority, duties of believers, ritual, law, sectarian movements, mysticism, and popular religion. P/NP or letter grading. 106B. Religion and Society in Modern Middle East. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Re- definition of religion in Middle East, emergence of new religious movements, and transformation of meaning and function of religion in society. P/NP or letter grading. 106C. Religion and Society in Modern Europe. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Emphasis on new religious movements, and transformation of meaning and function of religion in society. P/NP or letter grading. Summer Travel Program. P/NP or letter grading. 106D. Introduction to Armenian Oral History. (4) Designed for juniors/seniors. Examination of origins of Arab-Israeli dispute from the mid-19th century through founding of state of Israel and expulsion/flight of three quarters of million Palestinians from their homes. Exploration of social history of Palestine up to Zionist colonization, origins of Zionism and Palestinian nationalism, variet- ies of Zionism, Zionism and colonialism, seminal events and their consequent symbolic connotations "Great Revolt" and 1948 nakba (disaster), construc- tion of national consensus in Israel, 1967 and its af- termath, intifada, and redefinition of conflict as result of Oslo. P/NP or letter grading. 110A. Topics in World History. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of origins of Arab-Israeli dispute from the mid-19th century through founding of state of Israel and expulsion/flight of three quarters of million Palestinians from their homes. Exploration of social history of Palestine up to Zionist colonization, origins of Zionism and Palestinian nationalism, variet- ies of Zionism, Zionism and colonialism, seminal events and their consequent symbolic connotations "Great Revolt" and 1948 nakba (disaster), construc- tion of national consensus in Israel, 1967 and its af- termath, intifada, and redefinition of conflict as result of Oslo. P/NP or letter grading. 110B. History of Islamic Iberia. (4) Formerly numbered 110B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of Arab-Islamic culture in Western Euro- pe. P/NP or letter grading. 110A. Early Modern State in Mediterranean. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Emergence of phenomenon called early modern state in Ottoman Empire from 1450 to 1700. Exploration of main themes and processes of early modern European and Mediterranean history. P/NP or letter grading. 110B. Palestine, Zionism, and Evolution of Israeli- Palestinian Conflict. (4) Lecture, three hours; dis- cussion, one hour (when scheduled). Designed for juniors/seniors. Examination of Arab-Israeli conflict from the mid-19th century through founding of state of Israel and expulsion/flight of three quarters of million Palestinians from their homes. Exploration of social history of Palestine up to Zionist colonization, origins of Zionism and Palestinian nationalism, variet- ies of Zionism, Zionism and colonialism, seminal events and their consequent symbolic connotations "Great Revolt" and 1948 nakba (disaster), construc- tion of national consensus in Israel, 1967 and its af- termath, intifada, and redefinition of conflict as result of Oslo. P/NP or letter grading. 111A-111B-111C. Topics in Middle Eastern Civiliza- tion. (4-4-4) (Same as Ancient Near East M110A-M110B-M110C and Iranian M110A-M110B-M110C.) Lecture, three hours; discussion, one hour (when scheduled). Histo- ry of ancient Iran from rise of Elam to end of Sassanian dynasty - Elamite civilization and Media, Akha- menid, Arsacid, and Sassanian Empires. Emphasis on ancient Iran, but may be offered for early Islamic peri- od. P/NP or letter grading. 110D. History of Modern Iran, 1500 to the Present. (4) (Formerly numbered 110B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of origins of Arab-Israeli dispute from the mid-19th century through founding of state of Israel and expulsion/flight of three quarters of million Palestinians from their homes. Exploration of social history of Palestine up to Zionist colonization, origins of Zionism and Palestinian nationalism, variet- ies of Zionism, Zionism and colonialism, seminal events and their consequent symbolic connotations "Great Revolt" and 1948 nakba (disaster), construc- tion of national consensus in Israel, 1967 and its af- termath, intifada, and redefinition of conflict as result of Oslo. P/NP or letter grading. 111A-111B-111C. Topics in Middle Eastern Histo- ry. (4-4-4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or letter grading. P/NP or letter grading. 112A. History of Ancient East from earliest times to foundation of Persian Empire. 112B. History and institutions of Greeks from their arrival to death of Alexander. 112C. History and institutions of Rome from founding of city to death of Constantine. 112D. History and Monuments of Ancient Greece: Field Studies. (4) (Formerly numbered 112D.) Field- work, three hours. Enforced corequisite: course 112B. Examination of history, art, and monuments of an- cient Greece through daily lectures and field visits to museums and archaeological sites. Part of UCLA Summer Travel Program. P/NP or letter grading.
112E. History and Monuments of Rome: Field Studies. (4) (Formerly numbered 115E.) Fieldwork, three hours; enforced corequisite: course 112C. Examination of history, art, and monuments of ancient Rome through daily lectures and field walks to museums and archaeological sites. Field trips outside Rome to Pompeii, Hadrian’s Villa, and ancient Ostia. Some attention to churches and catacombs, to Mecca, to the shrine of St. Peter, and to the site of the Renaissance. Concurrently scheduled with course 112C. Enforced corequisite: course 112C. P/NP grading.

113A-113B. History of Ancient Greece. (4-4) (Formerly numbered 114A-116B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. 113A. To 400 B.C.E. Emphasis on development of imperialism and on constitutional and social struggles of late republic. 113B. From Death of Caesar to Time of Constantine. Early empire treated in more detail, supplemented by survey of social and economic changes in the 3rd century. 113C. Transformation of Classical World. Political, cultural, and religious history of Mediterranean in late antiquity, from crisis of Roman Empire in the 3rd century to barbarian and Arab invasions and beginning of medieval states and societies in the 7th century.

115. Topics in Ancient History. (4) (Formerly numbered 118A, 118B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to topics in Greek and Roman history, including Roman law, ancient Greek and Roman slavery, warring cultures, pauperization of the Mediterranean, and Alexander the Great. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

116A-116B. Byzantine History. (4-4) (Formerly numbered 123A-123B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Political, socioeconomic, religious, and cultural continuity in millennial history of Byzantium. Reforms of Doccas. Byzantium’s relations with Latin and Muslim cultures; governance and institutions of the medieval state; the effect of monotheism and heresy on Byzantine art and architecture, civic and religious humanism, intellectual freedom, attempts at reform. Letter grading.

C117A. Early Medieval Intellectual History: Thought, Literacy, and Religion Circa 400 to 1000. (4) (Formerly numbered C119A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of ideas and means by which they were communicated in early Middle Ages. Concurrently scheduled with course C219A. P/NP or letter grading.

C117B. Later Medieval Intellectual History: Thought, Literacy, and Religion Circa 1100 to 1500. (4) (Formerly numbered C119B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of evolution of ideas and means by which they were communicated in later Middle Ages. Concurrently scheduled with course C219B. P/NP or letter grading.

117C. Christian Church, 100 to 1517. (4) (Formerly numbered 119M.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Constitutional, political, and economic history of the Church: Christianization of Roman Empire and Germanic kingdoms; governance and institutions of the Church; relations between Church and monarchy; high tide of schism; crisis of authority on eve of Reformation. P/NP or letter grading.

C118A. Interfaces: Transmission of Roman Literature. (4) (Formerly numbered C120A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Transmission of Latin classical literature in late antiquity, Middle Ages, and Renaissance to understand processes by which Latin literature has been preserved. Concurrently scheduled with course C118B. P/NP or letter grading.

118B. Christian Religion, 100 to 1350. (4) (Formerly numbered 120M.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Religious experience of Christians — conversion, doctrine, belief, heresy, spirituality, worship, liturgy, and art. Religious life of lay Christians, as well as that of Church’s institutional, intellectual, and spiritual leaders. P/NP or letter grading.

119A-119B. Early Medieval Europe. (4-4) (Formerly numbered 121A-121B) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Basic introduction to Western Europe from Latin antiquity to age of discovery, with emphasis on medieval lands. Study of manuscrit book, and growth of literacy. P/NP or letter grading. 119A. 400 to 1000; 119B. 1000 to 1500.

119C. Medieval Civilization: Mediterranean Heartlands. (4) (Formerly numbered 121C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of Western Mediterranean society/economic/cultural within political framework, including its relation with other cultures. P/NP or letter grading.

119D. Topics in Medieval History. (4) (Formerly numbered 121D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Special topics in history of Middle Ages, including religious life in society, justice and law, politics of war and diplomacy, economic upheaval and renewal, and cultural representations. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

120A-120B. East-Central Europe. (4-4) (Formerly numbered 124A-124B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History of Central Europe, 1815 to 1990. P/NP or letter grading. 120A. 1815 to 1914; 120B. 1914 to 1990. For credit beyond 12 units, subject to approval of instructor and department, and concurrently scheduled with course 126A-126B. P/NP or letter grading.

120C. East-Central Europe in Transition, 1898 to 1993. (4) (Formerly numbered 124C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. State-socialism and Soviet domination collapsed in East-Central Europe in 1989. Analysis of causes of economic and political changes in individual states, as well as road of transformation in seven (now 12) countries of region; international circumstances and domestic political, social, and economic processes. Ideology of transition versus reality of democratization, marketization, and privatization; free choice versus deterministic factors. Scenarios for future. P/NP or letter grading.

120D. Film and History: Central and Eastern Europe, 1945 to 1989. (4) (Formerly numbered 124D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Postwar history of central and eastern Europe (1945 to 1989), using Czech, Polish, Russian, and Hungarian films to explore life under state socialist “modernization dictatorship.” P/NP or letter grading.

121A-121F. History of Modern Europe. (4 each) (Formerly numbered 125A-125F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Analysis and interpretation of European historical events and processes. P/NP or letter grading.

121A. Renaissance and Reformation. 1450 to 1660. (4) (Formerly numbered 125A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Reorganization of power, new forms of representation, and discourses about rule and obedience in Europe from the mid-15th through 16th century; popular culture; peasant society; refashioning of religion and power; localization. P/NP or letter grading.

121B. Baroque Culture and Absolutist Politics, 1600 to 1715. (4) (Formerly numbered 125B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Changing nature of state and social domination; reeducation of military violence; strategies of population discipline; absolutism and baroque culture; social and economic structures of bureaucratic intervention; representation of family, sexuality, and body; witch persecutions. P/NP or letter grading.

121C. Old Regime and Revolutionary Era, 1715 to 1815. (4) (Formerly numbered 125C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Enlightened absolutism and reform, challenge of new political and economic ideas, crisis of Old Regime, impact of French Revolution and Napoleonic Empire. P/NP or letter grading.

121D. Bourgeois Century, 1815 to 1914. (4) (Formerly numbered 125D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Restoration politics, Industrial Revolution, uprisings of 1848, unification of Germany and Italy, imperialism, rise of socialism, populism, growth of changes in social structure, origins of World War I. P/NP or letter grading.

121E. Era of Total War, 1914 to 1945. (4) (Formerly numbered 125E.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. World War I, interwar period, and World War II. Social, cultural, political, and economic aspects, as well as four wars of Europe itself and the Cold War. P/NP or letter grading.

121F. World War II and Its Aftermath, 1939 to the Present. (4) (Formerly numbered 125F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. World War II, origins and persistence of Cold War, reconstruction in West, de-Sovietization, decolonization, cold war thinking, impact of World War II on domestic politics and culture, and the impact of the war on the economy, P/NP or letter grading.

122A-122F. Cultural and Intellectual History of Modern Europe. (4 each) (Formerly numbered 126A-126F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Cultures of climate and climates of opinion. Education, moral, and religious attitudes; art, thought, and manners of the time in historical context. P/NP or letter grading. 122A. 15th Century. Renaissance cultural and intellectual history of Europe. Central themes include comparative history of ideas, theory and practice of art and architecture, civic and religious humanism, religious experience, and new cultural genres of history and philological scholarship. 122B. 18th Century; 122C. 19th Century; 122D. 20th Century; 122E. 19th Century. (Formerly numbered M126E.) (Same as Art History M110D.) 122F. 20th Century.
123A-123B-123C. War and Diplomacy in Europe. (4-4-4) (Formerly numbered 127A-127B-127C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. 123A. From Origins to Rise of Muscovy. (4) (Formerly numbered 127A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to Marxist philosophy and methodology; conception of historical stages; competing Marxist analyses of transition from feudalism to capitalist economy via reading Capital; theory of politics and state in relationship to historical interpretation of 19th-century European revolutions; capitalist crises. P/NP or letter grading.

124A-124B-124C. History of France. (4-4-4) (Formerly numbered 128A-128B-128C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading.

125A. Baroque and Enlightenment Germany. (4) (Formerly numbered 129A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Development of state institutions, culture, and society in Central Europe from the end of Thirty Years’ War to end of Napoleonic Wars. Consideration of absolutism as political system, and baroque and Enlightenment cultural discourse on power and hierarchy. P/NP or letter grading.

125B. Nationalism and Modernization in 19th-Century Germany. (4) (Formerly numbered 129B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Problems of class society and state formation, emancipation, assimilation, growth of national consciousness, emergence of “German public sphere,” dynamics of gender in civil society and political life, post-Napoleonic tensions between reform and reaction, 1848, and national unification. P/NP or letter grading.

125C. 20th-Century Germany. (4) (Formerly numbered 130A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Transitions that Germany has faced during this century: two world wars, shift from monarchy to republic to national socialism to “divided nation,” and finally “re-unification.” Consideration of political, social, economic, and cultural spheres. P/NP or letter grading.

125D. History of Low Countries. (4) (Formerly numbered 128D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of aspects of Dutch (and on occasion Belgian) history from medieval period to period after World War II, with emphasis on political and cultural history. Topics include Middle Ages, Dutch Republic in the 17th and 18th centuries, Low Countries from 1830 to 1918, Netherlands and Belgium in context of Europe after 1945. P/NP or letter grading.

126. Europe in Age of Revolution, Circa 1775 to 1815. (4) (Formerly numbered 130.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Period from revolt of Thirteen Colonies to French Revolution of 1789, and Napoleon. P/NP or letter grading.

127A-127B. From Origins to Rise of Muscovy. (4) (Formerly numbered 127A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to Marxist philosophy and methodology; conception of historical stages; competing Marxist analyses of transition from feudalism to capitalist economy via reading Capital; theory of politics and state in relationship to historical interpretation of 19th-century European revolutions; capitalist crises. P/NP or letter grading.

127C. 130A-130B. Southeastern Europe. (4-4) (Formerly numbered 134A-134B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. 130A. To 500. Political, economic, and cultural survey of independent Balkan states in Middle Ages. 130B. To 1918. Balkans under Ottoman rule, movements of nationalism, and formation of states. 131A-131B. Marxist Theory and History. (4-4) (Formerly numbered 135A-135B.) Lecture, three hours; discussion, one hour (when scheduled). Course 131A is generally requisite to 131B. Designed for juniors/seniors. Introduction to Marxist philosophy and methodology; conception of historical stages; competing Marxist analyses of transition from feudalism to capitalist economy via reading Capital; theory of politics and state in relationship to historical interpretation of 19th-century European revolutions; capitalist crises. P/NP or letter grading.

132. Topics in European History. (4) (Formerly numbered 136.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Integrated introduction to important aspects of European history, with emphasis on specific topic within broad framework. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

133A-133B. History of Women in Europe. (4-4) (Formerly numbered 137A-137B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History of social, political, and cultural roles of women in Western Europe from early Middle Ages to the present. P/NP or letter grading. 133A. To 1871. 133B. To 1917. To 1945. P/NP or letter grading.

133C. History of Prostitution. (4) (Same as Women’s Studies 133C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History of prostitution from ancient times to the present. Topics include toleration in medieval Europe, impact of syphilis, birth of courtesan, regulation in 19th-century Europe, white slavery scare, and contemporary global sex trade. Readings include novels, primary sources, and testimony by sex workers. P/NP or letter grading.

134B-134C. Economic History of Europe. (4-4) (Formerly numbered 136B-136C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading.


135C. 1918 to 1945. Europe in Age of Revolution, Circa 1775 to 1815. (4) (Formerly numbered 130.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading.

135A. Exploration and Conquest, 1400 to 1700. (4) (Formerly numbered 140A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. First phase of European expansion in the Americas, Africa, and Eurasia. Analysis of motives and methods of expansion, differing patterns of European settlement, including plantation economy, and development of global economy, including Atlantic slave trade. P/NP or letter grading.
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135B. Colonialism, Slavery, and Revolution, 1700 to 1870. (4) (Formerly numbered 140B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Origins and gradual increase of European dominance of world trade, impact of European colonialism in New World, Africa, and Asia, influence of new revolutionary ideals that took shape in wake of Enlightenment of the 18th century, and beginnings of industrialization. P/NP or letter grading.

135C. Imperialism and Postcolonialism, 1870 to the Present. (4) (Formerly numbered 140C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of major European events and trends and their impact on world in modern period. Interrelationship of European and world history, from partition of Africa to founding of India and Pakistan. Global consequences of Cold War and new place of Europe in world. P/NP or letter grading.

136A-136B-136C. History of Britain. (4-4-4) (Formerly numbered 141A-141B-141C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Analysis of British economy, society, and polity, with focus on dynamics of boom, stability and change. P/NP or letter grading. 136A. Tudor-Stuart Times, 1485 to 1715. Political, socioeconomic, religious, and cultural history of Britain under Tudors and Stuarts. Emphasis on political, intellectual, and cultural aspects of the rise of capitalism and the transformation of economy, establishment of overseas colonies, 17th-century political upheavals and their impact on political and socioeconomic structures. 136B. Making of Modern Britain, 1715 to 1867. Social, economic, political, and cultural history of Britain from the Hanoverian revolution in politics to advent of mass democracy in mid-Victorian era. Themes include social change under pressure of industrialization, emergence of first British Empire, loss of America, shifts in religious and social position. 136C. Modern Britain since 1832.

137A-137B. U.S. in the Empire since 1783, (4-4) (Formerly numbered 142A-142B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Political and economic development of British Empire, including evolution of colonial nationalism, development of commonwealth idea, and changes in British colonial policy. P/NP or letter grading.

138A. Colonial America, 1600 to 1763. (4) (Formerly numbered 145A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/se-niors. Examination of molding of American society in English North America from 1600 to 1763. Emphasis on interaction of three converging cultures: Western European, West African, and American Indian. P/NP or letter grading.

138B. Revolutionary America, 1760 to 1800. (4) (Formerly numbered 145B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Inquiry into origins and consequenc-es of American Revolution, nature of revolutionary process, creation of constitutional national government, and development of capitalist economy. P/NP or letter grading.

138C. U.S. History, 1800 to 1850. (4) (Formerly numbered 146.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Discussion of major social, political, economic, and cultural transformations of first half of the 19th century and how these changes helped to drive wedge between North and South. P/NP or letter grading.

139A. U.S., Civil War and Reconstruction. (4) (Formerly numbered 147A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Rise of sectionalism, abolitionist crusade; formation of Confederate States; war years; political and social reconstruction. P/NP or letter grading.

139B. U.S., 1875 to 1900. (4) (Formerly numbered 147B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. American political, social, and institutional history in period of great change. Emphasis on altering con-ccepts of role of government and responses to that al-teration. P/NP or letter grading.

139C. American South, 1877 to the Present. (4) (Formerly numbered 147C.) Lecture, three hours; dis-cussion, one hour (when scheduled). Designed for juniors/seniors. Analysis of political, economic, social, intellectual, and cultural aspects of American democracy. 1890 to 1928. Political, economic, intellectual, and cultural aspects of American democracy. P/NP or letter grading.

140A-140B-140C. 20th-Century U.S. History. (4-4-4) (Formerly numbered 141A-141B-141C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading.


141A-141B. American Economic History. (4-4) (Formerly numbered 149A-149B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading.

141A. 1790 to 1910. Roles of economic forces, insti-tutions, individuals, and groups in promoting or impeding effective change in American economy from 1790 to 1910. During this period technical skeleton of modern industrial structure was formed. Why and how American economy evolved into dual economy, characterized by center of firms large in size and in-fluence and cluster of small in number and in-force. 1910 to the Present. Dynamics of change in dual economy, with focus in greater detail on interrelationships between macro and micro developments in economy and on growing interdependency between the U.S. and world economy from 1910 to the present.

142A-142B. Intellectual History of the U.S. (4-4) (Formerly numbered 150A-150B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Principal ideas about hu-manity and God, nature and society, which have been at work in American history. Sources of these ideas, their connections with one another, their relationship to the development of intellectual history. P/NP or letter grading.

142C. History of Religion in the U.S. (4) (Formerly numbered 150C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/se-niors. Consideration of religious dimension of peo-ple’s experience in the U.S. Examination of number of religious traditions that have been important in this country, with emphasis on relating developments in religion to other aspects of American culture. P/NP or letter grading.

142D. American Popular Culture. (4) Lecture, three hours; discussion, one hour (when scheduled). Rec-ommended requisites: courses 13B, 13C. Designed for juniors/seniors. Survey American cultural histo-ry since 1865, with emphasis on historical develop-ment of urban, consumer-oriented American mass culture and development of diverse groups of Americans as producers and consumers. Historical development of American popular culture according to changing set of political, economic, and social circumstances. Evolution of cultural and social framework for mass circulation of popular cultural expressions, as well as arrival of new technologies that enabled that develop-ment. P/NP or letter grading.

143A-143B. Constitutional History of the U.S. (4-4) (Formerly numbered 151A-151B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading.


144A-144B. American Diplomatic History. (4-4) (Formerly numbered 152A-152B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Role of the U.S. in 20th-century world.

144B. American Diplomatic History (Honors). (4) (Formerly numbered 152BH.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Role of the U.S. in 20th-century foreign policy, territorial expansion of the U.S., and emergence of world power. P/NP or letter grading.


145A-145B. U.S. Urban History. (4-4) (Formerly numbered 154A-154B.) Lecture, three hours; dis-cussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading.


145D. Urban History. Exploration of one aspect of U.S. urban history in depth without having to attend to basic chronology or geography. Topics include crime and poverty, urban economics, and urban government. Students do primary research papers based on local materials in addition to written examinations. May be repeated for maximum of 16 units with topic and instructor.

145C-145D. History of American Architecture and Material Culture. (4-4) (Formerly numbered 154C-154D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Aspects of American cultural history as explored through architecture, urban planning, and allied arts, with emphasis on development of architectural con-sciousness in America, ways in which built environ-ment has affected its users and observers, and extent to which it has reflected their values and ways of liv-ing. P/NP or letter grading. 145C. 1800 to 1890; 145D. 1890 to the Present.

146A-146B. American Working Class Movements. (4-4) (Formerly numbered 155A-155B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Major episodes in so-cial, trade union, and cultural history of American working class from Colonial times to the present, with emphasis on both organized and unorganized labor, history of Knights of Labor, A.F. of L, and C.I.O., and development of labor politics. P/NP or letter grading.
146C-146D. U.S. and Comparative Immigration History. (4-4) (Formerly numbered 160A-160B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Use of overlapping diaspora model which integrates North Atlantic (Europe), South Atlantic (Africa-Caribbean), Pacific (China/Japan/Hawaii), and Latin (Mexico to Brazil) worlds to provide chronological and analytic survey of American and comparative immigration from 1750 to the present. Special focus on Southern California in course 146D. P/NP or letter grading.

147A-147B. American Social History. (4-4) (Formerly numbered 156A-156B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Historical analysis of American society and culture, with emphasis on family, religious values, Afro-American life, women's work, urbanization and industrialization, immigration and nativism, and movements for social reform, P/NP or letter grading. 147A. 1750 to 1860; 147B. 1860 to 1960.

147C. History of Women in Colonial British America and Early U.S., 1600 to 1860. (4) (Formerly numbered 156C.) (Same as Women's Studies M147B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Introduction to major themes in history of early American women from initial confrontation of English and American Indian cultures in the early 17th century to rise of women's reform movement in the mid-19th century. P/NP or letter grading.

147D. History of Women in the U.S., 1860 to 1980. (4) (Formerly numbered 156D.) (Same as Women's Studies M147D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Introduction to major themes in history of American women from abolition of slavery and Civil War to rise and consequences of second-wave feminism. P/NP or letter grading.

149A-149B. North American Indian History. (4-4) (Formerly numbered 157A-157B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. History of Native Americans from contact to the present, with emphasis on historical dimensions of culture change, Indian political processes, and continuity of Native American cultures. Focus on selected Indian peoples in each period. P/NP or letter grading. 149A. Precontact to 1830; 149B. 1830 to the Present.

M150A. Comparative Slavery Systems. (4) (Formerly numbered 158A.) (Same as African-American Studies M150A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Examination of slavery experiences in various New World slave societies, with emphasis on outlining similarities and differences among legal status, treatment, and slave cultures of North American, Caribbean, and Latin American slave societies. P/NP or letter grading.

M150B-M150C. Introduction to Afro-American History. (4-4) (Formerly numbered 158B-158C.) (Same as African-American Studies M158B-158C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Survey of Afro-American experience, with emphasis on three great transitions of Afro-American life: transition from Africa to New World slavery, transition from slavery to freedom, and transition from rural to urban milieu. P/NP or letter grading.

M150D. Recent African American Urban History: Funk Music and Politics of Black Popular Culture. (4) (Formerly numbered 158D.) (Same as African-American Studies M158D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Exploration of musical genre known as "funk" which emerged in its popular form during the late 1960s and reached protest movements, and ideological self-definition. P/NP or letter grading.

M150E. African American Nationalism in First Half of the 20th Century. (4) (Formerly numbered 158E.) (Same as Afro-American Studies M158E.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Critical examination of African American search in first half of the 20th century for national/group cohesion through collaboration of self-institutions, associations, organizations, protest movements, and ideological self-definition. P/NP or letter grading.

M151A. History of Chicano Peoples. (4) (Formerly numbered 159A.) (Same as Chicana and Chicano Studies M159A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Survey course on historical development of Mexican (Chicano) community and people of Mexican descent (Indio-Mestizo-Mulato) north of Rio through the 17th, 18th, and 19th centuries, with special focus on labor and politics. Provides integrated understanding of change over time in Mexican community by inquiry into major formative historical forces affecting community. Social structure, economy, labor, culture, political organization, conflict, and international relations. Emphasis on social forces, class analysis, social, economic, and labor conflict, ideas, domination, and resistance. Developments related to historical events of significance occurring both in the U.S. and Mexico. Lectures, presentations, reading assignments, written examinations, library and field research, and submission of paper. P/NP or letter grading.

M151B. History of Chicano Peoples. (4) (Formerly numbered 159B.) (Same as Chicana and Chicano Studies M159B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Survey lecture course on historical development of Mexican (Chicano) community and people of Mexican descent in the U.S. through the 20th century, with special focus on labor and politics. Provides integrated understanding of change over time in Mexican community by inquiry into major formative historical and policy issues affecting community. Within framework of domination and resistance, discussion deals with social structure, economy, labor, culture, political organization, conflict, and ideology. Developments related to historical events of significance occurring both in the U.S. and Mexico. Lectures, special presentations, reading assignments, written examinations, library and field research, and submission of paper. P/NP or letter grading.

M151C. Understanding Whiteness in American History and Culture. (4) (Formerly numbered 161.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Study of politically troubling question of entry into the U.S. of immigrants ineligible for citizenship and their children in American history. P/NP or letter grading.

152. Asians in American History. (4) (Formerly numbered 161.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Study of politically troubling question of entry into the U.S. of immigrants ineligible for citizenship and their children in American history. P/NP or letter grading.

153. American West. (4) (Formerly numbered 162.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Study of West as frontier and as region, in transit from Atlantic seaboard to Pacific, from the 17th century to the present. P/NP or letter grading.

154. History of California. (4) (Formerly numbered 163.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Economic, social, intellectual, and political development of California from earliest times to the present. P/NP or letter grading.

155. History of Los Angeles. (4) (Formerly numbered 164.) (Same as Chicana and Chicano Studies M164.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Socio-economic, cultural, and political development of Los Angeles and its environs from its founding to the present. Emphasis on diverse peoples of area, changing physical environment, various interpretations of city, and Los Angeles' place among American urban centers. P/NP or letter grading.

156. Topics in U.S. History. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Examination of specific historical themes and/or major issues in U.S. history. P/NP or letter grading.

157A. Early Latin American. (4) (Formerly numbered 165A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Advanced survey of Latin American history from conquest to independence, with emphasis on society, culture, and ethnic aspects. P/NP or letter grading.

157B. Indians of Colonial Mexico. (4) (Formerly numbered 165C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Survey of social and cultural history of Indians of Mexico, especially concerning process of European conquest until Mexican independence, with emphasis on internal view of Indian groups and patterns or bands or records produced by Indians themselves. P/NP or letter grading.

159. Latin America in the 19th Century. (4) (Formerly numbered 159B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Elitelore (defined as oral or noninstitutionalized knowledge involving leaders' conceptual and perceptual life history views) in contrast to folklore (followers' traditional or popular views). Elitelore genres include oral history, literature, and cinema. P/NP or letter grading.

160B. Mexican Revolution since 1910. (4) (Formerly numbered 171.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Examination of concept of "permanent revolution" to describe and explain structure of "permanent revolution" and "one-party" dictatorship, and post-revolutionary crises and development of new national identity, with special focus on labor and politics. Provides integrated understanding of power relations in Mexican society, social, economic, and political changes, social policy. P/NP or letter grading.

161. Topics in Latin American History. (4) (Formerly numbered 161A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Examines major issues in history of Latin America. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

162A. Modern Brazil. (4) (Formerly numbered 173.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Selected topics in political, economic, social, and cultural development of Brazil, with emphasis on modernization and struggle for change, 1850 to the present. Discussions, films, slides, and guest speakers supplement and complement lectures. P/NP or letter grading.

162B. Brazil and Atlantic World, 1500 to 1822. (4) (Formerly numbered 174.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. Exploration of role of Brazil in the development of colonial society in Brazil from discovery in 1500 to independence in 1822, placing it in context of Portugal's overseas expansion in Asia, Africa, and Americas. Emphasis on Portuguese colonialism, African roots of modern Brazil. P/NP or letter grading.
162C. History of Argentina. (4) (Formerly numbered 172.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History of economic, political, social, and cultural developments that have shaped Argentina from colonial time to the present. Emphasis on 19th-century development of agro-export economy and 20th-century formation of mass society. P/NP or letter grading.

M164A-164Z. Topics in African History. (4 each) (Formerly numbered M175A-175Z.) Lecture, three hours; discussion, one hour (when scheduled). Preparation: one prior course in African history at UCLA. Designed for juniors/seniors. Examination of specific topics which have had continental application rather than proceeding on strictly chronological or regional basis. P/NP or letter grading.

M164A. Prehistoric Africa — Technological and Cultural Traditions. (4) (Formerly numbered M175A.) (Same as Anthropology M119.) Lecture, three hours; discussion, one hour (when scheduled). Preparation: one prior course in African history at UCLA. Designed for juniors/seniors. Survey of nondocumentary sources of early African history, with emphasis on archaeological evidence from origins of humanity until A.D. 1500. P/NP or letter grading.

164B. Africa and Slave Trade. (4) (Formerly numbered 175B.) Lecture, three hours; discussion, one hour (when scheduled). Preparation: one prior course in African history at UCLA. Designed for juniors/seniors. Social, economic, political, and cultural impact of slave trade on African society, with emphasis on Atlantic trade without neglecting those of ancient Mediterranean, Islamic, and Indian Ocean worlds. Abolition of African slavery and its political, social, and economic consequences. P/NP or letter grading.

164C. Africa in Age of Imperialism. (4) (Formerly numbered 175C.) Lecture, three hours; discussion, one hour (when scheduled). Preparation: one prior course in African history at UCLA. Designed for juniors/seniors. Topics include penetration of precapitalist social formations by capital, emergence of classes, nature of colonial and postcolonial state, and struggle for national liberation in global context. P/NP or letter grading.

164D. Africa and Diaspora in Global and Comparative Perspective. (4) (Formerly numbered 175D.) Lecture, three hours; discussion, one hour (when scheduled). Preparation: one prior course in African history at UCLA. Designed for juniors/seniors. Social dimension of various aspects such as shamanism, ancestor worship, and military activities. P/NP or letter grading.

164E. Africa from 1945 to the Present. (4) (Formerly numbered 175E.) Lecture, three hours; discussion, one hour (when scheduled). Preparation: one prior course in African history at UCLA. Designed for juniors/seniors. Social dimension of various aspects such as shamanism, ancestor worship, and military activities. P/NP or letter grading.

165. Topics in African History. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of specific historical themes and/or major issues in African history. May be repeated for credit maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

166A-166B. History of West Africa. (4-4) (Formerly numbered 176A-176B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Topics include penetration of precapitalist social formations by capital, emergence of classes, nature of colonial and postcolonial state, and struggle for national liberation in global context. P/NP or letter grading.

166C. Social and Economic History of West Africa since 1800. (4) (Formerly numbered 176C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Analysis of main currents of West African social, cultural, and economic history since fall of Songhai Empire, with emphasis on family, religious values, education, urbanization, missioning and effects of trade. Roles of economic forces and institutions in promoting or inhibiting economic change in West Africa; ethnic diversity and sociopolitical integration in colonial economic systems and efforts at economic planning and development since the 1950s. P/NP or letter grading.

167A. History of Northeast Africa. (4) (Formerly numbered 177.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of history of Ethiopia, Sudan, and Somalia in regional context of northeast Africa from earliest times to the present, with emphasis on economy and society, evolution of state, and significance of Christianity and Islam. P/NP or letter grading.

167B. History of East Africa. (4) (Formerly numbered 178B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of cultural diversity of east Africa from earliest times to growth of complex societies, its place within wider Indian Ocean system, and colonial conquest to gaining of independence and postcolonial challenges. P/NP or letter grading.

167C. History of Central Africa. (4) (Formerly numbered 178B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of history of central Africa from earliest times, with emphasis on establishment of agriculture, growth of trade, rise of states, and incorporation of region into world economy. P/NP or letter grading.

168A-168B. History of Southern Africa. (4-4) (Formerly numbered 179A-179B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Attention to social and economic as well as political aspects. P/NP or letter grading. 168A. From Origins to 1870. Origins of South African peoples and their interactions to 1870. Since 1870. Interactions between inhabitants of southern Africa since 1870.

169A-169B. Thought and Society in China. (4-4) (Formerly numbered 182A-182B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. 169A. To 1000. Recommended preparation: course 11B. Elite and popular expressions of Chinese cultural life examined in readings and lectures. Focus on diversities of thought in classical legacy and the evolution under impact of Buddhism to 1000. Emphasis on interactions between intellectual life and political, social, and economic conditions. 169B. Since 1000. Recommended preparation: course 11B. Elite and popular expressions of Chinese cultural life from 1000 to the 20th century. Emphasis on social, political, and economic conditions within which Chinese orthodox and heterodox values evolved and changed. Evaluation of iconoclasm of Chinese intellectual life in the 20th century in light of earlier currents of thought.

170A. Culture and Power in Late Imperial China. (4) (Formerly numbered 183A.) Lecture, three hours; discussion, one hour (when scheduled). Recommended preparation: three courses 11A, 11B. Designed for juniors/seniors. Analysis of relations of power and cultural expressions of dominance and resistance in late imperial China (1000 to 1700), with emphasis on interplay of economic forces, ideas, and social and political institutions. Examination of institutions of state, family, school, and city; idioms of folk religion, death, and afterlife; political, legal, and medical discourses of body, personhood, and social identity; love, sexuality, and private life. P/NP or letter grading.

170B. Selected Topics in Chinese History from 1500. (4) (Formerly numbered 183B.) Lecture, three hours; discussion, one hour (when scheduled). Recommended preparation: course 11B. Selected topics that may vary from year to year. Recent offerings include law, society, and culture; society and economy; and rural China. May be repeated for credit maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

M170C. History of Women in China, A.D. 1000 to the Present. (4) (Formerly numbered 183C.) (Same as Women’s Studies M170C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Topics include women and family, women in Confucian ideology, women in literati culture, feminist movements, and women and communist revolution. P/NP or letter grading.

170D. 20th-Century China. (4) (Formerly numbered 184.) Lecture, three hours; discussion, one hour (when scheduled). Recommended preparation: course 11B. Designed for juniors/seniors. Political events and intellectual developments seen in context of social-economic trends; human agency, structural change, and historical conjunctures in the 20th century. P/NP or letter grading.

171. Variable Topics in Japanese History. (4) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Important topics in Japanese history, including political change, economic development, social questions, and popular culture, as well as media and arts, explored through extensive readings. P/NP or letter grading.

172A-172B. 172A. Japanese History. (4-4) (Formerly numbered 184A-184B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Political, economic, and cultural development of Japan from prehistory to the present. P/NP or letter grading. 172A. Ancient, Prehistory to 1600; 172B. Early Modern, 1600 to 1868; 172C. Modern, 1868 to the Present.

173A. Japanese Popular Culture. (4) (Formerly numbered 185A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Topics in 18th-, 19th-, and 20th-century Japanese history, including legacy of premodern satire in postmodern comic books, American culture in 1930s’ Japanese visual culture, gender in photography, and relationship of monster movies to postwar politics. P/NP or letter grading.

M173B. Women in 20th-Century Japan. (4) (Formerly numbered 185B.) (Same as Women’s Studies M173B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Japanese women in Japanese and world history through state documents, autobiographical voices, contemporary television, and other historical sources, including topics such as women and new political order (1900 to 1930), women, war, and empire (1930 to 1945), and women in consumer society (1980s to 1990s). P/NP or letter grading.

173C. Shinto, Buddhism, and Japanese Folk Religion. (4) (Formerly numbered 186.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Social dimension of various “Ways,” great and little: Shinto’s connection with cultural nationalism, Buddhism’s medieval “Reformation” and Zen’s relation to warrior culture, folk religious aspects such as shamanism, animal worship, and mil lenarianism. P/NP or letter grading.

174A. Early History of India. (4) (Formerly numbered 188A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Recommended preparation: classes numbered 175A-175Z. Survey of history and culture of South Asia subcontinent from earliest times to founding of Mughal Empire. P/NP or letter grading.
174B-174C. History of British India I, II. (4-4) (Formerly numbered 188B-188C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. 174B. Examination of expansion of British rule, theories and practice of governance, constitution of India as “oriental despotism,” epistemological projects of state, and other modes by which British achieved conquest of knowledge. 174C. Political economy of imperialism and Britain’s “civilizing mission.” Encounter, especially in terms of race and gender, between colonized and to questions of resistance and nationalism.

174D. Classical Age of Indian History, A.D. 300 to 1000. (4) (Formerly numbered 188D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/senior. P/NP or letter grading. 174E. Bhakti Traditions in Indian History. (4) (Formerly numbered 188E.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study of Bhakti or devotional traditions of India as part of “Great Tradition” of classical Hinduism; involvement of women; emergence of Sikhism. P/NP or letter grading.

175A. Cultural and Political History of Contemporary South Asia. (4) (Formerly numbered 189A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Problem of modernity and nationhood India and emergence of Pakistan; political, social, ecological, and women’s movements; struggle for rights and conflicts of identity among Muslims, Hindus, and Sikhs; terrorism in Sri Lanka and Punjab; public culture, popular cinema, and street life. P/NP or letter grading.

175B. Indian Identity in the U.S. and Diaspora. (4) (Formerly numbered 189B.) (Same as Asian American Studies M172.) Lecture, three hours. Designed for juniors/seniors. History of overseas Indian communities; transformations of Hinduism in diaspora; emergence of new diasporic art forms such as bhangra rap and chutney music; relations between Indians and other racial and ethnic groups; Indian women as embodiment of Indian culture; diasporic identities. P/NP or letter grading.

175C. Special Topics in Contemporary Indian History. (4) (Formerly numbered 190C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Treatment of major issues in history of contemporary India. May be repeated for credit for a maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

176A-176B. History of Southeast Asia. (4-4) (Formerly numbered 190A-190B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. 176A. Early History of Southeast Asia. Political and cultural history of peoples of Southeast Asia from earliest times to about 1815. 176B. Southeast Asia since 1815. History of modern Southeast Asia, with emphasis on expansion of European influence in political and economic spheres, growth of nationalism, and process of decolonization.

176C. Philippine History. (4) (Formerly numbered 190C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for seniors. Social, cultural, and political history of Philippine societies from Spanish conquest through independence. Emphasis on questions of identity under colonialism, understanding Revolutions of 1896 and 1898, and emphasis on questions of identity under colonialism, and from Spanish conquest through independence.

176D. Premodern Vietnamese History. (4) (Formerly numbered 190D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Overview of history of people of Vietnam to beginning of colonial period (circa 1880), covering political, social, economic, cultural, and religious developments. Consideration of impact of Vietnamese past on modern Vietnam. P/NP or letter grading.

176E. Vietnam: Past and Present. (4) (Formerly numbered 190D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Variable topics with focus on history of one or more of Southeast Asia’s nation-states: Indonesia, East Timor, Thailand, Cambodia, Burma, Laos, Malaysia, Singapore, Brunei, Philippines, Vietnam. P/NP or letter grading.

177A. National Histories of Southeast Asia. (4) (Formerly numbered 190Y.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Variable topics with focus on history of Southeast Asia from thematic or comparative perspective. Topics may include gender and rights in Southeast Asia, gender and sexuality in island Southeast Asia, and economic history of Southeast Asia. P/NP or letter grading.

177B. Comparative Histories of Southeast Asia. (4) (Formerly numbered 190Z.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Topics with focus on history of Southeast Asia from thematic or comparative perspective. Topics may include gender and rights in Southeast Asia, gender and sexuality in island Southeast Asia, and economic history of Southeast Asia. P/NP or letter grading.

177C. Historical Roots of Healing Arts. (4) (Formerly numbered 195A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to traditions, practices, politics, goals, and myths of Western healing professions from time of ancient Greeks to Renaissance. Topics range from Hippocrates, Galen, and scholars at Alexandria to healing at Epidaurus and Salerno, contributions of medieval Muslim and Jewish doctors, rise of healing professions, medical faculties, nursing orders, and hospitals. P/NP or letter grading.

178B. History of Medicine: Foundations of Modern Medicine. (4) (Formerly numbered 195B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for seniors. Scientific, cultural, and social context that shaped modern medicine, from Renaissance to Romantic era. Topics include establishment of anatomy, physiology, and modern clinical medicine, mapping of human body, medical approach to mental illness, rise of anaesthesia-clinical method at Paris School. P/NP or letter grading.

179C. Medicine in 19th-Century America. (4) (Formerly numbered 156H.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Therapeutics, theories of disease, and medical science scrutinized with understanding that these are never value-neutral, but are shaped by social structures of which they are products. Why have doctors become so powerful and over whom did they wield power in the 19th century? P/NP or letter grading.

180A. Topics in History of Science. (4) (Formerly numbered 195E.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Topics may include science and colonialism, science and religion, environmental history, science in Enlightenment, development of theory of evolution, science and public policy, public nature of science. May be repeated for credit of 16 units with topic and/or instructor change. P/NP or letter grading.

180B. Historical Perspectives on Gender and Science. (4) (Formerly numbered 195F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for seniors. Historical cases illustrating how gender enters practices and concepts of science. Topics include gendered conceptions of nature, persona of "man versus science," scientific revolution, scientific investigations of women and femininity. P/NP or letter grading.

180C. Science and Technology in the 20th Century. (4) (Formerly numbered 195D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for seniors. Topics may include science and technology and their impact on society. Industrialization, global scientific community, social Darwinism, atomic bomb and nuclear proliferation, Cold War and American science, environmentalism, and biotechnology. P/NP or letter grading.

M181. Topics in Jewish History. (4) (Same as Jewish Studies M181.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Development of Jewish history from rise of Christianity to expulsion of Jews from Spain in 1492. P/NP or letter grading.

M182A. Ancient Jewish History from Patriarchs to Rabbis. (4) (Formerly numbered M191A.) (Same as Jewish Studies M182A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of social, political, and religious developments. P/NP or letter grading.

M182B. Between Crescent and Cross: Jewish Middle Ages. (4) (Formerly numbered M191B.) (Same as Jewish Studies M182B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Overview of period from beginning of Jewish history from rise of Christianity to expulsion of Jews from Spain in 1492. P/NP or letter grading.

M182C. Jewish History from Spanish Expulsion to 1800. (4) (Formerly numbered M191C.) (Same as Jewish Studies M182C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of early modern Jewish history beginning with enormous and concussive expulsion of Jews from Spain in 1492, followed by transformations in Jewish society and identity over five centuries in Europe and Middle East, and concluding with nationalism, P/NP or letter grading.

M182D. European Jewry from 1800 to the Present. (4) (Formerly numbered M191D.) (Same as Jewish Studies M182D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History of major social, economic, and political factors that shaped lives of Europe’s Jews from outbreak of First World War to the present. Emphasis on diverse Jewish communities of interwar Europe, fate of Jews under Nazis, and character of postwar Jewish community. P/NP or letter grading.

M182E-M182F. Jewish Intellectual History. (4-4) (Formerly numbered M192A-M192B.) (Same as Jewish Studies M192E-M192F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Exploration of unfolding of Jewish society and identity over 2,000 years, from Jews from Spain in 1492, followed by transformations in Jewish society and identity over five centuries in Europe and Middle East, and concluding with nationalism, P/NP or letter grading.

183A-183B. Third Reich and Jews. (4-4) (Formerly numbered 191E-191F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examinations of emergence of distinct forms of Jewish culture in modern age, particularly those that challenge traditional forms of Jewish religious culture (e.g., laws, customs, holidays, rituals). P/NP or letter grading.

183A-183B. Third Reich and Jews. (4-4) (Formerly numbered 191E-191F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. In this course, students will be able to identify the main types of Jewish thought under Nazi domination. Students will learn about the history of Jewish anti-Semitism, and the role of anti-Semitism in contemporary society. P/NP or letter grading.

M182G. Spirit of Secularism: Jewish Cultures in Secular Age. (4) (Same as Jewish Studies M182G.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of emergence of distinct forms of Jewish culture in modern age, particularly those that challenge traditional forms of Jewish religious culture (e.g., laws, customs, holidays, rituals). P/NP or letter grading.
211A-211U. Topics in History. (4 each) Seminar, three hours. Course 212A is requisite to 212B. Designed for graduate students. Study of problems of modern economics in the 19th and 20th centuries, including such topics as industrialization, growth, demography, development, and economic change. In Progress (212A) and letter (212B) grading.

M203A-M203B. Social Theory and Comparative History. (4-4) (Same as Political Science M201A-M201B and Sociology M206A-M206B.) Seminar, three and one-half hours every other week. Introduc-
tion to social, linguistic, semiotic, or other new inter-
disciplinary methods of understanding social and cultural processes. In Progress (202A) and letter (202B) grading.

229A-229B. Seminars: Comparative Modern Economic History. (4-4) Seminar, three hours. Course 229A is requisite to 229B. Designed for graduate students. Study of economic history. Topics vary annually. Letter grading.

233A-233B. Economic History of 20th-Century Europe; 1939. (4-4) Seminar, three hours. Course 233A is requisite to 233B. In Progress (233A) and letter (233B) grading.

234A-234B. Seminars: England History — Middle Ages. (4-4) Seminar, three hours. Course 234A is requisite to 234B. In Progress (234A) and letter (234B) grading.

246A-246C. Introduction to U.S. History. (4-
4) Seminar, three hours. Graduate survey of significant literature dealing with U.S. history from the Colo-
nial period to the present. Each course may be taken independently for credit. 246A. Colonial Period; 246B. 1790 to 1900; 246C. 20th Century.

247A-247B. Seminars: Early American History. (4-
4) Seminar, three hours. Course 247A is requisite to 247B. In Progress (247A) and letter (247B) grading.

250A-250B. Seminars: Business Enterprise and American Culture. (4-
4) Seminar, three hours. Course 250A is requisite to 250B. In Progress (250A) and letter (250B) grading.

251A-251B. Collaborative Research Seminars: American History. (4-4) Seminar, three hours. Research seminars taught jointly by two faculty members. In Progress (251A) and letter (251B) grading.

252A-252B. Seminars: Recent U.S. History to 1930. (4-
4) Seminar, three hours. Course 252A is requisite to 252B. In Progress (252A) and letter (252B) grading.

253A-253B. Seminars: Recent U.S. History since 1930. (4-4) Seminar, three hours. Course 253A is requisite to 253B. In Progress (253A) and letter (253B) grading.

254A-254B. Seminars: U.S. Social and/or Intellec-
tual History. (4-4) Seminar, three hours. Course 254A is requisite to 254B. In Progress (254A) and letter (254B) grading.

255A-255B. Business Enterprise and American Culture. (4-4) Seminar, three hours. Course 255A is requisite to 255B. In Progress (255A) and letter (255B) grading.

256A-256B. Seminars: America in the World. (4-
4) Seminar, three hours. Course 256A is requisite to 256B. In Progress (256A) and letter (256B) grading.
M259A-M259B. History of Women. (4-4) (Formerly 258B. In Progress (258A) and letter (258B) grading.
Seminar, three hours. Course 258A is requisite to 258B. In Progress (258A) and letter (258B) grading.

M260A-260B. Seminars: Native American History. (4-4) Seminar, three hours. Course 260A is requisite to 260B. In Progress (260A) and letter (260B) grading.

M260C. Native American Revitalization Movements. (4) (Same as Anthropology M238.) Lecture, two hours; discussion, one hour. Examination of revitalization movements among native peoples of North America (north of Mexico). Specific revitalization includes Handsome Lake, 1870 and 1890 Ghost Dances, and Peyote Religion. Letter grading.

M260D. Native American Historical Demography. (4) (Same as Anthropology M287C.) Lecture, two hours; discussion, one hour. Examination of population history of Native Americans north of Mexico prior to and following contacts with Europeans, Africans, and others, circa 1492. Emphasis on number of American Indians and other Native Americans, their decline following European contact, and their recent resurgence. Letter grading.

M261A-261B. Seminars: Afro-American History. (4-4) Seminar, three hours. Course 261A is requisite to 261B. Seminar, three hours. Course 261A is requisite to 261B. Lecture, two hours; discussion, one hour. Seminar: Afro-American History. (4-4) Seminar, three hours. Course 261A is requisite to 261B. Letter grading.

M262A-262B. Seminars: Chicano History. (4-4) Seminar, three hours. Course 262A is requisite to 262B. In Progress (262A) and letter (262B) grading.

M263A-263B. Seminars: History of American West. (4-4) Seminar, three hours. Course 263A is requisite to 263B. In Progress (263A) and letter (263B) grading.

M264. History of American Education. (4) (Same as Education M201C.) History of educational thought and of significant forces impinging on American education from the 1800s to the present. Analysis of relation between these ideas and forces, and aims and practices of American education today.

M265. Latin American Research Resources. (4) (Same as Latin American Studies M225 and Latin American Studies M200.) Seminar, three hours. General and specialized materials in fields concerned with Latin American studies. Library research techniques provide experience and competency required for future bibliographic and research sophistication as basis for enhanced research results.

M266A-266B. Seminars: Colonial Latin American History. (4-4) Seminar, three hours. Course 266A is requisite to 266B. In Progress (266A) and letter (266B) grading.

M266C. Analyzing Historical Texts. (4) (Same as Linguistics M238.) Seminar, four hours. Designed for graduate students. Analysis of linguistic structure and ethnohistorical context of legal and other documents written by native-speaking scribes and translators. Topics include paleographic technique and text analysis software. May be repeated for credit.

M267A-267B. Seminars: Latin American History, 19th and 20th Centuries. (4-4) Seminar, three hours. Course 267A is requisite to 267B. In Progress (267A) and letter (267B) grading.

M268A-M268B. Seminars: Recent Latin American History. (4-4) (Same as Latin American Studies M268A-M268B.) Seminar, three hours. Course M268A is requisite to M268B. History of women's social and political issues seen in U.S. and comparative context. In Progress (M268A) and letter (M268B) grading.

M270A-270B. Seminars: World History. (4-4) Seminar, three hours. Course 270A is requisite to 270B. In Progress (270A) and letter (270B) grading.

M282A-282B. Seminars: Japanese History. (4-4) Seminar, three hours. Course 282A is requisite to 282B. In Progress (282A) and letter (282B) grading.

M283A-M283B. Colloquia: African History. (4-4) Seminar, three hours. Designed for graduate students. Since the late 19th century, Japan expanded its empire into East and Southeast Asia. Coverage of that period and array of anthropological studies conducted in Japan, colonies and occupied areas in this hardly explored area of study of colonialism. S/U or letter grading.

M288A-288B. Seminars: East Asia. (4-4) Seminar, three hours. Course 288A is requisite to 288B. In Progress (288A) and letter (288B) grading.

M291A-291B. Seminars: Jewish History. (4-4) Seminar, three hours. Course 291A is requisite to 291B. Studies in intellectual and social history of Jewish people from ancient times to modern period. In Progress (291A) and letter (291B) grading.

M293A-293B. Seminars: History of Religions. (4-4) Seminar, three hours. Course 293A is requisite to 293B. In Progress (293A) and letter (293B) grading.

M294A-294B. Western Science, Religion, and Political Economy, 1600 to 1830. (4-4) Seminar, three hours. Studies science integrated within matrix of religious beliefs concerning in early modern Europe and, to a lesser extent, in American colonies. Examination of relationship of both cultural matrices to political and economic change. S/U or letter grading.

295. Theories of Scientific Change. (4) Seminar, three hours. Historical and philosophical perspectives on science, focusing on rationality of scientific change and logic and psychology of scientific discovery. Readings and seminar-style discussions of such authors as Popper, Kuhn, Toulmin, Lakatos, Holton, Buchdahl, Feyerabend, and others.

M296. History of Statistics. (4) (Same as Statistics M245.) Seminar, three hours. History of statistics ranges over vast and diverse territory. Development of mathematical methods; philosophical, political, and social issues that were linked to their emergence and use. S/U or letter grading.

M297A-297B. Seminars: History of Science. (4-4) Seminar, three hours. Course 297A is requisite to 297B. In Progress (297A) and letter (297B) grading.

M298. Interdisciplinary Studies in the 17th and 18th Centuries. (4) (Same as English M298.) Topics vary according to participating faculty. May be repeated for credit.
Undergraduate Study

History/Art History B.A.

Lower division history and art history courses may be applied toward the general education requirements; a course taken to satisfy the American History and Institutions requirement may be applied toward the history section of the interdepartmental major. All courses must be taken for a letter grade.

Students wanting to confer with a counselor regarding program planning and major requirements should contact the history/art history counselor at (310) 825-3992.

Preparation for the Major

Required: History 1A, 1B, 1C; two courses from Art History 50, 51, 54, 57; one course from Art History 55A, 55B, 56A, 56B.

Transfer Students

Transfer applicants to the History/Art History major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one year of history of Western civilization, two art history courses in ancient, Renaissance and baroque, medieval, or modern art, and one non-Western art history course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: One course from History 97A through 97O or 100; one course from 191A through 191O or 197; and courses as indicated in the following groups:


Group F: Two art history elective courses selected from the above lists. Students may also take Art History 100, C103A, C103B, C103C, 127, 197, 199 to meet this requirement

Honors Program

The honors program is designed for History/Art History majors who are interested in carrying out an independent research project that culminates in an honors thesis of approximately 30 pages. The program gives qualified students the opportunity to work closely with individual professors on an in-depth supervised research and writing project.

All junior and senior History/Art History majors who have completed a minimum of four upper division art history courses with a grade-point average of 3.5 or better and an overall GPA of 3.0 or better are eligible to apply. Consult the art history undergraduate counselor one term prior to beginning the honors program.

To qualify for graduation with honors, students must (1) complete all requirements for the major, (2) have a cumulative grade-point average of 3.5 or better in upper division courses in the major and an overall GPA of 3.0 or better, and (3) complete Art History 198A and 198B with grades of A– or better.

To qualify for graduation with highest honors, students must (1) complete all requirements for the major, (2) have a cumulative GPA of 3.85 or better in upper division courses in the major and an overall GPA of 3.65 or better, and (3) complete Art History 198A and 198B with grades of A.

Honors Program

Faculty Advisory Committee

Sean A. Kelsey, Ph.D. (Philosophy)
Gail Kligman, Ph.D. (Sociology)
Jeffrey H. Miller, Ph.D. (Microbiology, Immunology, and Molecular Genetics)
Mark B. Moldwin, Ph.D. (Earth and Space Sciences)
Sarah P. Morris, Ph.D. (Classics)
William I. Newman, Ph.D. (Earth and Space Sciences, Mathematics, Physics and Astronomy)
Irwin Slavodnik, Ph.D. (Psychiatry and Biobehavioral Sciences)
Brian D. Walker, Ph.D. (Political Science)
Robert N. Watson, Ph.D. (English)

Scope and Objectives

The Honors Collegium is an unusual educational alternative, with an interdisciplinary emphasis. The collegium encourages animated discussion among students, as well as between students and professors. It seeks to promote scholarly exchange across the major disciplines in the University. And it offers small classes and individual attention.

Undergraduate Study

Each Honors Collegium course is staffed by a director who is distinguished in teaching and scholarship and may include a variable number of guest lecturers and additional specialists in their fields. Many courses satisfy general education requirements and serve as preparation for numerous majors in the College of Letters and Science. Counselors are available in the Honors Programs Office, A311 Murphy Hall, to advise and help students plan an integrated academic program.

Courses in the Honors Collegium are mainly interdisciplinary seminars, and the courses vary each year. Refer to the Schedule of Classes for current course listings. An Honors Collegium quarterly brochure, which gives detailed course descriptions of current offerings, is available at http://www.college.ucla.edu/up/honors/.

Honors Collegium

Lower Division Courses

2. Comparative Genocide. (4) Lecture, four hours; discussion, one hour. Social comparative study of genocide, combining theoretical concepts with case studies (such as Armenia, the Holocaust, American Indians, Uganda under Amin and Obote, etc.). P/NP or letter grading.

3. History and Visual Culture from Engraving to Film and Television. (6) Seminar, three hours. Interdisciplinary look at relationship between visual imagery and historical developments, tracing evolution of visual culture in relationship to forms of political, social, and cultural authority in media from 17th-century engravings to post-World War II television. P/NP or letter grading.

4. Immigrants and American Dream. (5) Seminar, three hours. Study of process of attaining the American Dream, including analysis of different perspectives on immigration and assessment of success based on such measures as occupational achievement, home ownership, and political participation. P/NP or letter grading.
5. Representing Cleopatra: History, Drama, and Film. (5) Seminar, three hours. Examination of legendary queen of Egypt as seen in her contemporaries and study of origins of myths about her and ways in which subsequent cultures and eras have imagined her in literary, visual, and cinematic representations. P/NP or letter grading.

7. Saint and Heretic: Joan of Arc and Gilles de Rais, History and Myth. (5) Seminar, three hours. Examination of both history of Joan of Arc and Gilles de Rais and of way in which, over time, their histories became legends, driven by various agendas including national identity, beatification, and gender politics. P/NP or letter grading.

8. Communication among Organisms. (4) Lecture, three hours; discussion, two hours. Study of communication among a variety of taxonomic groups ranging from single-celled organisms to plants, whales, and nonhuman primates. P/NP or letter grading.


12. Sacred Form: Literature and Poetry in India from Bronze Age to Premodern Times. (4) Seminar, three hours. Exploration of cultural and literary developments in India from early religious poetry (prior to 1000 B.C.) to broad range of literary styles and diverse religious and philosophical movements through classical, medieval, and premodern period. P/NP or letter grading.


14. Interaction of Science and Society. (4) Seminar, three hours. Examination of interaction of science and society and effects of this interaction on history, development of societies, evolution of revolutionary ideas as modeled in Galileo, Darwin, and others, and selected contemporary issues such as genetic engineering and war against infectious diseases. P/NP or letter grading.

15. Acting Myth. (4) Seminar, three hours. Interdisciplinary approach to literature and acting through study of texts and mythologies from variety of Indo-European and Near Eastern sources; students learn acting techniques and direct scenes from the texts. P/NP or letter grading.


18. Trial of Socrates. (5) Seminar, three hours. Examination of life and times of Socrates and trial that led to his execution, including in-class staging. P/NP or letter grading.

20. What Is This Thing Called Science?: Nature of Modern Science. (5) Lecture, three hours; discussion, one hour. How have we come to know what we know about the natural world? What scientific method is used to guide scientific investigations? How have scientists learned what we know about the modern world? What obstacles would have to be overcome just to address this question. P/NP or letter grading.

23. Political Dissidence Today and in Ancient Greece: Trial and Death of Socrates in Its Classical and Legal Context. (5) Seminar, three hours. Study of trial and death of Socrates and relevance today to legal treatment of dissent and civil disobedience in the U.S. and to variety of contemporary theories and strategies of dissent. Introduction to Greek legal system, life and death of Socrates, three main systems that systematized, and new ways to think about roles of law. P/NP or letter grading.

24. Three African Civilizations. (5) Seminar, four hours. Examination of development of three major African civilizations through their arts, with focus on arts of Mali, Ethiopia, and Kongo from about 100 B.C.E. to present. P/NP or letter grading.

25. Artificial Intelligence: Machines as People, People as Machines. (5) Formerly numbered 20.) Seminar, three hours; laboratory, one hour. Programing knowledge not required. Examination of human cognitive abilities and study of different historical approaches to programming human cognitive abilities and behaviors into computers, with focus on problem solving. P/NP or letter grading.

26. Representing Medicine: Art, Literature, and Film. (5) Lecture/discussion, 10 hours. Limited to Freshman Summer Program students. Exploration of interdisciplinary dimensions of medical representation, with emphasis on cross-cultural 20th-century portrayals of the profession, including representations of various health care providers and their roles and circumstances, aging, alternative treatments, and mental health. Offered in summer only. P/NP or letter grading.

27. Theories of Exchange: Social Life of Gifts and Commodities. (4) Seminar, three hours. Study of how creation, maintenance, and dissolution of social and political relations are modulated through exchange of gifts and/or commodities in different contexts and different societies. P/NP or letter grading.

28. Perils of Living in Space: Introduction to Space Weather. (5) Seminar, four hours. Preparatory talk: high school calculus. Study of conditions in space that affect Earth and its systems, conditions that are consequences of behaviors of sun, nature of Earth’s magnetic field and atmosphere, and our location in solar system. P/NP or letter grading.


34W. Construction and Migration of Knowledge: Rhetoric and Media for Information Age. (6) Seminar, three hours; writing laboratory, two hours. Examination of legibility of evidence, with aim of advancing cross-disciplinary approaches to understanding what happens when esoteric knowledge travels to nonspecialist readers; analysis of how creation, maintenance, and dissolution of social and political relations are modulated through exchange of gifts and/or commodities in different contexts and different societies. P/NP or letter grading.

35. Scientific Method: Critical Inquiry into Questions of Extraterrestrial Life. (4) Lecture, three hours; discussion, one hour. Course does not presume to answer question of whether or not there is intelligent life in the universe but rather uses this question as a pedagogic tool to introduce central ideas, techniques, and limitations of the scientific method — what questions would need to be asked, what scientific method would be driven by various agendas including national identity, beatification, and what obstacles would have to be overcome just to address this question. P/NP or letter grading.

36. Gender, Work, and Family: Public Policy Challenge. (5) Seminar, three hours. Examination of challenges of reconciling work and family commitments for working populations of both genders, with particular emphasis on recent changes in labor force participation, on ways in which gender, race, and class lines affect time allocation, and on public policy options that might support work-family balance. Primary focus on the U.S., with look at how other advanced industrial societies — specifically Western Europe — have addressed these issues. P/NP or letter grading.


45. Writing about Life Sciences. (5) Seminar, three hours; writing laboratory, two hours. Enforced requisites: English Composition 3 or 3H. Examination of writing and rewriting of traditional story types, specifically the adventure story as represented by De Foe’s Robinson Crusoe and its remaneifestations in contemporary literature and film, and the fantasy novel represented by C. S. Lewis’s and its various cross-cultural remaneifestations. Satisfies Writing II requirement. Letter grading.

49. Evidence in Law, Science, History, and Journalism. (4) Seminar, four hours. Rigorous study of ways in which lawyers, scientists, historians, and journalists handle evidence, with aim of advancing cross-disciplinary inquiry to produce a common vocabulary and set of concepts that allow for discussion of evidentiary issues in differing fields of inquiry. P/NP or letter grading.

49. Evidence in Law, Science, History, and Journalism. (4) Seminar, four hours. Rigorous study of ways in which lawyers, scientists, historians, and journalists handle evidence, with aim of advancing cross-disciplinary inquiry to produce a common vocabulary and set of concepts that allow for discussion of evidentiary issues in differing fields of inquiry. P/NP or letter grading.

50W. Transformations of Cultural Stories across Disciplines and Texts. (5) Seminar, four hours. Enforced requisites: English Composition 3 or 3H. Tracking of writing and rewriting of traditional story types, specifically the adventure story as represented by Defoe’s Robinson Crusoe and its remanifestations in contemporary literature and film, and the fantasy novel represented by C. S. Lewis’s and its various cross-cultural remanifestations. Satisfies Writing II requirement. Letter grading.
50W. Writing Science. (6) Seminar, four hours. Enforced requisite: English Composition 3 or 3H. Study and practice of scientific writing in a way that integrates sophisticated understanding of science with humane tradition of writing arts; study includes writing by journalists and scientists on variety of topics. Satisfies Writng II requirement. Letter grading.

51. Music and Society. (5) Seminar, four hours. Minimal experience reading music desirable but not required. Analysis of Western art music, with focus primarily, but not necessarily, on music of late-18th through early-20th centuries through analytical prisms: sociological, historical, political, and musical. P/NP or letter grading.

53. American Folk Music, Protest, and Identity. (5) Seminar, three hours. Study of American folk music as prism to investigate more general relationships among cultural boundaries such as musical genres and social categories (race, ethnicity, nation, and generation). P/NP or letter grading.

54. Improvisation and Acting Techniques. (5) Seminar, four hours. Development of acting improvisational techniques based on literary in which students find themselves immersed within characters. Students prepare and perform final scenes to be fully memorized and performed, as well as study acting techniques. P/NP or letter grading.

55. Culture and History of Utopias. (4) Seminar, three hours. Study of utopian literature from Thomas More's classic to contemporary and feminist utopian texts, with purpose of uncovering socio-cultual, intellectual, and cultural landscapes underlying quest for a more perfect society. P/NP or letter grading.

56. Language as a Window to the Mind. (4) Lecture, four hours; discussion, one hour. Study of topics in language and the mind, including language acquisition in the child and language representation in the brain, relationship between language and other mental abilities, and autonomous nature of language as a system of knowledge. P/NP or letter grading.

57. Language, Performance, and Culture. (5) Lecture, three hours. Mixture of lecture and discussion on topic of language and its relationship to performance and culture in 19th and 20th centuries. Study of theorists such as Saussure, Wittgenstein, Stanley Cavell, Judith Butler, and others, playwrights such as Wilde, Stein, and Samuel Beckett, and films such as "His Girl Friday" and "Monkey Business." P/NP or letter grading.

58. Music and Society. (5) Lecture, four hours; discussion, one hour. Exploration of neural networks, genetic algorithms, and system languages as way of defining, measuring, exploring, and creating systems. P/NP or letter grading.


67. Structure of Physical Reality. (4) Lecture, three hours; discussion. Social mathematical knowledge required. Course in modern physics, including videos and practical demonstrations, Zen stories, and discussions of what Eastern and Western religions and philosophy in general have to say about forces of nature. Topics include quantum mechanics, microcosm of atoms, and elementary particle physics and philosophical implications. P/NP or letter grading.


70. Art, Politics, and Social Change in 19th-Century France. (4) Lecture, three hours; discussion. P/NP or letter grading.

71. Victorian Goings-On. (5) Seminar, three hours. Mixture of lecture and discussion on topic of language and its relationship to performance and culture in 19th and 20th centuries. Study of theorists such as Saussure, Wittgenstein, Stanley Cavell, Judith Butler, and others, playwrights such as Wilde, Stein, and Samuel Beckett, and films such as "His Girl Friday" and "Monkey Business." P/NP or letter grading.

72. Elementary Particles in the Universe. (4) Lecture, three hours; discussion. P/NP or letter grading.

77. Gender and International Development. (5) Seminar, four hours. Overview of field of gender and economics, with emphasis on experiences of developing countries in globalizing world economy. Topics include gender divisions in employment and wage structures, feminization of labor force, and variety of economic policy initiatives of governments and policy-making bodies to achieve gender-equitable economic structures. P/NP or letter grading.

81. Eastern Christianity in Comparative Perspective: History, Doctrine, Culture. (5) Lecture, two hours; discussion, two hours. Exploration of philosophical and metaphysical beliefs of Eastern Christianity, comparing and contrasting Eastern churches to those that dominate in the West and examining how Eastern Orthodox outlook has developed within broader Judeo-Christian tradition. P/NP or letter grading.

82. Community and Labor Development from Ground Up. (4) Lecture, three hours; discussion, one hour. Explore introduction to practical applications of community development and outreach efforts in Los Angeles area, with projects from Community Outreach Partnership Center within School of Public Policy and Social Research. P/NP or letter grading.

83W. Politics and Rhetoric of Literature. (6) Seminar, four hours; writing laboratory, two hours. Enforced requisite: English Composition 3 or 3H. Examination of relationship among politics, rhetoric, and literature in study of literature from classical times to the present, broadening into general discussions of development of political discourse in Western thought, particularly conflict between self and state, between ideology and the business of living. Satisfies Writing II requirement. Letter grading.

84. Conflicts between Languages. (5) Seminar, three hours. Introduction to potentially conflict-ridden language situations in three countries abroad and discussion of various aspects of minority languages in the U.S. P/NP or letter grading.

85. Mestizaje and Memory in Americas. (5) Seminar, four hours. Examination of texts from colonial and postcolonial Americas to investigate how authors in these different contexts have struggled with being between two cultures. P/NP or letter grading.

86. Psychology of Fear. (5) Seminar, three hours; discussion. P/NP or letter grading.

87. Genetics and Genomics and Boundaries of Self. (5) Seminar, four hours; writing laboratory, three hours. Enforced requisite: course 70A. Laboratory work in genomics research and seminar discussion that apply experimentally concepts and techniques taught in course 70A. P/NP or letter grading.


100. Genomics and Boundaries of Self. (5) Seminar, three hours. Study the practice of critical inquiry in globalization through exploration of diverse contexts, using case studies as basis for new insights into evolution. P/NP or letter grading.
Upper Division Courses

101A. Student Research Forum. (2) Lecture, one hour; workshop, two hours. Corequisite: course 99. Designed to promote broad and deep understanding of university research, including plenary lectures on research and workshops on grant writing, Internet searches, and laws and regulations governing research. P/NP grading.

101B. UCLA Undergraduate Science Journal. (2) Seminar, two hours. For students on editorial board of annual Westwind Undergraduate Science Journal, including study of writing in the sciences and honing of editing and production skills. May be repeated once for credit. P/NP grading.

101C. UCLA Undergraduate Journal for Humanities and Social Sciences. (2) Seminar, two hours. For students on editorial board of annual UCLA Undergraduate Journal for Humanity and Social Sciences. Examination, using nanotechnology, of both ideological and economic issues rooted in contempt and banking class in late medieval Italy, focusing on human identity in cross-cultural counseling, including development of creative performance piece required. P/NP or letter grading.

108. Transnationalism, Diasporas, and Homeland-Hostland Politics. (5) Seminar, three hours. Examination of debates about transnationalism, global migration, diaspora communities in 20th and 21st centuries, with focus on the U.S., including comparative perspective. P/NP or letter grading.

109. Language, Meaning, and the Making of Poet- ry. (4) Seminar, three hours; workshop, one hour. Exploration of research and theory on stress and coping, with emphasis on physical and mental conse- quences of stress and moderators of both social support and personality in coping strategies. P/NP or letter grading.

110. Marxist and Post-Marxist Approaches to Cul- tural Studies. (4) Seminar, four hours. Examination of Marxian and post-Marxist approaches to study of cul- ture, including classic texts, theoretical and empirical works, and the Marxist roots of postmodernism. P/NP or letter grading.

111. Stress and Coping. (4) Seminar, four hours. Examination of research and theory on stress and coping, with emphasis on physical and mental conse- quences of stress and moderators of both social support and personality in coping strategies. P/NP or letter grading.


113. Work, Gender, and Race in America. (5) Seminar, three hours; fieldwork, two hours. Exploration of how shifts from manufacturing to service work and from local to global markets have differentially affect- ed nature of work in the U.S. for workers assessed by gender, race, ethnicity, and economic status. P/NP or letter grading.

114. Architecture from Los Angeles: Work of Frank Gehry, Thom Mayne, and Greg Lynn. (5) Seminar, three hours. Within last 30 years, body of ar- chitectural work originating in Los Angeles but reach- ing world wide in material construction and aesthetic influence has emerged. Study of works of three semi- nary architects: Frank Gehry, Thom Mayne, and Greg Lynn. Site visits and hands-on practice in how to read architectural plans and how to use computers and modeling in architectural study and design. P/NP or letter grading.

115. Making Art: Art and Improvisation in the Mu- seum. (4) (Same as Theater M187.) Seminar, four hours. Offered in collaboration with Los Angeles County Museum of Art (LACMA). Interpretation of art in collection through acting, dialogues, movement, and music. Research into history and art history and pro- duction of creative performance piece required. P/NP or letter grading.

117. Resistance to Evil: Organized Resistance to Nazis in Occupied Europe. (4) Seminar, three hours. Resistance is not a moral or philosophical is- sue, but a sociohistorical one. What makes resistance possible are specific historical circumstances and so- cial relations that enable ordinary men and women to oppose their oppressors. Examination of this premise through analysis of organized resistance to Nazi oc- cupation in Europe. P/NP or letter grading.

117L. Resistance to Evil: Organized Resistance to Nazis in Occupied Europe. (2) Seminar, two hours. Corequisite: course 117. Optional seminar with read- ing of texts in Dutch, Flemish, and some French se- lected from works that relate directly to material cov- ered in course 117. P/NP or letter grading.

118. Roots of Patriarchy: Ancient Goddesses and Heroes. (4) (Same as Women’s Studies M128.) Lecture, three hours. Examination of ancient goddesses and heroes in European, Neolithic, Near Eastern, Celtic, Scandinavian, Balto-Slavic, Indo-Iranian, and Greco-Roman — using translations of ancient texts, archaeological evidence, and femi- nist methodology in order to discover implications of ancient patriarchy on modern society. P/NP or letter grading.

119. Nuclear Weapons: Critical Decisions. (4) (Same as Environment M165, Public Policy M116, and Political Science M139B.) Lecture, three hours. Examination of critical decisions regarding nuclear weapons, starting with President Roosevelt’s decision to build atomic bomb and current policies on containing nuclear proliferation and on avoiding nuclear catastrophe. Letter grading.

120. Art and Performance: Interdisciplinary Ap- proach to Collections of Getty Center. (4) (Same as Theater M109.) Lecture, four hours; discussion, one hour. Drawing from objects in five major collec- tions at Getty Museum, focus on five parallel historical periods in which political, social, and aesthetic philos- ophy of the age is examined in musical and dramatic performance. Letter grading.

121. Psychoanalysis before Freud, and a Little Af- ter. (5) Lecture, three hours; discussion, one hour. Examination of different ways human beings have de- veloped different conceptions of history from early civilizations through Middle Ages, Renaiss- ance, Reformation, scientific revolution, Enlighten- ment, origins of modern world, Freud’s fin de siecle Vienna, and post-Freudian visions; investigation of various interactions of these different conceptions in present day. P/NP or letter grading.

122. Violence Against Women in Cross-Cultural Perspectives. (4) Seminar, three hours. Exploration of sources of violent acts against women in different societies. Topics include wife beating, female sexual slavery, female infanticide, dowry deaths, female gen- ital “circumcision,” rape, and emerging global human rights responses to these issues. P/NP or letter grading.

123. War and Peace in Africa. (4) Seminar, four hours. Investigation into main causes and forms of war- fare on African continent, including relationship be- tween internal war and transborder conflict, historic ethnic antagonism, competition for control of natural re- sources, and hostilities precipitated by militarism. P/NP or letter grading.

124. Midwives, Mothers, and Medicine: Perspec- tives on History of Childbirth. (4) Seminar, three hours. Using examples from history and anthropolo- gy, examination of variety of practices associated with childbirth, labor and birth, addressing such themes as shifting relations among birthing women, midwives, and medical men and cultural meanings of birth. P/NP or letter grading.

125. Interpretations of Shakespeare in Theater and Film in the 20th Century. (4) Seminar, three hours. Textual content of five Shakespearean dramas and their film and stage interpretations in the 20th century, including participation in rehearsals or pro- duction of All’s Well that Ends Well. P/NP or letter grading.

126. Making Citizens/Making Societies: Political Cultivation in Cross-Cultural Perspective. (4) Seminar, three hours. Examination of how society takes active concern in making sure that certain polit- ically relevant dispositions, sensitivities, capacities, and skills are nourished in population at large, includ- ing models of both aristocratic and democratic cultivation and their political implications. P/NP or letter grading.

127. Citizenship, Leadership, and Service. (4) Seminar, three hours; fieldwork, three hours. Interactive participatory study of interactions between cit- izenship, leadership, and service, including both theo- retical work in classroom and practical work in service organizations in the field. P/NP or letter grading.
153. International Flash Points. (5) Seminar, three hours. Debate-style seminar concentrating on explosive confrontation points in current international affairs, including North and South Korea, North and South Vietnam, Middle East, China and Taiwan, India and Pakistan, Iran and Iraq, and Afghanistan. P/NP or letter grading.

154. Interpreting Performance: Examination of Social History, Material Culture, and Performance. (5) Same as Theater M112.) Lecture, two hours; discussion, two hours. Examination of nature of performance in theory and practice and of social, historical, and cultural contexts in which performance traditions have evolved. Attendance at approximately five designated performances/events required. P/NP or letter grading.

155. The U.S. and World Post-9/11. (5) Lecture, two hours; discussion, two hours; tutorial. 90 minutes every other week. Survey of major questions confronting American foreign policy in period since September 11, 2001, in course organized in conjunction with series of public lectures on this topic. P/NP or letter grading.

156. Consciousness and Brain. (5) Seminar, three hours. Examination of philosophical and neuroscientific aspects of how brain produces conscious experience, role of brain as a conscious being, how consciousness exists, what is meant by intentional experience, and role of language and self in consciousness. P/NP or letter grading.

157. International Relations of Middle East. (4) (Same as Political Science M132B.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Role of great powers in Middle East, with emphasis on American, Soviet, and West European policies since 1945. P/NP or letter grading.


159. Pushkin and Russian National Identity. (5) Seminar, three hours. Examination of literature and myth surrounding Russian poet Alexander Pushkin and their effects on national identity. P/NP or letter grading.

160. Women and Literature in Southeastern Europe. (5) Seminar, four hours. Study of how fiction, memoir, and film have represented involuntary cross-cultural assimilation as seen from perspective of intimate others, usually family members, coming to terms with their own and their relatives’ cultural identity. P/NP or letter grading.

161. Stories of Cultural Distance and Imposed Assimilation. (5) Seminar, four hours. Study of how fiction, memoir, and film have represented involuntary cross-cultural assimilation as seen from perspective of intimate others, usually family members, coming to terms with their own and their relatives’ cultural identity. P/NP or letter grading.

162. Politics of Health from 1750 to 1900: World Health and Public Health, Physical and Mental Health. (5) Seminar, three hours. Examination of health and illness in 18th and 19th centuries. Research topics may include impact of diseases and controversy over inoculation, professional development of physicians, surgeons, pharmacists, midwives, and nurses, evolution of hospital, rise of specialization in healthcare, and intervention of medical scientists or government in public health. P/NP or letter grading.

163. Mediterranean World since Roman Empire. (5) Seminar, three hours. Introduction to study of Mediterranean world over long period from fall of Roman Empire to present day, including discussions of debates on role of commerce and trade in historical change, and nature of cross-cultural exchange. P/NP or letter grading.


M20. Globalization and Social Inequality (Anderson). (5) (Formerly numbered 199.) Lecture, five hours; discussion, five hours. Study of how processes of globalization have produced and reproduced social inequality. P/NP or letter grading.

M21. The Black Experience in the United States. (5) (Same as English M190B.) Seminar, three hours. Historical, cultural, and political aspects of the black experience in America from 1940 to the present. P/NP or letter grading.


M25. The Global South (Loke). (5) Seminar, three hours. Comparison of and between the new geography of the global south and the role of the global south in international political economy. P/NP or letter grading.

M26. Latin America and the Caribbean (Richardson). (5) Seminar, three hours. Study of Latin America and the Caribbean through the eyes of the region’s own people. P/NP or letter grading.


M28. Disability and Social Inequality (Gonzalez). (5) Seminar, three hours. Study of social inequality, power, and oppression, with a focus on disability and how social inequalities impact people with disabilities. P/NP or letter grading.

M29. Critical Sexuality Studies (Margolin). (5) Seminar, three hours. Examination of the interconnections of gender, sexuality, and power, with a focus on critical social theory. P/NP or letter grading.
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Human Complex Systems
Upper Division Courses

M100. Formal Modeling and Simulations in Social Sciences, (4) (Same as Anthropology M186 and Honors Collegium M150.) Lecture, three hours. Exploration of different approaches to modeling empirical phenomena of concern to social sciences. Topics include utility models, learning models, decision models, group competition models, and evolutionary models. Use of multigant computer simulations and group exercises to explore emergent behaviors among individuals interacting according to models for behavior. Discussion of advantages and drawbacks of more traditional mathematical modeling. Review of alternative forms of formal representations of hypothesized processes and issues related to verification of simulations. P/NP or letter grading.

100L. Modeling and Simulations Laboratory, (1) Laboratory, one hour. Designed for Human Complex Systems minor students. Discussion of observational techniques and engagement in live group simulations as experiential learning, with focus on how coherent behavior and complexity emerge from interactions between individual agents, such as formation of social and political movements. First-hand experience in observing interactional patterns and system dynamics, such as how individuals come to play leadership roles, how alliances and pairing occur in groups, and how culture (lasting patterns of interaction and belief) form. Letter grading.

110. Artificial Culture: Experiments in Synthetic Anthropology, (5) Lecture, two hours; laboratory, four hours. Prior programming experience not required. Hands-on introduction to artificial culture — philosophy and practice of constructing highly interactive computer simulations of human social worlds. Informed and critical look at evolutionary new sciences of complexity: multiple agency, simultaneous causation and evolutionary emergence embodied in computational description, and understanding and explanation of human complex systems. Students design their own populations of cultural agents, create social and physical environments in which they live, and study consequences of counterfactual what-if scenarios. May be repeated for credit. Letter grading.

120. Artificial Life, Culture, and Evolution, (5) Lecture, two hours; laboratory, four hours. Prior programming experience not required. Hands-on introduction to artificial life and evolutionary computation as they contribute to philosophy and practice of artificial culture — description, understanding, and explanation of human complex systems through computer simulations. Informed and critical look at evolution, origin, and emergence of physical, biological, and cultural processes from perspective of revolutionary new sciences of complexity. Students design, modify, and experiment with interactive simulations featuring cellular automata, algorithmic patterning, and evolutionary and genetic programming. May be repeated for credit. Letter grading.

M130. Foundations of New (Bottom-Up) Social Sciences: Applications of Complexity Science and Agent-Based Models, (4) (Same as Management M118A.) Lecture, four hours. Limited to juniors/seniors. Introduction to (1) complexity science as applied to social behavior, (2) agents based computational modeling, and (3) philosophies of scientific realism, model-centered science, and other recent trends in philosophy of science as they pertain to complexity science and computational modeling. Use of complexity science to bridge old and new conceptions of social science. Newtonian science, neoclassical economics, and old-style approaches to social science all build on assumptions that all basic agents comprising phenomena (atomic particles, atoms, molecules, organisms, people, groups, firms) are homogeneous and go forward in time under equilibrium conditions interspersed with occasional disequilibrium periods. Letter grading.

Human Complex Systems
Interdisciplinary Minor
College of Letters and Science

UCLA
341 Haines Hall
Box 951553
Los Angeles, CA 90095-1553
(310) 825-2055
fax: (310) 206-7833
e-mail: dread@anthro.ucla.edu
http://hcs.ucla.edu

Dwight W. Read, Ph.D., Chair
Faculty Advisory Committee
Phillip Bonaich, Ph.D. (Sociology)
Susanne Lohmann, Ph.D. (Political Science)
William McKelvey, Ph.D. (Management)
Dwight W. Read, Ph.D. (Anthropology)

Scope and Objectives

Human social systems are complex because humans conceptualize, communicate, and construct. Human social systems are shaped not only by factors extrinsic to the individuals making up the social systems, but also by the humans embedded within them. Humans are agents who analyze, reflect on, affect, shape, modify, and construct the social systems of which they are a part.

Students in the Human Complex Systems minor learn ways of thinking that help them make sense of and move effectively in today's world — a world that is complex, information-rich, and prone to fast and furious change. They develop analytical skills and learn methodological tools that are relevant for the workplace in the emerging techno-economy. Students who seek to enter graduate school are well prepared by virtue of participating in some of the most exciting and novel research programs linking the frontiers of the social sciences with computer science, life sciences, humanities, management, public policy, and media arts.

Undergraduate Study

Human Complex Systems Minor

To enter the Human Complex Systems minor, students must have an overall grade-point average of 2.0 or better.

Required Lower Division Courses (12 units minimum): Two courses from Anthropology 131, Human Complex Systems M130 or Management M118A, Political Science 115A, Sociology M118, (2) two method courses (Human Complex Systems M100/100L, and 110), and (3) one elective course from Anthropology 131 (unless taken as part of the core), M186, 186P, Communication Studies 154, 191F, 191G, Geography 142, 148, Human Complex Systems 120, M130 or Management M118A (unless taken as part of the core), Political Science 115A (unless taken as part of the core), 142D, 164, Public Policy 102, Sociology 111, or M118 (unless taken as part of the core); other courses may be applied by petition, and students may petition to apply Human Complex Systems 197 at the same time the contract is signed.

No more than two courses (8 to 10 units) may be applied toward both this minor and a major or minor in another department or program. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.
CM124. Computational Genetics. (4) (Same as Computer Science CM124.) Lecture, three hours; discussion, one hour; outside study, eight hours. Preparation: previous experience with any programming language. Designed for undergraduate and graduate engineering students, as well as students from biological sciences and medical school. Introduction to current quantitative understanding of human genetics and computational interdisciplinary research in genetics. Topics include introduction to genetics, human population history, linkage analysis, association analysis, association study design, isolated and admixed populations, population substructure, human structural variation, model organisms, and genotyping technologies. Computational techniques include those from statistics and computer science. Concurrently scheduled with course CM224, Letter grading.

C144. Genomic Technology. (4) Lecture, three hours; discussion, one hour. Requisites: Life Sciences 4. Survey of key technologies that have led to successful application of genomics to biology, with focus on theory behind specific genome-wide technologies and their current applications. Concurrently scheduled with course C244, P/NP or letter grading.


CM156. Human Genetics. (4) (Same as Microbiology CM156 and Molecular, Cell, and Developmental Biology CM156.) Lecture, three hours; discussion, two hours. Requisites: Life Sciences 3, 4, Strongly recommended: Molecular, Cell, and Developmental Biology 100 or C139 or M140. Application of genetic principles in human populations, with emphasis on cytogenetics, biochemical genetics, population genetics, and family studies. Lectures and readings in the literature, with focus on current questions in the fields of medical and human genetics and methodologies appropriate to answer such questions. Concurrently scheduled with course CM256. Letter grading.


CM178. Molecular Genetics. (4) (Same as Biological Chemistry CM178, Microbiology CM178, and Molecular, Cell, and Developmental Biology CM178.) Lecture, three hours; discussion, one hour (when scheduled). Requisite: course CM153G or Chemistry CM153G. Molecular genetics of four systems: bacteria, yeast, Drosophila, and mouse/humans. Concurrently scheduled with course CM248. Letter grading.

C199. Special Studies in Human Genetics. (2 to 8) Tutorial, to be arranged. Students select instructor among eligible research faculty and carry out independent research project under instructor supervision, P/NP or letter grading.

Graduate Courses

M203. Stochastic Models in Biology. (4) (Same as Biostatistics M203.) Lecture, four hours. Requisite: Mathematics 170A or equivalent experience in probability. Mathematical description of biological relationships, with particular attention to areas where conditions for deterministic models are inadequate. Examples of stochastic models from genetics, physiology, ecology, and a variety of other biological and medical disciplines. S/U or letter grading.

Scope and Objectives

The graduate Human Genetics Program prepares students for careers as independent laboratory researchers with a firm grasp of the developments in both medical and research. The rapidly evolving field of human genetics now incorporates genetic, biochemical, cell biological, and developmental studies of both humans and model organisms to tackle biomedical problems important for human health and disease. Areas of study include both Mendelian and non-Mendelian hereditary diseases, genomics and mapping, bioinformatics, developmental biology, neurogenetics, sex determination, cytogenetics, human malformation, and chromatin structure and function. Laboratory research is emphasized. Conceptual approaches to medically related problems are employed, frequently with the aid of automation and advanced imaging techniques, toward the goal of disease prevention, control, and eradication methods such as gene therapies. Coursework acquaints students with the most current literature and trains students in critical thinking, experimental design, and the ability to anticipate future developments. Graduate study leading to a Ph.D. degree is emphasized. Under special circumstances, master's candidates are considered after consultation with faculty members and the chair.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Human Genetics offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Human Genetics. An M.D./Ph.D. program is also offered.

Human Genetics

Upper Division Courses

CM122. Mouse Molecular Genetics. (2) (Same as Microbiology CM122.) Lecture, two hours. Requisites: Life Sciences 3, 4. Emphasis on use of mouse genetic approach to studying fundamental biological questions. Topics include mouse genome and functional genomics, mutagenesis screening and cloning of disease genes, transgenesis and its application in developmental biology, stem cell biology, neurobiology, and modeling human genetic disorders. Reading materials include original papers and reviews. Concurrently scheduled with course CM222. P/NP or letter grading.

HUMAN GENETICS

David Geffen School of Medicine

UCLA
6506 Gonda Center
Box 957088
Los Angeles, CA 90095-7088
(310) 794-5423
fax: (310) 794-5446
e-mail: humgen@mednet.ucla.edu
http://www.genetics.ucla.edu

Kenneth L. Lange, Ph.D., Chair

Professors

Stephen Cederbaum, M.D., in Residence
Daniel Cohn, Ph.D., in Residence
Richard A. Gatti, M.D., in Residence
Daniel Geschwind, M.D., Ph.D., in Residence
Wayne Grody, M.D., Ph.D.
Julie Korenberg, M.D., Ph.D., in Residence
James Lake, Ph.D.
Kenneth L. Lange, Ph.D.
Aldons J. Luise, Ph.D.
Edward McCabe, M.D., Ph.D.
Stanley F. Nelson, M.D., in Residence
Karen Reue, Ph.D.
David Rimoin, M.D., Ph.D.
Jerome Rotter, M.D., Ph.D., in Residence
Janet S. Sininski, Ph.D.
Eric J. N. Vilain, M.D., Ph.D.
Stephen G. Young, M.D.

Associate Professors

Esteban Dell’Angelica, Ph.D.
Guoping Fan, Ph.D.
Stephan Horvath, Ph.D.
Deborah Krakow, M.D., in Residence
Paivi Pajukanta, M.D., Ph.D.
Christina Palmer, Ph.D.
Chiara Sabatti, Ph.D.

Assistant Professors

Katrina Dipple, M.D., Ph.D.
Eleazar Eskin, Ph.D.
Marc A. Suchard, M.D., Ph.D.

Adjunct Professors

Rita Cantor, Ph.D.
Eric Sobel, Ph.D.

Adjunct Associate Professors

York Marahrens, Ph.D.
Linda L. McCabe, Ph.D.
Jeanette Papp, Ph.D.

Adjunct Assistant Professors

Christina Jamieson, Ph.D.
Roel Ophoff, Ph.D.
M207A. Theoretical Genetic Modeling. (4) (Same as Biomathematics M207A and Biostatistics M227.) Lecture, three hours; discussion, one hour. Requisites: Mathematics 115A, 131A, Statistics 100B. Mathematical models in statistical genetics. Topics include population genetics, genetic epidemiology, gene mapping, design of genetics experiments, DNA sequence analysis, and molecular phylogeny. S/U or letter grading.

M207B. Applied Genetic Modeling. (4) (Same as Biomathematics M207B and Biostatistics M237.) Lecture, three hours; laboratory, one hour. Requisites: Biostatistics 110A, 110B. Methods of computer-oriented genetic analysis. Topics may include segregation analysis, parametric and nonparametric linkage analysis, quantitative methods, and phylogenetics. Laboratory for hands-on computer analysis of genetic data; laboratory reports required. Course complements M207A; students may take either and are encouraged to take both. S/U or letter grading.

210. Topics in Genomics. (2) Seminar, two hours. Survey of current biological theory and technology used in genomic research. Topics include genomic technologies, functional genomics, proteomics, statistical genetics, bioinformatics, and ethical issues in human genetics. S/U grading.

M211. Mathematical and Statistical Phylogenetics. (4) (Same as Biomathematics M211.) Lecture, three hours; laboratory, one hour. Requisites: Biostatistics 110A, 110B, Mathematics 170A. Theoretical models in molecular evolution, with focus on phylogenetic techniques. Topics include evolutionary tree reconstruction methods, studies of viral evolution, phylogeny and coalescent approaches. Examples from evolutionary biology and medicine. Laboratory for hands-on computer analysis of sequence data. S/U or letter grading.


CM222. Mouse Molecular Genetics. (2) (Same as Microbiology CM222.) Lecture, two hours. Recommended requisite: course CM248. Emphasis on use of mouse genetic approach to studying fundamental biological questions. Topics include mouse genome and functional genomics, mutagenesis screening and cloning of disease genes, transgenesis and its application in developmental biology, stem cell biology, neurobiology, and modeling human genetic disorders. Reading materials include original papers and reviews. Concurrently scheduled with course CM122. S/U or letter grading.

CM224. Genomic Technology. (4) (Same as Computer Science CM224.) Lecture, three hours; discussion, one hour. Requisites: course CM122, CM248, CM253. Advanced topics in human genetics related to complex genetic traits and common diseases, with emphasis on biostatistics and mathematical modeling. Reading materials include original research papers and reviews. Letter grading.


M252. Seminar: Advanced Methods in Computational Biology. (2) (Same as Chemistry M252.) Seminar, to be arranged. One hour. Offered for advanced graduate students. Examination of computational methodology in bioinformatics and computational biology through presentation of current research literature. How to select and apply methods from computational and mathematical disciplines to problems in bioinformatics and computational biology; development of novel methodologies. S/U or letter grading.


CM255. Mapping and Mining Human Genome. (3) (Same as Pathology M255.) Lecture, three hours. Emphasis on biostatistics and mathematical modeling. Reading materials include original research papers and reviews. Letter grading.

596. Directed Individual Study and Research. (2 to 12) Tutorial, to be arranged. Individual study or research for graduate students. May be repeated for credit. S/U grading.

597. Preparation for M.S. Comprehensive Examinations. (2 to 12) Tutorial, to be arranged. Preparation for M.S. comprehensive examinations. May be repeated for credit. S/U grading.


M260A. Introduction to Bioinformatics and Genomics. (4) (Formerly numbered M260.) (Same as Chemistry CM260A.) Lecture, three hours; discussion, one hour. Recommended requisite: Statistics 100A or 110A. Genomics and bioinformatics results and methodologies, with emphasis on concepts behind rapid development of these fields. Focus on how to think biologically via case studies showing how genomics questions map to computational problems and their solutions. S/U or letter grading.


CM278. Statistical Analysis of DNA Microarray Data. (4) (Same as Biostatistics M278.) Lecture, three hours. Requisite: Biostatistics 200C. Instruction in use of statistical tools used to analyze microarray data. Structure corresponds to analytical protocol an investigator might follow when working with microarray data. S/U or letter grading.

282. Human Genetics Seminar and Journal Club. (2) Seminar, 90 minutes; discussion, 90 minutes. Limited to graduate students. Participation and presentation in weekly journal club meeting whose topics reflect ones of the talk in Human Genetics Seminar Series during following week. Attendance and production of short written report required. S/U or letter grading.

Stephanie W. Jamison, Ph.D., Chair
Faculty Advisory Committee
Vyacheslav V. Ivanov, Ph.D. (Slavic Languages and Literatures)
Stephanie W. Jamison, Ph.D. (Asian Languages and Cultures)
Joseph F. Nagy, Ph.D. (English)
Christopher M. Stevens, Ph.D. (Germanic Languages)
Brent H. Vine, Ph.D. (Classics)

Scope and Objectives
The prime aim of the interdisciplinary Indo-European Studies Program is the integral study of Indo-European culture, based on comparative linguistics, archaeology, social structure, and religion. The Ph.D. in Indo-European Studies is offered with two alternative major emphases: Indo-European linguistics and Indo-Iranian or other specialized language area studies.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasas/library/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree
The Indo-European Studies Program offers the Doctor of Philosophy (Ph.D.) degree in Indo-European Studies.

Indo-European Studies

Lower Division Courses
M20. Visible Language: Study of Writing. (5) (Same as Asian M20, Near Eastern Languages M20, Slavie M20, and Southeast Asian M20.) Lecture, three hours. Consideration of concrete means of language representation in writing systems. Earliest representations of language known are those of Near East dating to end of 4th Millennium B.C. While the civilization of Egypt, Indus Valley, China, and Mesoamerica left little evidence of corresponding earliest developments, their antiquity and, in case of China and Mesoamerica, their evident isolation mark these centers as loci of independent developments in writing. Basic characteristics of early scripts, assessment of modern alphabetic writing systems, and presentation of conceptual basis of semiotic language representation. Origins and development of early non-Western writing systems. How Greco-Roman alphabet arose in 1st Millennium B.C. and how it compares to other modern writing systems. P/NP or letter grading.

M70. Origin of Language. (5) (Same as Communication Studies M70 and German M70.) Lecture, three hours: discussion, one hour. Theoretical and methodological issues surrounding origin of language. Topics include evolutionary theory, evolution of man, how language is organized in brain, and science of language, including physiology of speech, phonetics, and comparative reconstruction. Letter grading.

Upper Division Courses
131. European Archaeology from the Neolithic to Bronze Age. (4) Lecture, four hours. Survey of European cultures from beginning of food-producing economy in the 7th millennium B.C. to beginning of Bronze Age in the 3rd millennium B.C. P/NP or letter grading.

132. European Archaeology: Bronze Age. (4) Requisite: course 131. Survey of European cultures from around 3000 B.C. to the period of destruction of the Mycenaean culture about 1200 B.C. Aegean area and rest of Europe.

M150. Introduction to Indo-European Linguistics. (5) (Same as Linguistics M150.) Lecture, four hours. Requisite: Linguistics 1 or 20. Indo-European languages (ancient and modern), including their relationships, chief characteristics, writing systems, and sociolinguistic contexts; nature of reconstructed Indo-European proto-language and proto-culture. One or more Indo-European languages may be investigated in detail. P/NP or letter grading.

C160. Indo-European Comparative Mythology and Poetics. (4) Seminar, three hours. Preparation: familiarity with at least one ancient Indo-European language. Comparison of major Indo-European mythological and poetic traditions and reconstruction of their common sources. Topics include deities and their names; symbolic systems in social context; myths, folk narratives, belief systems; relations with other traditions; literary continuations of mythopoetic material. Concurrently scheduled with course C260. P/NP or letter grading.

199. Special Studies. (2 to 8) Tutorial, to be arranged. P/NP or letter grading.

Graduate Courses


250A-250B. European Archaeology. (4-4) Seminar, three hours. Studies in ancient European archaeological materials and their relationship to Near East, Western Siberia, and Central Asia. May be repeated for credit. In Progress (250A) and S/U or letter (250B) grading.

C260. Indo-European Comparative Mythology and Poetics. (4) Seminar, three hours. Preparation: ability to read original sources in at least one ancient Indo-European language. Comparison of major Indo-European mythological and poetic traditions and reconstruction of their common sources. Topics include divinities and their names; symbolic systems in social context; myths, folk narratives, belief systems; relations with other traditions; literary continuations of mythopoetic material. Concurrently scheduled with course C160. S/U or letter grading.


Information Studies
Graduate School of Education and Information Studies
UCLA
Office of Student Services
102B GSEIS Building
Box 951520
Los Angeles, CA 90095-1520
(310) 825-5269
fax: (310) 206-4460
e-mail: info@gseis.ucla.edu
http://is.gseis.ucla.edu

Anne J. Gilliland-Swetland, Ph.D., Chair

Professors
Christine L. Borgman, Ph.D. (Presidential Professor of Information Studies)
Anne J. Gilliland-Swetland, Ph.D.
Leah A. Lievrouw, Ph.D.
Beverly P. Lynch, Ph.D.
Mary Niles Maack, D.L.S.
John V. Richardson, Ph.D.
Virginia A. Walter, Ph.D.

Professors Emeriti
Page Ackerman, B.A., B.S.L.S.
Marcia J. Bates, Ph.D.
Harold Borko, Ph.D.
Robert M. Hayes, Ph.D.
Russell Shank, D.L.S.
Elaine Svenonius, Ph.D.
Diana M. Thomas, Ph.D.

Associate Professors
Philip E. Agre, Ph.D.
Clara Chu, Ph.D.
Jonathan Furner, Ph.D.
Gregory H. Leazer, D.L.S.

Assistant Professors
Jean-François Blanchette, Ph.D.
Steven Ricci, M.F.A., Ph.D.
Ramesh Srinivasan, Ph.D.

Lecturers
Ben Alexander, Ph.D.
Murtha Baca, Ph.D.
Stuart Biegel, J.D.
Keri S. Botello, M.L.S.
Lynn Boyden, M.L.S.
David Cappoli, M.L.S.
Chris Chandler, M.A.L.I.P.
Mahnaz Ghaznavi, M.L.I.S.
Esther S. Grassian, M.L.S.
Joan Kaplanowitz, Ph.D.
Stacey McKenzie, M.L.I.S.
Cynthia L. Mediavilla, Ph.D.
Elaine Meyers, M.L.S.
Teresa Portilla Omidsalar, M.L.S.

Scope and Objectives
The Department of Information Studies has one of the top-ranked programs of its kind in the country and has developed an international reputation in the areas of information policy, information-seeking behavior, user interface development, archives, preservation, and cataloging. Whether students choose to pursue a master's degree or a Ph.D., they graduate with a broad understanding of both theory and practice.
Students with master's degrees go on to careers as librarians, archivists, and information professionals in a variety of organizational settings. The Ph.D. focuses on the preparation of scholars in the field. For information about the department and programs, see http://sis.gseis.ucla.edu.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Information Studies offers the Master of Library and Information Science (M.L.I.S.) degree and the Doctor of Philosophy (Ph.D.) degree in Information Studies. One concurrent degree program (Library and Information Science M.L.I.S./Management M.B.A.) and one articulated degree program (Library and Information Science M.L.I.S./Latin American Studies M.A.) are also offered.

Information Studies

Lower Division Courses

10. Fundamentals of Information Searching and Evaluation. (5) Lecture, one hour; discussion, one hour; laboratory, two hours. Designed for first-year undergraduate students. Introduction to bibliographic and information resources that encompass both general and specialized materials. Specifically designed to facilitate knowledgeable use of UCLA libraries and efficient retrieval of information. Letter grading.

20. Introduction to Information Studies. (5) Lecture, five hours. Designed for first-year undergraduate students. Introduction to information technology in society, including Internet, World Wide Web, search engines (e.g., Google, Yahoo, Lycos), retrieval systems, electronic publishing, and distribution of media, including newspapers, books, and music. Exploration of many of these technologies, social, cultural, and political context in which they exist, and how social relationships are changing. Letter grading.

Upper Division Courses

100. Perspectives on Literacy. (4) Lecture, two hours; discussion, two hours. Designed for sophomores/juniors/seniors. Open to M.L.I.S. students and to graduate students from other schools/departments. Interdisciplinary introduction to literacy as a historical, social, and political issue. Topics include culture and literacy, historical development of literate societies, social definitions of illiteracy, literacy campaigns, literacy as a national and local policy issue. Letter grading.

110. Information Resources and Libraries. (5) Lecture, one hour; discussion, one hour; laboratory, two hours. Designed for sophomores/juniors/seniors. Not open for credit to M.L.I.S. students. Introduction to bibliographic and information resources that encompass both general and specialized materials as well as relevant research methodologies in social science, physical sciences, and humanities. Specifically designed to facilitate knowledgeable use of libraries and efficient retrieval of information. Letter grading.

111A-M111E. Ethnic Groups and Their Bibliographies. (4 Each) Lecture, one hour; laboratory, two hours. Designed for students with interests in ethnic groups. Sections on other ethnic groups may be added. Offered in collaboration with several centers for ethnic studies. May be repeated once for credit with topic change. P/NP or letter grading.

Graduate Courses

200. Information in Society. (4) Lecture, two hours; discussion, two hours. Examination of processes by which information and knowledge are created, integrated, disseminated, organized, used, and preserved. Topics include history of communication technologies, evolution of literacy, development of information professions, issues related to information access. Letter grading.

201. Ethics, Diversity, and Change in Information Professions. (4) Lecture, two hours; discussion, two hours. Service learning course that serves as forum to discuss, learn, and understand ethical challenges of multicultural information society that shape societal, professional community, and individual views and impact professional practice, decision making, and public policy. S/U grading.


208. Scholarly Communication and Bibliometrics. (4) Lecture, four hours. Preparation: one inferential statistics course. Survey of current theory, method, and empirical studies at intersection of scholarly communication and bibliometrics, seeking to understand flow of ideas through published record, whether in print, electronic form, or other media. Letter grading.


210. Design of Library and Information Services. (4) Lecture, two hours; discussion, two hours. Principles and methods for planning and designing user-driven library and information services. Principles and methods for assessing user needs; design of services for designated populations and for designing services that meet those needs. Letter grading.

225. Latin American Research Resources. (4) Same as History M225 and Latin American Studies M220.) Discussion, three hours. General and specialized materials in fields concerned with Latin American studies. Library research techniques provide experience and competency required for future bibliographic and research sophistication as basis for enhanced research results. S/U or letter grading.

227. Information Services in Culturally Diverse Communities. (4) Lecture, four hours. Issues in provision of information services in multilingual and multicultural society. Understanding role of information institutions in promoting cultural diversity and preserving ethnic heritage. Letter grading.

228. Measurement and Evaluation of Information Systems and Services. (4) Lecture, two hours; discussion, two hours. Preparation: one research methods course. Recommended: one library automation course. Information systems and services from points of view of their cost and effectiveness in meeting desired objectives. Review of principles of costing. Study of literature in which measures have been developed to evaluate effectiveness of document collections, information delivery and retrieval services, document delivery systems, networking, and technical services, including circulation, acquisitions, and document description. S/U or letter grading.

229B. Africana Bibliography and Research Methods. (4) Same as African Studies M229B.) Discussion, four hours. Problems and techniques of research methodologies related to Africana studies. Emphasis on relevant basic and specialized reference materials, using full range of available information resources, including library collections of books, serials, and computerized databases. S/U or letter grading.

M229C. Introduction to Slavic Bibliography. (2) (Same as Slavic M229C.) Lecture, two hours. Introduc- tion to Slavic and East European bibliography for the humanities and social sciences. Emphasis to be determined by requirements and background of enrolled students. Topics include relevant library terminology and concepts; survey of languages and translation systems; acquisition of Slavic and East European bibliographic materials; Slavic and East European scholarship in the West; relevant reference sources, archival resources, and research methods; survey of online databases; compilation of bibliographies. S/U grading.

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238. Records and Information Resources Management. (4) Lecture, four hours. Introduction to records and information resources management in corporate, government, and other organizational settings, including analysis of organizational information flow, classification and filing systems, records retention scheduling, records protection and security, records preservation, and legal issues. Letter grading.


240. Management of Digital Records. (4) Lecture, three hours. Introduction to long-term management of digital administrative, information, communications, imaging, or research records. Topics include electronic recordkeeping, enterprise and risk management, systems analysis and design, metadata development, data preservation, and technological standards and policy development. Letter grading.

241. Information Access. (4) Lecture, four hours. Requisites: courses 200, 260. Provides fundamental knowledge and skills enabling information professionals to link users with information. Overview of structure of literature in different fields; information-seeking behavior of user groups; communication with users; development of search strategies using print and electronic sources. Letter grading.

242. Information-Seeking Behavior. (4) Lecture, three hours. Discussion and laboratory, one hour. Study of factors and influences, both individual and social, associated with human beings needing, using, and acting on information. Topics include information theory, human information processing, information flow among social and occupational groups, and research on information needs and uses. Letter grading.


245. Seminar: Specialized Literatures. (4) Seminar, four hours. Requisite: course 245. Exposure to major literatures across spectrum of disciplines in three broad areas: (1) arts and humanities, (2) social sciences, (3) natural sciences and engineering. Students become familiar with knowledge structures; emphasis on reference and information sources for scholarly research. Letter grading.


247. Legal Information Resources and Libraries. (4) Lecture, four hours. Introduction to information resources in law, with emphasis on primary authority and indexes to legal literature. Legal research skills, Law library services and management. Letter grading.


260. Information Structures. (4) Lecture, four hours; discussion, one hour. Required core course. Introduction to various systems and tools used to organize materials and provide access to them, with emphasis on generic concepts of organization, classification, hierarchy, arrangement, and display of records. Provides background for further studies in cataloging, reference, information retrieval, and database management. Letter grading.

269. Seminar: Information Structures. (4) Seminar, four hours. Requisites: course 260, one other information structure course. Specialized studies in selected areas of descriptive and bibliographical cataloging, subject vocabulary development, and metadata. May be repeated once. Letter grading.

270. Introduction to Information Technology. (4) Lecture, four hours. Introduction to theories and principles of information technologies. Topics include social issues of information technologies and design and development of information systems. Background provided for further studies in information retrieval and design and maintenance of information systems. S/U or letter grading.

271. Human/Computer Interaction. (4) Lecture, four hours. Preparation: one programming course, one inferential statistics course. Survey of social, behavioral, and design and evaluation issues in human/computer interaction, with readings from several disciplines. Extensive use of technology demonstrations and class discussions. Recommended for students in any discipline involved in design or implementation of information technologies. Letter grading.

272. Database Management Systems. (4) Lecture, three hours; laboratory, two hours. Topics, principles, and practicalities of database systems, including data models, retrieval mechanisms, evaluation methods, and storage, efficiency, and security considerations. S/U or letter grading.

273. Development of Cultural Information Sources Using Digital Technologies. (4) Lecture, two hours; laboratory, two hours. Overview of technologies, techniques, and principles underlying development and packaging of cultural information resources into digital multimedia. Survey of World Wide Web, homepages, and CD-ROMs, as well as user, policy, presentation, motivation, and evaluation considerations. Letter grading.


277. Information Retrieval Systems: User-Centered Designs. (4) Lecture, two hours; discussion, two hours. Requisites: courses 245, 260. Design implications of interaction between users and features of automated information systems that are specific to information-seeking process. Emphasis on search strategy and subject access through use of thesauri and other vocabularies. Letter grading.

279. Seminar: Information Systems. (4) Seminar, four hours. Preparation: at least one course from 246, 272, 276, 277, 455. Requisites: courses 200, 260. Concepts of computer systems and terminal input/output systems. Emphasis on specialized topics such as vocabulary control, file design, indexing, classification, text processing, measurement of relevance, evaluation of information systems, and social and legal issues related to information technology and services. Letter grading.

280. Social Science Research Methodology for Information Studies. (4) Lecture, four hours. Understanding of nature, uses, and practice of research approaches to information studies. Identification of research problems and design and evaluation of research. Social science quantitative and qualitative methods. Emphasis on inquiry methodology and empirical research. S/U or letter grading.


282. Principles of Information Systems Analysis and Design. (4) Discussion, four hours. Theories and principles of special systems development, including determination of requirements, technical design and evaluation, and internal organization. S/U or letter grading.

285. Introduction to Research Design and Methodology. (4) Seminar, three hours. Designed for Ph.D. students. Introduction to research traditions in library and information science and quantitative and qualitative social science methods, ethnographic/field approaches, and historiography/critical approaches. Epistemological foundations of research, formulating research questions, and designing appropriate research studies. Letter grading.

289. Seminar: Special Issues in Information Studies. (2 to 4) Seminar, two to four hours. Identification, analysis, and discussion of critical intellectual, social, and technological issues facing the profession. Topics may include (but not limited to) expert systems, literacy, electronic networks, youth at risk, information literacy, historical bibliography, preservation of electronic media, etc. May be repeated with topic change. Letter grading.

290. Research Seminar: Information Studies. (1 to 2) Seminar, one to two hours. Designed for Ph.D. students. Emphasis on recent contributions to theory, research, and methodology. May be repeated for credit. S/U grading.

291A. Doctoral Seminar: Theoretical Traditions in Information Studies. (4) Seminar, one hour; discussion, two hours. Introduction to multiple approaches historically taken in study of information (e.g., library and information science, archival theory, social information). Assessment of influence of cognate disciplines (linguistics, philosophy, sociology). Evaluation of epistemological accounts of information sciences. Letter grading.

291B. Doctoral Seminar: Research Methods and Design. (4) Seminar, two hours. Survey of quantitative, qualitative, and historical research designs. Ethical issues: conceptualization and measurement; indexes, scales, and sampling; experimental, survey, field, and evaluation research; data analysis. Letter grading.

292. Information as Evidence. (4) Seminar, four hours. Through close reading of scholarly works, exploration of how certain objects (e.g., records, books, statutes), two hours. Introduction to multiple approaches historically taken in study of information (e.g., library and information science, archival theory, social information). Assessment of influence of cognate disciplines (linguistics, philosophy, sociology). Evaluation of epistemological accounts of information sciences. Letter grading.

293. Doctoral Seminar: Information Retrieval. (4) Seminar, four hours. Designed for Ph.D. students. Intellectual principles for organization of information, including principles for design of systems for acquiring, organizing, and retrieving information. Also includes specialized user studies to extent that design of information systems is predicated on their evaluation and use. S/U or letter grading.
294. Doctoral Seminar: Information Policy. (4) Seminar, four hours. Designed for Ph.D. students. Examination of social and economic influences in development of library and information science and management of information organizations and resources. S/U or letter grading.

295. Doctoral Seminar: Information Seeking. (4) Seminar, four hours. Designed for Ph.D. students. Examination of behavioral and cognitive aspects of inquirer’s information needs and uses, including inquirer’s characteristics, information problems, psychological needs, and uses of information and information technologies, and aspects of question negotiation. S/U or letter grading.

296. Doctoral Seminar: Information Structures. (4) Seminar, four hours. Designed for Ph.D. students. Intellectual principles for organization of information, including principles for design of systems for acquiring, organizing, and retrieving information. System-specific user studies included to extend that design of information systems is predicated on their evaluation and use. S/U or letter grading.

297. Doctoral Seminar: Information Institutions and Professions. (4) Seminar, four hours. Designed for Ph.D. students. Introduction to social theory and examination of organizational, local, and global frameworks that can be used to analyze social, cultural, and political roles of information institutions and professionals who direct them. S/U or letter grading.

M299. Research Resources for European Studies. (2) (Same as French M299, German M299, Italian M299, Slavic M299, and Spanish M299.) Lecture, two hours. Essentials of library research strategy and effective searching in key print and online resources for European and Russian studies. Through combination of lecture, online demonstration, and hands-on activities in and outside class, students understand how to efficiently use library and databases. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

400. Professional Development andPortfolio Design. (2 to 4) Lecture, two hours; discussion, two hours. Preparation: completion of information studies core courses. Drawing on literature from many fields, exploration of issues related to professional development, such as career planning, continuing education, mentoring, and networking. Students also engage in process of guided portfolio design for M.L.I.S. degree. S/U grading.

410. Management Theory and Practice for Information Professionals. (4) Lecture, four hours; discussion, two hours. Principles and practice of management in all types of organizations where information professionals work. Letter grading.

415. Library Personnel Management. (4) Lecture, four hours. Basic principles of personnel management. Survey of current personnel practices in libraries: how basic principles apply or need to be modified to fit library settings. S/U or letter grading.

416. Interpersonal Communication Issues in Library Settings. (4) Lecture, four hours. Examinations of interpersonal communication patterns in library management and staff relations, in resource sharing, and in providing information services. Emphasis on relationships within the organizational environment and on effective communication styles in decision making, managing conflict, and implementing change. S/U or letter grading.


422. College, University, and Research Libraries. (4) Lecture, four hours. Organization, administration, collections, facilities, finances, and problems of college, university, and research libraries. Growth within institutions of which they are part. Functions of research libraries and work of their staffs in serving scholars. S/U or letter grading.


425. Library Services and Programs for Children. (4) Lecture, two hours; discussion, two hours. Theory and practice of service to children in public libraries. Overview of professional library service to children aged 14 and under; provides opportunities for students to gain experience in particular skills needed to provide that service. Letter grading.

426. Library Services and Literature for Youth. (4) Lecture, four hours. Overview of literature and programs for children’s literature (lower division and above). Discussion of special problems in working with young people and psychology of teenagers. S/U or letter grading.


438B. Seminar: Advanced Issues in Archival Science—Archival Description and Access Systems. (4) Seminar, four hours. Requires: course 431. Exploration of history of archival description and access systems in the U.S. and their development since World War II; data collection; access tools and implications of these to interested to young adults (seven and above). Discussion of special problems in development of online archival access systems. Letter grading.


464. Metadata. (4) Lecture, four hours. Introduction to variety of metadata provided for digitized and other electronic information resources. Introductory theory and practice designing and applying metadata. S/U or letter grading.

473. Information Technology and Libraries. (4) Lecture, four hours. Overview of major components of library automation: circulation control, acquisitions and bibliographic utility systems, and data conversion. Relationships among various automation entities, including internal library automation, networks and vendors (such as bibliographic utilities, regional networks, and online services), and automation of parent organizations (universities, municipalities, corporations, and government agencies). Developments in standards for information processing and new information technologies. Letter grading.

486. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. Directed special studies in fields of bibliography, librarianship, and information science. Variable conference time depending on nature of study or complexity of research. S/U grading.

497. Directed Studies for Ph.D. Qualifying Examinations. (2 to 12) Tutorial, to be arranged. Directed special studies in fields of bibliography, librarianship, and information science. Variable conference time depending on nature of study or complexity of research. S/U grading.
INSTITUTE OF THE ENVIRONMENT
Center for Interdisciplinary Instruction
UCLA
300 La Kretz Hall
Box 951496
Los Angeles, CA 90095-1496
(310) 825-5008
fax: (310) 825-9663
e-mail: ioe@ucla.edu
http://www.ioe.ucla.edu

Mary D. Nichols, J.D., Director

Professors
Ann E. Carlson, J.D.
Randall D. Crane, Ph.D.
J. Nicholas Entrikin, Ph.D.
Malcolm S. Gordon, Ph.D.
Matthew E. Kahn, Ph.D.
James C. McWilliams, Ph.D.
Mary D. Nichols, J.D., In Residence
Suzanne E. Paulson, Ph.D.
Thomas B. Smith, Ph.D.
Victoria L. Sork, Ph.D.
Keith D. Stolzenbach, Ph.D.
Richard P. Turco, Ph.D.
Blaine Van Valkenburgh, Ph.D.

Professors Emeriti
Richard R. Vance, Ph.D.
William M. Hamner, Ph.D.

Associate Professor
Charles J. Corbett, Ph.D.

Assistant Professor
Rebecca F. Shipe, Ph.D.

Scope and Objectives
The mission of the UCLA Institute of the Environment (IoE) is to advance cross-disciplinary research, teaching, and public service on matters of critical importance to the planet and the campus community. The environment is defined broadly to include the interrelated issues of global climate change, loss of biological diversity, sustainability, and threats to human health and well-being from the use and misuse of natural resources, applying all the tools of scientific and policy analysis as well as moral and aesthetic values to the work. Los Angeles itself is a vital asset to this mission. As an international mega-city located in one of the world’s most biologically diverse regions, Los Angeles is a magnet for scholars from around the world who are facing similar issues of pollution, access to potable water, demand for energy to support economic growth, fragmentation of habitat, and the need to restore ecological function to sprawling urban settlements.

The IoE offers creative, multidisciplinary academic programs and courses that address the full complexity of current environmental problems. The Bachelor of Science degree in Environmental Science is an innovative dual-component degree program for students seeking a challenging and invigorating science curriculum. The first component, the Environmental Science major, provides students with disciplinary breadth in several areas important to environmental science. The second component, a minor or concentration in one of eight environmental science areas, provides students with focused disciplinary depth in an area of their choosing. The minor in Environmental Systems and Society is designed for students who wish to gain a deeper understanding of the relationships between environmental science and associated social and political issues.

The IoE also sponsors the Environment/General Education Clusters M1A, M1B, M1CW on the global environment. The cluster format is a series of three integrated courses taught over the Fall, Winter, and Spring Quarters. The Fall and Winter Quarter courses consist of lectures and discussions. The Spring Quarter consists of seminars and activities in which students explore specialized environmental topics such as the history of environmental thought, environmental policy, and the impacts of human population.

Undergraduate Study
Environmental Science B.S.

The Environmental Science B.S. program represents strong collaboration by the Institute of the Environment and the Departments of Atmospheric and Oceanic Sciences, Civil and Environmental Engineering, Earth and Space Sciences, Ecology and Evolutionary Biology, Environmental Health Sciences, and Geography. The program is designed for students who are deeply interested in the study of environmental science. There are two components to the program, and both must be completed to receive the degree. The first component, the Environmental Science major, requires completion of lower division requirements grounded in basic natural sciences, a six-course upper division environmental science requirement reflecting the disciplinary breadth of environmental science, two social sciences/humanities courses, participation in an ongoing environmental science colloquium, and completion of an environmental science practicum. The second component is a minor or concentration in one of eight environmental science areas, each associated with a particular department. With assistance from Institute of the Environment staff, students must formally apply to and be accepted by the associated department to receive the minor.

Preparation for the Major
Required: Chemistry 14A, 14B, and 14BL (or 20A, 20B, and 20L), Earth and Space Sciences 1 (required for the geology or geophysics and planetary physics minor) or Environment 10, Life Sciences 1, 2, Mathematics 3A and 3B (or 31A and 31B), Physics 1A and 1B (or 6A and 6B), Statistics 12 or 13.

For the atmospheric and oceanic sciences minor and environmental engineering concentration, Mathematics 3C (or 32A) and Physics 1C (or 6C) are also required.

For the conservation biology minor, Chemistry and Biochemistry 14C (or 30A), Life Sciences 1, and 3 are also required.

For the environmental health concentration, Chemistry and Biochemistry 14C (or 30A) and Life Sciences 3 are also required.

For the environmental systems and society minor, two courses from Chemistry and Biochemistry 14C or 30A, Life Sciences 3, Mathematics 3C or 32A, and Physics 1C or 6C, plus Geography 5 and one course from 1, 2, 3, 4, or 6 are also required. Students should take these courses before enrolling in upper division courses.

For the geography/environmental studies minor, two courses from Chemistry and Biochemistry 14C or 30A, Life Sciences 3, Mathematics 3C or 32A, and Physics 1C or 6C, plus Geography 5 and one course from 1, 2, 3, 4, or 6 are also required.

For the geophysics and planetary physics minor, Earth and Space Sciences 1, 8, 9, Mathematics 3C or 32A, and Physics 1C or 6C are also required.

Transfer Students
Transfer applicants to the Environmental Science major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two general chemistry courses with laboratory for majors, two general biology courses with laboratory for majors, two calculus courses, and two calculus-based physics courses.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
The major consists of four requirements: environmental science, social sciences/humanities, practicum/colloquium, and minor or concentration, as follows:

Environmental Science Requirements
Required: One course from each of the following six core environmental science areas. No more than two courses may be from any one department. (1) One atmospheric and water science course from Atmospheric and Oceanic Sciences 101, 103, M105, 130, Earth and
Space Sciences C132, 153, or Geography 105; (2) one climate science course from Atmospheric and Oceanic Sciences 102, Geography 102, 104, or M106; (3) one Earth science course from Earth and Space Sciences C113, 119, 135, 139, 150, Environment M127, Geography 100, or 101; (4) one ecology and conservation biology course from Ecology and Evolutionary Biology 100, 109, 116, 151A, 154, Environment 121, Geography 111, or 113; (5) one environmental management course from Environment M134, M135, or Public Policy C115; (6) one pollutant sources, treatment, fate, and transport course from Atmospheric and Oceanic Sciences 104, Chemical Engineering C118, Civil and Environmental Engineering 153, 154, M166, Environmental Health Sciences 100, 225, 252D, or 264.

Social Sciences/Humanities Requirements

Required: (1) One humans and environment course from Environment M132, M133, M137, M153, Geography M128, M137, 145, 150, 156, or Philosophy 125; (2) one policy and politics course from Environment 138, M161, M162, or M164.

Practicum/Colloquium Requirements


Minor and Concentration Requirements

No more than two of the courses below may be applied toward both these minors and concentrations and a major or minor in another department or program. Successful completion of a minor is indicated on the transcript and diploma.

For the atmospheric and oceanic sciences minor, at least two courses from Atmospheric and Oceanic Sciences 101, 102, 103, 104 and five courses from Atmospheric and Oceanic Sciences C110, C115, 130, 145, C160, C170, Chemistry and Biochemistry 110A are required. One course may be taken on a Passed/Not Passed basis.

For the conservation biology minor, Ecology and Evolutionary Biology 100, 116 (or Environment 121), and four to six courses from 101, 103, 105, 109, 111, 112, 114A, 122, 129, 151A, 154, 176, 180 are required.

For the environmental engineering concentration, Civil and Environmental Engineering 153 and five courses from 151, 154, 155, 156A, M166, Chemical Engineering C118, Environmental Health Sciences 225, 264 are required.

For the environmental health concentration, Environmental Health Sciences 100, 235, Epidemiology 100, and three courses from Chemistry and Biochemistry 153A, Environmental Health Sciences 203, 225, 240, 252D, 257, 264 are required.

For the environmental systems and society minor, five courses from Environment M109, M111, 121, 122, M132, M133, M134, M135, M137, 138, M153, M161, M164 are required.

For the geography/environmental studies minor, three courses from Geography M106, M107, M109, 110, 113, M115, 116, 120, 121, 122, 123, 124, 125, 126, M127, M128, 129, 131, 132, 135, 136, M137, 159C, 159D, 159E, and any two additional upper division geography courses (except those from the preceding list and courses 194 through 199) are required. For the geology minor, Earth and Space Sciences 112, 119, and three courses from C107, 116, 125, C132, 133, 134, 139, 150 are required.

For the geophysics and planetary physics minor, Earth and Space Sciences 134, 135, and three courses from M140, 152, 153, 154, 155 are required.

Courses applied toward requirements for preparation for the major and the major, except Environment 170, must be taken for a letter grade and passed with grades of C– or better. Students must maintain an overall grade-point average of 2.0 (C) or better in all courses applied toward the major.

Environmental Systems and Society Minor

The Environmental Systems and Society minor is designed for students who wish to augment their major program of study with courses addressing the relationships between environmental science and associated social and political issues. The minor seeks to impart a deeper understanding of environmental systems related to air, land, and water resources, providing a basis for sound professional decision making.

To enter the minor, students must be in good academic standing (2.0 grade-point average) and file a petition at the Institute of the Environment, 300 La Kretz Hall, (310) 206-9193.

Required Lower Division Courses (8 units): At least two courses from Astronomy 3, Atmospheric and Oceanic Sciences 1, 2, 3, Earth and Space Sciences 1, 15, 16, 20, Ecology and Evolutionary Biology 10, 13, 25, Environment M1A, M1B, 10, 14, Geography 1, 2, 5.

Required Upper Division Courses (20 units): At least five courses from Environment M109, M111, 121, 122, M132, M133, M134, M135, M137, 138, M153, M161, M164.

No more than 8 units may be applied toward both this minor and any other major or minor program, and at least 16 units applied toward the minor must be taken in residence at UCLA. Transfer or substitution of credit for any of the above is subject to institute approval; consult an academic adviser at the institute before enrolling in any courses for the minor.

All minor courses must be taken for a letter grade, with a minimum grade of C (2.0) in each and an overall C average. Successful completion of the minor is indicated on the transcript and diploma.

Environment

Lower Division Courses

M1A-M18/M1CW. Global Environment. (S-S-5) (Same as GE Clusters M1A-M1B-M1CW) Course M1A is enforced requisite to M1B, which is enforced requisite to M1CW. Letter grading, M1A-M1B. Multidisciplinary Perspective I, II. Lecture, three hours; discussion, two hours. Human effects on Earth’s ecosystem and social and technological solutions to environmental pollution and overpopulation. History and ecology in lectures; laboratory exercises included in discussions. M1CW, Special Topics. Seminar, three hours. Enforced requisites: course M1B, and English Composition 3 or 3H. Not open for credit to students with credit for former course M1C. Examination of specialized environmental topics such as air and water, global warming, and feeding Earth’s population. Satisfies Writing II requirement.

10. Introduction to Environmental Science. (4) Lecture, three hours; laboratory, one hour. Limited to undergraduate students. Introduction to environmental science as discipline and as way of thinking. Discussion of critical environmental issues at local and global scales. Fundamentals of physical, chemical, and biological processes important to environmental science. Laboratory exercises to augment lectures. Letter grading.

14. Ocean Environment. (5) (Formerly numbered Ecology and Evolutionary Biology 14.) Lecture, three hours. Introduction to scientific studies of oceans, with emphasis on ecosystems and environmental issues. P/NP or letter grading.

Upper Division Courses

M109. Human Impact on Biophysical Environment: What Science Has Learned. (4) (Same as Geography M109.) Lecture, three hours; reading period, one hour. Designed for juniors/seniors. Examination of history, mechanisms, and consequences of interactions between humans and environment. Exploration in depth of three thematic topics (deforestation, desertification, and greenhouse gas increase and ozone depletion) and four major subjects (soil, biodiversity, water, and landforms). P/NP or letter grading.

M111. Earth and Its Environment. (4) (Same as Atmospheric and Oceanic Sciences M100.) Lecture, three hours. Overview of Earth as system of distinct, yet intimately related, physical and biological elements. Origins and characteristics of atmosphere, oceans, and land masses. Survey of history of Earth and of life on Earth, particularly in relation to evolution of physical world. Consideration of possibility of technological solutions to global environmental problems using knowledge gained during course. Letter grading.

113. Los Angeles Watershed. (4) Lecture, three hours; discussion, one hour. Overview of how varying scales of influence from atmosphere/climate, basin hydrology, runoff, sewage treatment, wetlands ecology and wetlands loss, coastal water circulation, and coastal biogeochemistry affect water resources in Los Angeles. Letter grading.

M114. Soil and Water Conservation. (4) (Same as Geography M107.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Systematic study of processes of and hazards posed by erosion, sedimentation, and pollution and techniques needed to conserve soil and maintain environmental quality. Scope includes agriculture, forest engineering, mining, and other rural uses of land. P/NP or letter grading.
121. Conservation of Biodiversity. (4) Lecture, three hours; discussion, two hours. Not open for credit to students with credit for Ecology and Evolutionary Biology 116. Examination of interrelation of natural biotic and human systems. Description of distribution of biodiversity and natural processes that maintain it. Critical analysis of various levels of threats and multidimensional challenges required for mitigating threats. Letter grading.

122. International Integrated Coastal Management. (4) Lecture, three hours. The coast is one of most complex and contentious environments of early and modern societies. Examination of interrelations among coastal ecosystems. The coast is often densely populated, with high economic and population growth, therefore socioeconomic conflicts are common. Sea-level rise, industrial pollution, overfishing, and poorly planned development often threaten health of environment. Integrated coastal management (ICM) offers framework for resolving the conflicts in manner that allows sustainable development. Focus on how ICM is being used in the U.S. and around the world to solve pressing ecological and socioeconomic problems. Letter grading.

M127. Soils and Environment. (3) Same as Ecology and Evolutionary Biology M127 and Geography M127.) Lecture, five hours; discussion, one hour; field trips. General treatment of soils and environmental implications: soil development, morphology, and worldwide distribution; pedogenic processes; physical, chemical, hydrologic, and biological properties; water use, erosion, and pollution; management of soils as related to plant growth and distribution. P/NP or letter grading.

M132. Environmentalism: Past, Present, and Future. (4) (Same as Geography M115 and Urban Planning CM165.) Lecture, three hours. Exploration of history and origins of major environmental ideas, movements or countermovements they spawned, and, and new and changing nature of modern environmentalism. Introduction to early ideas of environment, how rise of modern science and technology changed, and how this was later transformed by 19th-century ideas and rise of American conservation movements. Review of politics of American environmental thought and contemporary environmental questions as they relate to broader set of questions about nature of development, sustainability, and equity in environmental debate. Exploration of issues in broad context, including global climate change, rise of pandemics, deforestation, and environmental justice impacts of war. Letter grading.

M133. Environmental Sociology. (4) (Same as Sociology M115.) Lecture, three hours; discussion, one hour. Relationship of society and environment. Analysis in detail of interactions between social factors (such as class, race, gender, and religion) and environmental factors (such as pollution, waste disposal, sustainability, and global warming). P/NP or letter grading.

M134. Environmental Economics. (4) (Same as Economics M134A.) Lecture, three hours. Requisites: Economics 41 or Statistics 12 or 13, and Economics 101 (may be waived with consent of instructor). Introduction to major ideas in natural resources and environmental economics, with emphasis on designing incentives to protect environment. Highlights important role of using empirical data to test hypotheses about pollution’s causes and consequences. P/NP or letter grading.

M135. California Sustainable Development: Economic Perspective. (4) (Same as Public Policy M149 and Urban Planning M163.) Lecture, three hours. Examination of specific environmental challenges that California faces. Microeconomic perspective used, with special emphasis on incentives of polluters to reduce their pollution and incentives of local, federal, and state government to address these issues. Focus on measurement and empirical hypothesi- sis testing. P/NP or letter grading.

M137. Historical Geography of American Environment. (4) (Same as Geography M137.) Lecture, three hours. Designed for juniors/seniors. Study of systematic changes of nature in the U.S. during historical time, with emphasis on interplay between and among natural factors of climate, soils, vegetation, and landforms, and human factors of settlement, economic activity, technology, and cultural traits. P/NP or letter grading.

138. Effective Methods of Social Change. (4) (Formerly numbered 188B.) Lecture, four hours. Introduction to major ideas and effective methods of social change. Examination of social entrepreneurs, innovators, and visionaries. Review of traditional methods of activism and new theories of nonviolent social change. Case studies of success in restoring environment, resolving conflicts, curing diseases, overcoming poverty, and addressing other social problems of social injustice as well as reviewing actual strategies and methods for social change in the 21st century. Challenges that nonprofit advocates and community activists face today, including strategic planning, time management, networking, negotiation, and fund-raising. P/NP or letter grading.

M153. Introduction to Sustainable Architecture and Community Planning. (4) (Same as Architecture and Urban Design CM153.) Lecture, three hours. Examination of built environment to natural environment through whole systems approach, with focus on sustainable design. Description of different uses of communities. Emphasis on efficiency, renewable energy, and appropriate use of resources, including materials, water, and land. Letter grading.

M161. Global Environment and World Politics. (4) (Same as Political Science M122B.) Lecture, three or four hours; discussion, one hour (when scheduled). Recommended requisite: Political Science 20. Politics and policy of major global environmental issues such as climate change, integrating law, policy, and political science perspectives. P/NP or letter grading.

M162. Land Use and Development. (4) (Same as Urban Planning M162.) Lecture, four hours. Examination of institutional and historical evolution of land use in the U.S. Comparison and contrasting of how cities have evolved in different parts of the U.S. and some recent trends in urbanization. Relationship of state-level land-use policies and politics and ways in which localities plan. Environmental, social, and equity as- pects of different patterns of urbanization and likely trends into future. Letter grading.

M164. Environmental Politics and Governance. (4) (Same as Urban Planning CM164.) Lecture, three hours. Environmental planning is more than simply finding problems and fixing them. Each policy must be negotiated and implemented within multiple, complex systems of governance. Institutions and politics matter deeply. Overview of how environmental govern- ance works in practice and how it might be improved. Letter grading.

M165. Nuclear Weapons: Critical Decisions. (4) (Same as Honors College M119, Public Policy M116, and Political Science M139B.) Lecture, three hours. Examination of critical decisions regarding nuclear weapons, starting with President Roosevelt’s decision to build atomic bomb and ending with current policies on containing nuclear proliferation and on avoiding nuclear catastrophe. Letter grading.

170. Environmental Science Colloquium. (1) Seminar; 90 minutes: one field trip. Limited to undergradu- ate students. Study of current topics in environmental science, including participation in weekly colloquium series and field trips. May be repeated for credit. P/NP grading.

180A. Practicum in Environmental Science. (4) Lecture, three hours; discussion, two hours. Limited to junior/senior Environmental Science majors. Examination of case studies and presentation of tools and methodologies in environmental science, building on what students have been exposed to in other cours- es. Letter grading.

180B-180C. Practicum in Environmental Science. (4-4) Laboratory, three hours. Enforced requisite: course 180A. Course 180B is enforced requisite to 180C. Limited to junior/senior Environmental Science majors. Investigation of various aspects of one envi- ronmental case study representing actual multidisci- plinary issue. Particular emphasis on developing skills required for working as professionals in this field. Work may involve site investigations, original data collec- tion and analysis, mapping and geographic infor- mation systems, and environmental policy and law is- sues. Case study to be defined and conducted with collaboration of local agency or nonprofit institution. Letter grading.

184. Basics of Satellite Oceanography. (4) (Formerly numbered 193.) Lecture; four hours; discussion, one hour; computer laboratory, three hours. Remotely sensed data collected since late 1970s provide oceanographers with large volume of information on state of surface of world ocean, including sea surface temperature measured by infrared sensors, anom- alies of sea winds measured by scatterometers, and water color properties measured by optical sensors. Multidisciplinary information enables comprehensive monitoring of both physical and biological properties of ecosystems in different ocean regions. P/NP or let- ter grading.

185. Speaker Series: Sustainability. (1) Lecture, two hours. Series of lectures by world-renowned au- thors, environmentalists, and progressive thinkers, with required student response papers. Analysis of principles of sustainability. Collaboration between UC students, faculty, staff, and faculty mentor through on- going communication, discussions, and optional re- treat. P/NP grading.

193. Journal Club Seminars: Environment. (1) Seminar, one hour; limited to undergraduate students. Discussion of readings selected from current literature of field. P/NP grading.

199. Directed Research in Environment. (2 to 4) Tutorial, two hours. Preparation: submission of written proposal outlining study or research to be undertak- en. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Progress report must be submitted to faculty mentor at end of term. Culminating paper or project required. May be taken for a maximum of 4 units. Indi- vidual contract required. P/NP or letter grading.
Refer to the UCLA Transfer Admission Guide.

The International Development Studies major offers an interdisciplinary study of the critical issues of the developing world, such as poverty, human rights, global health, civil war, economic growth, and global inequality. The curriculum exposes students to the concerns of the developing countries of Asia, Eastern Europe, Africa, the Middle East, and Latin America.

An understanding of these issues is indispensable for both practical and scholarly purposes. While encouraging the acquisition of theoretical and conceptual knowledge, the program is equally concerned with its practical application to global realities. The program values field experience involving travel, study, and/or work in regions in the developing world.

Undergraduate Study

International Development Studies B.A.

Preparation for the Major

Required: Economics 1 or 2; one statistics course from Economics 41, Political Science 6, 6R, Statistics 10, or 12; four social sciences courses, each from a different department, selected from Anthropology 9, Geography 3, 4, 5, 6, History 8A, 8B, 8C, 9A, 9D, 9E, M10A, 10B, 10BW, 11B, 21, 22, Political Science 20, 50, 50R, Sociology 1; and demonstrated proficiency in one modern foreign language equivalent to level 6 at UCLA. All courses must be taken for a letter grade.

After satisfying the preparation for the major requirements, students must meet with the academic counselor in 10357 Bunche Hall to declare the International Development Studies major.

Transfer Students

Transfer applicants to the International Development Studies major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one introductory economics course, one statistics course, and four courses selected from four of the following five fields: sociocultural anthropology, cultural or economic geography, world history, comparative politics, and introductory sociology.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Admission to the major is based on completion of all nonlanguage preparation courses and one modern foreign language equivalent to level 3 at UCLA, with a cumulative minimum grade-point average of 2.0. Any remaining language courses may be completed after students have been admitted to the major.

The major consists of four required parts (courses marked with an asterisk have requirements). All courses must be taken for a letter grade.


Eastern Europe and West Central Asia: Anthropology 175R, Czech 155, History 107C, 107E, 120A through 120D, 127B, 127C, Political Science 128B, 156A through 156D, Romanian 152, Russian 119, 120, 125, 126, M127, 131, Serbian/Croatian 154, Slavic 125, 126, Women’s Studies M127


Honors Program

 Majors who have completed International Development Studies 100A and M100B and who have a 3.5 grade-point average in all courses offered for the major are eligible to formally apply for the honors program. In addition to completing all courses required for the major, students must take courses 198A, 198B, and 198C, in which they research, write, and present an honors thesis. To receive honors at graduation, students must have at least a 3.5 GPA in courses applied toward the major (including 198A, 198B, 198C) and an overall GPA of 3.0.

Highest honors are awarded to students who complete the major (including courses 198A, 198B, 198C) with a 3.75 GPA and who produce an exceptional thesis.

International Development Studies

Upper Division Courses

100A. Introduction to Development Studies: Economic Development and Culture Change, (4) Lecture, three hours; discussion, one hour (when scheduled). Preparation: some beginning experience in social sciences at college level. Designed for juniors/seniors. Broad historical and theoretical introduction to liberal and Marxist traditions in development studies, with focus on state, market, culture, ideology, and politics of professional knowledge. Balance of general trends and positions with selected case studies in developing nations. Letter grading.
### Scope and Objectives

The undergraduate specialization in International Relations can only be taken jointly with a major in Political Science, and all requirements for the Political Science major must be met by or in addition to meeting the requirements of this program. Students completing the program receive a degree with a major in Political Science and specialization in International Relations. The program is designed to serve the needs of (1) students desiring a general education focused on international affairs and (2) students preparing for graduate work in international affairs, whether in a social science or area study.

The program is also beneficial for (1) students planning careers in business, law, journalism, or library service with an international emphasis and (2) those preparing to teach social sciences in the secondary schools. These students should structure their programs primarily to meet the preparation requirements of the professional school or instructional credential of their choice.

Courses in management and administration, and in oral and written communications, ordinarily increase the career options of students in this program.

### Undergraduate Study

#### International Relations Specialization

**Preparation for the Specialization**

Required: Political Science 20, 50, and two courses from 10, 30, 40; Anthropology 9; Economics 1 and 2, 5, or 100; Geography 3 or 5; History 1A, 1B, and 1C, or any three courses from 8A, 8B, 8C, 9A, 9C, 9D, M10A, 10B, 11A, 11B; Sociology 1.

**Upper Division Requirements**

The Political Science major should be completed as follows: any four upper division political science courses in each of Fields II and IV and two additional courses both in Field I or III.

Other required social sciences courses include one course from Anthropology 161, 167, 171, 173Q, 174P, 175R, 175T, 175U, 177, Sociology 179, 182, 183, 186, 187; two courses from Economics 110, 111, 112, 120, 121, 122, 180, 181A, 181B; one course from Geography 110, 121, 125, M128, 133, 140, 181, 182A, 182B, 183, 185, 186, 187; two courses from History 113A, 113B, 114A, 123A, 123B, 137A, 137B, 140C, 144A, 144B.

Completion of the sixth quarter course (or equivalent as prescribed by the language department), with a grade of C or better, of any modern foreign language is also required. French 6, German 6, Spanish 25, and Russian 6 are most frequently offered in fulfillment of this requirement, but also refer to the offerings listed under African Languages, Asian Languages and Cultures, Germanic Languages, Italian, Near Eastern Languages and Cultures, and Portuguese, Arabic, Chinese, French, German, Japanese, Russian, and Spanish are the languages of widest career utility in international affairs.

All courses must be taken for a letter grade.

#### Area Focus

Students are advised but not required to concentrate their political science, geography, history, and language courses so as to achieve broad familiarity with one area, such as Africa, East Asia, Europe, Latin America, the Middle East, South Asia, or Southeast Asia.

For further information, contact the political science undergraduate counselor in the program office.

### Islamic Studies Interdepartmental Program

**College of Letters and Science**

UCLA

10373 Bunche Hall

Box 951487

Los Angeles, CA 90095-1487

(310) 206-6571

fax: (310) 206-3555

e-mail: idpgrads@international.ucla.edu

http://www.international.ucla.edu/idps/islamicstudies/

Michael G. Morony, Ph.D., Chair

Faculty Advisory Committee

Khaled M. Aboou El Fadl, J.D. (Law)
Leonard Binder, Ph.D. (Political Science)
Irene A. Bierman-Mcinney, Ph.D. (Art History)
Michael D. Cooperson, Ph.D. (Near Eastern Languages and Cultures)
Osman M. Galal, M.D., Ph.D. (Community Health Sciences)
James L. Gelvin, Ph.D. (History)
Sondra Hale, Ph.D. (Anthropology, Women’s Studies)
Michael G. Morony, Ph.D. (History)
Steven D. Nelson, Ph.D. (Art History)
Ismail K. Poonawala, Ph.D. (Near Eastern Languages and Cultures)
Allen F. Roberts, Ph.D. (World Arts and Cultures)

Hossein Ziai, Ph.D. (Near Eastern Languages and Cultures)

**Scope and Objectives**

The Islamic Studies Interdepartmental Program encompasses the broadest cultural concerns in the study of Islamic civilizations. It provides opportunities for study of the major languages, literatures, history, culture, and religious traditions of the populations of regions where Islamic-influenced civilizations have had, or continue to have, the greatest impact. Linguistics skills, historical knowledge, and cultural understanding are the foundation on which the disciplinary paradigms and methodologies of both the social sciences and humanities can be applied. Within this broad framework, students are encouraged to con-
structured individualized curricula that will prepare them to carry out cutting-edge dissertation research leading to the Ph.D.

The Master of Arts and Ph.D. degrees in Islamic Studies are designed primarily for students desiring to prepare for an academic career. They may, however, be found useful for students desiring a special emphasis in this particular area or for those who plan to live and work in predominantly Muslim areas and whose career will be aided by a knowledge of the people, languages, and institutions.

The undergraduate major in this discipline is called Middle Eastern and North African Studies. For details, see the program by that name later in this section.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaal/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Islamic Studies Program offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Islamic Studies. A concurrent degree program (Islamic Studies M.A./Public Health M.P.H.) is also offered.

Islamic Studies
Graduate Course
200. Introduction to Islamic Studies. (4) Seminar, three hours. Introduction to various disciplines and methods employed in study of Islamic histories, cultures, and societies, with special emphasis on methodologies and current theories and how they may be used and combined by Islamic studies students. Content varies each year. Letter grading.

Italian / 397

Edward F. Tuttle, Ph.D.

Professors Emeriti
Mirella Cheeseman, Dottore in Legge
Marga Cottino-Jones, Ph.D., Dottore in Lettere
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere

Lecturer S.O.E.
Elissa A. Tognozzi, Ph.D.

Scope and Objectives
Italian art and letters provide an invaluable key to understanding many facets of European civilization. Examined in its own right or studied comparatively, Italian culture offers unmatched rewards. The UCLA faculty views transmitting the Italian language as inseparable from transmission of the culture, so students consider in depth virtually all aspects of Italian civilization. After their linguistic initiation, ideally including a year abroad, students may pursue advanced studies in the department exclusively and through a wide range of interdisciplinary programs.

Bachelor of Arts degrees are offered in Italian and in Italian and Special Fields. Graduate study leads to the Master of Arts degree in Italian (with specializations in literature and language) and to the Ph.D. (literature specialization). In addition, the department participates extensively in the interdisciplinary graduate program in Romance Linguistics and Literature.

Undergraduate Study
Italian B.A.
The program of studies leading to the Bachelor of Arts in Italian consists of two distinct phases: preparation in the language and study of the literature and culture. While literature courses constitute the bulk of the program, good knowledge of the language is requisite to most upper division literature courses credited toward the major in Italian. The uniqueness of Italian is stressed at all levels of study. Detailed information on programs and specific degree requirements is available from the department.

Preparation for the Major
Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46.

Transfer Students
Transfer applicants to the Italian major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of Italian and related courses in civilization, culture, history, linguistics, literature, and closely related languages.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

Anthropology Field
Preparation for the Major
Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46; Anthropology 8 or 9, and 33.

The Major
Required: Italian 100, 103A or 103B, 180, 195, and three courses from 113 through 191 selected in consultation with the undergraduate adviser; five courses from Anthropology 111, 112, M115A, M115B, C115R, 130, 133Q, 135A, 135B, 135C, 135S, 135T, 139, M140, 141, 143, 150 through M154Q, 161, 182, 183 selected in consultation with the undergraduate adviser.

Art History Field
Preparation for the Major
Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46; Art History 50 or 51, 54, 57.

The Major
Required: Italian 100, 103A or 103B, 195, and four courses from 113 through 191 selected in consultation with the undergraduate adviser; six courses from Art History M102F, M102G, M102H, 105A through 105D, 105F, 106A through 106D, C109A, 109C, 110A, 110B,
110F, 127, 150D selected in consultation with the undergraduate adviser.

**Classics Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46, 50A, 50B; Classics 10 or 20, 40W or 41W, and Greek 1, 2, 3 or Latin 1, 2, 3, or equivalent.*

**The Major**

*Required: Italian 100, 103A or 103B, 180, 195, and two courses from 113 through 191 selected in consultation with the undergraduate adviser; Greek 100 or Latin 100, one course from Classics 141 through 197, and one course from Greek 101A through 133 or Latin 101 through 133 (graduate seminars may be substituted for upper division author courses) selected in consultation with the undergraduate adviser.*

**English Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46, 50A, 50B; English Composition 3, English 4W, 10A, 10B, 10C.*

**The Major**

*Required: Italian 100, 103A or 103B, 195, and four courses from 113 through 191 selected in consultation with the undergraduate adviser; four courses from English 100, M101A through 119, 121, 140A through 182C selected in consultation with the undergraduate adviser.*

**Film and Television Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, 46.*

**The Major**

*Required: Italian 100, 103A or 103B, 121, 195, and three courses from 113 through 191 selected in consultation with the undergraduate adviser; six courses from Film and Television 106A, 106B, 106C, 107, 108, 110A, 110C, 112 through 116, 127, 193A selected in consultation with the undergraduate adviser.*

**French Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46; French 1, 2, 3, 4, 5, 6, 12 or 14.*

**The Major**

*Required: Italian 100, 103A or 103B, 195, and four courses from 113 through 191 selected in consultation with the undergraduate adviser; one course from French 114A, 114B, 114C, and three courses from 115 through 142 selected in consultation with the undergraduate adviser.*

**History Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46; one course from History 1A, 1B, 1C, 88.*

**The Major**

*Required: Italian 100, 103A or 103B, 180, 195, and three courses from 113 through 191 selected in consultation with the undergraduate adviser; six courses from History 100, 102, 117C through 119D, 121A through 123B, 128A, 128B, 131A through M133B selected in consultation with the undergraduate adviser.*

**Linguistics Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, Linguistics 20, and six terms of a second Romance language or Latin or equivalent.*

**The Major**

*Required: Italian 100, 103A or 103B, 180, 195, and two courses from 113 through 191 selected in consultation with the undergraduate adviser; Linguistics 103, 110, 120A, 120B, and one course from M146, M150, 165A, 165B, 170 selected in consultation with the undergraduate adviser.*

**Music History Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, Music History 2A, 2B, 26A, 26B, 26C. Recommended: Music 20A, 20B, 20C.*

**The Major**

*Required: Italian 100, 103A or 103B, 195, and four courses from 113 through 191 selected in consultation with the undergraduate adviser; five courses from Music History 126A, 126B, 126C, 135A, 135B, 135C, 191A through 191G selected in consultation with the undergraduate adviser.*

**Philosophy Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46, 50A, 50B; one course from Philosophy 1 through 31.*

**The Major**

*Required: Italian 100, 103A or 103B, 195, and four courses from 113 through 191 selected in consultation with the undergraduate adviser; Philosophy 100A, 100B, 100C, and three courses from M101A through 185 selected in consultation with the undergraduate adviser.*

**Political Science Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46, 50A, 50B; Political Science 10, 20.*

**The Major**

*Required: Italian 100, 103A or 103B, 195, and four courses from 113 through 191 selected in consultation with the undergraduate adviser; six courses from Political Science M111A through 113A, 116A through 119, 137A, 137B, 139, 153A, 155, 167A selected in consultation with the undergraduate adviser.*

**Portuguese Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46, 50A, 50B; Portuguese 1, 2, 3, 25, M42 or M44 or 46.*

**The Major**

*Required: Italian 100, 103A or 103B, 180, 195, and three courses from 113 through 191 selected in consultation with the undergraduate adviser; three courses from Portuguese 120A through 191 selected in consultation with the undergraduate adviser.*

**Spanish Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46, 50A, 50B; Spanish 1, 2, 3, 4, 5, 25 (or equivalent as determined by placement test); M42 or M44.*

**The Major**

*Required: Italian 100, 103A or 103B, 180, 195, and three courses from 113 through 191 selected in consultation with the undergraduate adviser; one course from Spanish 120A or 120B and three courses from 122 through 161 selected in consultation with the undergraduate adviser.*

**Theater Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46, 50A, 50B.*

**The Major**

*Required: Italian 100, 103A or 103B, 122, 195, and three courses from 113 through 191 selected in consultation with the undergraduate adviser; one course from Theater 101A, 101B, 101C and five courses from 105, 111A, Classics 143A, English 142A, 142B, 142C, 168 selected in consultation with the undergraduate adviser.*

**Women's Studies Field**

**Preparation for the Major**

*Required: Italian 1, 2, 3, 4, 5, 6, and one course from 42A, 42B, 46; Women's Studies 10.*

**The Major**

*Required: Italian 100, 103A or 103B, M158, 195, and three courses from 113 through 191 selected in consultation with the undergraduate adviser; Women's Studies 110A or 110B, and five additional upper division courses from any of the women's studies course lists selected in consultation with the undergraduate adviser.*

**Study in Italy**

Students are encouraged to spend up to one year in Italy either to (1) study with an education abroad program or (2) study in an Italian university. They are also urged to take advantage of summer language workshops and study programs, including UCLA's own pro-
grams in Italy and Los Angeles. For additional information, contact the Education Abroad Program, B300 Murphy Hall, or the Summer Sessions Office, 1147 Murphy Hall.

Honors Program

Majors with an overall grade-point average of 3.25 and a 3.5 GPA or better in Italian are eligible to participate in the honors program. Requirements: Italian 102A, 102B, 102C.

Candidates select three upper division literature courses in which additional readings are required. In the last term of the senior year, they are required to write a thesis on a subject related to one of the three above-mentioned courses. The average for the three courses may not fall below 90. Applications should be made during the last term of the junior year.

Italian Minor

To enter the Italian minor, students must have an overall grade-point average of 2.0 or better. Required Lower Division Courses (12 units): Italian 5, 6, and one course from 42A, 42B, 46, 50A, 50B. Required Upper Division Courses (20 units): Italian 100 and four additional Italian courses. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gradnet.ucla.edu/gasaa/library/pgmrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Italian offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Italian.

Italian

Lower Division Courses

1. Elementary Italian — Beginning. (4) Lecture, five hours. P/NP or letter grading.


8A-B-BC. Italian Conversation. (2-2-2) Seminar, three hours. Enforced requisite for course 8A: course 2; for 8B: course 3; for BC: course 4. Course may be repeated once for credit. P/NP or letter grading.

9. Intensive Italian. (12) Lecture, 20 hours. Intensive language program equivalent to first year of college Italian (courses 1, 2, 3) and designed to develop basic language skills. Offered in summer only. P/NP or letter grading.

42A-42B-42C. Italy through the Ages in English. (5-5-5) Lecture, four hours; discussion, one hour. P/NP or letter grading. 42A. Holy Roman Empire to Sack of Rome. Survey of Italy's unique contribution to Western civilization in history, politics, philosophy, arts, and popular culture from time of Charlemagne to High Renaissance. 42B. Late Renaissance to Postmodern Period. Influence and effects of baroque sculpture and architecture. 42C. Food and Literature in Italy. Profile of Italian history and culture through analysis of gastronomic and literary texts. Special emphasis on late Middle Ages, Renaissance, and Risorgimento.

46. Italian Cinema and Culture in English. (5) Lecture/screenings, five hours; discussion, one hour. Special topics in Italian culture as reflected and reinforced by the nation's art form, stressing aesthetics and ideology of films, contemporary Italian history, and politics. Rotating topics include sex and politics, comedy, integration, family networks, and neorealism. P/NP or letter grading.

50A-50B. Masterpieces of Italian Literature in English. (5-5) Lecture, four hours; discussion, one hour. P/NP or letter grading. 50A. Middle Ages to Baroque. Leading philosophical, religious, and sociopolitical issues in Europe examined in authors such as St. Francis, Dante, Boccaccio, Petrarch, Lorenzo de' Medici, Machiavelli, Castiglione, Ariosto, and Tasso. 50B. Enlightenment to Postmodernism. Comparative study of major literary texts and their adaptations into different forms of public spectacle, including theater, opera, and film. Works by Goldoni, Gozzi, Mascagni, Verdi, Puccini, Pirandello, Calvino, Ortese, Zavattini, de Sica, and Taviani Brothers. Emphasis on development of ideas of spectacle.

Upper Division Courses

102A-102B-102C. Italian Cultural Experience in English. (4-4-4) Lecture, three hours. Study of cultural development of Italy. P/NP or letter grading. 102A. Roots of Western civilization; social and artistic achievements of communal society; Marco Polo, Dante, Boccaccio, Giotto, rise of Italian merchant cities. 102B. Renaissance discovery of human genius; crucial period between Machiavelli and Galileo, leading Italy and Europe to scientific revolution. 102C. Birth of Italian nation from wars of independence to foundation of modern republic, delineated through narrative and cinema in historical context.
103A-103B-103C. Introduction to Italian Literature and Literary Analysis. (4-4-4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Italian literature from 1150 to present, with emphasis on methods of interpreting literary form and meaning in poetry, drama, epic, and novel. P/NP or letter grading.
103C. Romanticism, Politics, and Disillusionment. (4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Great poetry and dialogues of Giacomo Leopardi; patriotic literature accompanying rise of modern Italian state; futurism, surrealism, neo-realism, and postmodernism. Authors may include Foscolo, Manzoni, Verga, Pirandello, Calvino, and Dario Fo. P/NP or letter grading.
110. Dante in English. (4) Lecture, three hours. Close study of one of world's greatest literary genius, particularly of his masterpiece, Divine Comedy, the archetypical medieval journey through the afterworld. P/NP or letter grading.
113. Dante's La Divina Commedia. (4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Study of medieval philosophy, religion, and politics in La Divina Commedia, greatest literary achievement of the age. P/NP or letter grading.
114A-114B. Middle Ages. (4-4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. P/NP or letter grading. 114A. Tradition of Love from Sacred to Profane. Study of major love poets of all time (Dante, Doli Sto Novo poets, and Petrarch) caught between courtly and religious codes. 114B. Medieval Humor, Moralism, and Society. Novelty of Boccaccio's witty, and comic masterpiece, Decameron, analyzed within context of moral and social codes of culture of time.
116A-116B. Italian Renaissance. (4-4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. P/NP or letter grading. 116A. Renewal of Art and Thought. Study of Quattrocento and its representatives in arts and humanistic thought (i.e., Mante- gna, Raphael, Michelangi, Pico, etc.). 116B. Power and Imagination in Renaissance. Study of artistic world of Leonardo, Rafaello, Michelangel, Titian, and literary masterpieces of Machiavelli, Castiglione, Ariosto, Tasso, in world molded by powerful political forces, such as Roman Papacy and Medici, Gonzaga, and D'Este courts.
118. Age of Enlightenment. (4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Study of philosophical and political prose, satiric poetry, and drama, unveiling birth of modern spirit through writings of Vico, Metastasio, Parini, and Allieri. P/NP or letter grading.
119. Italian Ottocento. (4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Study of Ottocento, rich period of Italian history and culture from Romanticism to decadentism when philosophical and political issues affected not only mind but also heart. Emergence of unique brand of individualism through poetry and prose writings of Foscolo, Leopardi, Manzoni, Nievo, and Verga. P/NP or letter grading.
120. Italian 20th Century. (4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Analysis of novel, poetry, and drama of 20th century in modern thought and culture. Authors may include D'Annunzio, Pirandello, Montale, Pasolini, and Calvino. P/NP or letter grading.
121. Literature and Film. (4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Comparative study of specific literary works and their translation into film and of different techniques in two forms of expression. Texts include literary works, screenplays, and works on literary and film theory. P/NP or letter grading.

122. Italian Theater. (4) Lecture, three hours. En- forced requisite: course 100. Conducted in Italian. Study of dramatic works from Renaissance to present and their theatrical presentation. P/NP or letter grading.

123. Seminar: Interdisciplinary Italian Studies. (4) Seminar, three hours. Enforced requisite: course 100. Conducted in Italian. Advanced reading, research, and writing in Italian studies with interdisciplinary approach that includes literature, art, history, and politics and emphasis on gender, politics, ethnicity, and post-colonial themes. P/NP or letter grading.

124. Food and Literature in Italy. (4) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Phases of Italian history and culture through analysis of gastronomic documents and literary texts, with special emphasis on late Middle Ages, Renaissance, and Risorgimento. Examination of relation of food and religion to health in Re- gnum Sanitatis, authored by various medical doctors of Salernitan Schools and Platina’s Il piacere onesto e la buona salute. S/U or letter grading.


140. Italian Novella from Boccaccio to Basile in Translation. (4) Lecture, three hours. Analysis of development of Italian novella in its structure, historical context, and folk material. Special emphasis on how Italian novella influenced other European literatures. P/NP or letter grading.

150. Modern Fiction in Translation. (4) Lecture, three hours. Selection of works in 20th-century thought bringing to light works of international fame, with focus on concerns and styles of several prose works such as Umberto Eco’s The Name of the Rose, Pasolini’s The Ragazzi, Pirandello’s The Late Matta Pascali, and Calvino’s The Cosmics. P/NP or letter grading.

M158. Women in Italian Culture. (4) (Same as Women’s Studies M158.) Lecture, three hours; discussion, one hour. Examination of role of women in Italian society in history, politics, literature, film, and art. Italian majors required to read texts in Italian. P/NP or letter grading.

180. History of Italian Language. (4) (Formerly numbered 190.) Lecture, three hours. Enforced requisite: course 100. Conducted in Italian. Main forces that have shaped literary and standard Italian and specific ways in which language has evolved. Tracing of its changing relations with other European languages and survey of effects wrought by historical events, changes in taste, and altered social functions. P/NP or letter grading.

191. Variable Topics Research Seminars: Italian Studies. (4) (Formerly numbered 197.) Seminar, three hours. Research seminar with focus on themes and issues outside uniquely Italian literature topics covered in regular departmental undergraduate courses. May be repeated once for credit. P/NP or letter grading.

195. Community or Corporate Internship in Italian. (4) Tutorial, three hours. Limited to juniors/seniors. Internship in supervised setting in community agency or business. Stipulated credits are specific. Instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. P/NP or letter grading.

199A. Directed Research in Italian. (2 to 4) (Formerly numbered 199.) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

199B. Directed Research in Italian and Special Fields. (2 to 4) (Formerly numbered 195.) Tutorial, to be arranged. Limited to senior Italian and Special Fields majors. Supervised individual research or investigation under guidance of faculty mentor. Tutorial in connection with required reading (20 pages) is to be written in either Italian or English that requires students to unify and synthesize their experience of combining two disciplines of study. Individual contract required. P/NP or letter grading.

Graduate Courses


205A-205B. Studies in Criticism. (4 to 6) Lecture, three hours. History, theory, and practice of criticism. S/U or letter grading. 205A. Brief History of Literary Criticism. Presentation, discussion, and application of basic currents of criticism from stylistics to structuralism. 205B. Discussion of Modern Critical Approaches. Presentation, discussion, and application of contemporary approaches to deconstruction, new historicism, and feminist criticism.

210. Studies in Early Italian Literature. (4) Lecture, three hours. Topics include origins of Italian language and study of early texts, Scuola Siciliana and early poetry of Central and Northern Italy and Dolce Stil Novo. S/U or letter grading.


214A. La Divina Commenda. (4) Lecture, three hours. S/U or letter grading.

214B. Dante’s Other Works. (4) Lecture, three hours. S/U or letter grading.

214C. Petrarch’s Canzoniere. (4) Lecture, three hours. S/U or letter grading.

214D. Boccaccio’s Decameron. (4) Lecture, three hours. S/U or letter grading.

214E. Boccaccio’s Other Works. (4) Lecture, three hours. S/U or letter grading.

214F. Variable Topics. (4) Lecture, three hours. Vari- able-content seminar on themes and issues of medi- eval literature, with coverage of authors such as St. Francis of Assisi or Jacopone de Todi. S/U or letter grading.


216A. Machiavelli and Renaissance Political Thought. (4) Lecture, three hours. S/U or letter grading.

216B. Ariosto and Renaissance Epic. (4) Lecture, three hours. S/U or letter grading.

216C. Tasso. (4) Lecture, three hours. S/U or letter grading.

216D. Renaissance Theater. (4) Lecture, three hours. S/U or letter grading.

216E. Variable Topics. (4) Lecture, three hours. Vari- able-content seminar on themes and issues of Re- naissance literature, with coverage of authors such as Vasari, Leonardo, or Benvenuto. S/U or letter grading.


218B. Alfieri. (4) Lecture, three hours. S/U or letter grading.

218C. Goldoni. (4) Lecture, three hours. S/U or letter grading.

218D. Variable Topics. (4) Lecture, three hours. Vari- able-content seminar on themes and issues of 18th- century literature, with coverage of authors such as Vico or Ludovico. S/U or letter grading.


219B. Leopardi. (4) Lecture, three hours. S/U or letter grading.


219D. Variable Topics. (4) Lecture, three hours. Vari- able-content seminar on themes and issues of 19th- century literature, with coverage of authors such as Carducci, Tommaso, or Nieuw. S/U or letter grading.


221A-221F. Studies in 20th-Century Literature. (4 each) Lecture, three hours. S/U or letter grading. 221A. Variable Topics. (4) Lecture, three hours. Vari- able-content seminar on themes and issues of 20th- century literature, with coverage of authors such as D’Annunzio, Verga, Marini, and Pirandello. S/U or letter grading.


221C. 20th-Century Narrative to World War II. (4) Lecture, three hours. Assessment of turn-of-the-cen- tury narrative pattern (Gabriele D’Annunzio) and analysis of radical innovations brought about by such towering figures as Pirandello, Svevo, Bernini, Mari- nettii, etc. S/U or letter grading.

221D. 20th-Century Narrative since World War II. (4) Lecture, three hours. In-depth exploration of some major works that have made contemporary Italian lit- erature famous throughout the world, with special em- phasis on study of formalistic modes adopted by the neo-avant-garde. S/U or letter grading.

221E. Pirandello and Contemporary Theater. (4) Lecture, three hours. Thorough analysis of selected texts, accompanied by analysis of how the plays have been realized on stage by important directors such as Stre- hler, Ronconi, and the playwrights/actors them- selves. Emphasis on ritualistic implications of the the- atrical performance. S/U or letter grading.

M222A-M222B. Comparative Romanic Historical Grammar. (4-4) (Same as Romance Linguistics M220A-M220B.) Lecture, three hours. Each course may be taken independently for credit. S/U or letter grading.

M222A. Phonology. Principal sound changes from late Latin to main Romance dialects. M222B. Morphology and Syntax. Prime morpho-syntactic changes occurring between late Latin and main Ro- mance dialects.

223. Structures of Modern Italian. (4) Lecture, three hours. Descriptive analysis of basic features of standard Italian from synchronic, typologic vantage. Topical emphasis may vary annually, but core pro- gression departs from phonology (e.g., syllable types, prosodic patterns, phrasal phonetics), moves through morphemic constituents up to phrase sequence (coordination, ellipses, etc.). S/U or letter grading.

224. Italo-Romance Dialectology. (4) Lecture, three hours. Differentiation of local spoken Latin into myriad varietal forms in Italy. Attention to discrete lan- guage types (e.g., Sardinnian, Ladino, Friulian, and Franco-Provençal). Consideration of present-day so- ciolinguistic pressures. S/U or letter grading.
Labor and Workplace Studies / 401

LAW AND WORKPLACE STUDIES
Interdisciplinary Minor
College of Letters and Science

UCLA
2107 Uerberoth Building
Box 951478
Los Angeles, CA 90095-1478
(310) 206-0812
fax: (310) 794-6410
e-mail: lsmminor@irle.ucla.edu
http://www.labor.ucla.edu/programs/minor.html

Jacqueline Leavitt, Ph.D., Chair

Faculty Advisory Committee
Christopher L. Erickson, Ph.D. (Management)
Sanford M. Jacoby, Ph.D. (Management)
Jacqueline Leavitt, Ph.D. (Urban Planning)
Ruth M. Milkman, Ph.D. (Sociology)
Daniel J. of UCLC, Ph.D. (Management, Public Policy)
Karen J. Orren, Ph.D. (Political Science)
Abel Valenzuela, Jr., Ph.D. (Chicana and Chicano Studies, Urban Planning)

Scope and Objectives
The Labor and Workplace Studies minor offers an opportunity to learn about the workplace and the social, political, and economic forces that influence it. The program emphasizes the institutions of the labor market, public policy, employment relations, unions, and working-class movements. It also explores issues of race, class, and gender in the workplace. The interdisciplinary approach gives students exposure to disciplines in addition to their own majors; students should plan to take courses from multiple departments, as disciplinary breadth is encouraged.

The program is intended for students who wish to gain an in-depth understanding of the broad array of issues related to labor and the workplace. Students are encouraged to plan, with the faculty adviser and minor coordinator, either a coherent integration of courses according to a thematic or subtopical investigation or, alternatively, a comprehensive survey of the main issues involved in the study of labor and the workplace.

Undergraduate Study

Labor and Workplace Studies Minor

The Labor and Workplace Studies minor augments study in a traditional field. Students are required to complete both a departmental major and this minor. The faculty adviser certifies completion of the program.

To enter the minor, students must be in good academic standing (2.0 grade-point average or better), have completed 45 units, and file a petition and meet with the faculty adviser and minor coordinator at the UCLA Institute for Research on Labor and Employment, 2107 Uerberoth Building, (310) 206-0812, lsmminor@irle.ucla.edu. Students are encouraged to meet early with the faculty adviser and minor coordinator to declare the minor and design a coherent program of coursework.

Required Courses (28 units minimum): Seven courses, with no more than two lower division courses (8 units), selected from Afro-American Studies M163, Asian American Studies 113, M116, Chicana and Chicano Studies 125, 127, 128, 129, Economics 150, 151, 152, History 141B, 146A, 146B, any labor and workplace studies course, Management 180, Political Science 116A, 142C, Psychology M137E, Public Policy 141, C142, C144, 145, Sociology 157, M163, 171, 173, Women's Studies M137E, M163. Students may petition, prior to enrollment in the course, to apply other topical courses with substantial labor and workplace studies content.

A minimum of 20 units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program. No more than 8 units may be applied toward both this minor and a major or minor in another department or program.

All minor courses must be taken for a letter grade, with a minimum grade of C (2.0) in each and an overall C average. Successful completion of the minor is indicated on the transcript and diploma.
Labor and Workplace Studies

Lower Division Courses

M1A-M1B-M1CW. Work, Labor, and Social Justice in the U.S. (5-5-5) (Same as GE Clusters M24A-M24B-M24C) Course M1A is enforced requisite to M1B, which is enforced requisite to M1CW. Open only to first-year freshmen. Letter grading. M1A-M1B. Lecture, three hours; discussion, two hours. Exploration of ways in which work has been transformed over the last century, impact of this transformation on working people, and role of labor movement as force for social justice. M1CW. Special Topics. Seminar, three hours. Enforced requisites: course M1B, and English Composition 3 or SH. Topics include labor law/history, gender, race, and workplace. Satisfies Writing II requirement.

Upper Division Courses

M116. Asian American Social Movements. (4) (Same as Asian American Studies M116.) Lecture, three hours. Described for juniors/seniors. Examination of several dimensions of Asian American social movements, including grassroots, mass movement character, political and social vision, and political and social relevance to current issues. How movement participants linked struggle for change with own personal transformation and growth. P/NP or letter grading.

M160. Research Group or Internship Seminars: Labor and Workplace Studies. (5) Seminar, three hours. Enforced corequisite: course 195. Designed for undergraduate students who are part of research group or internship. Discussion of research methods and current literature in field or of research of faculty members or students. In-depth examination of experience of workers and role of labor movement in American society, historically and today. Topics include changing organization of work in the U.S. and reconfiguration of employment relationships; response of labor movement to managerial initiatives; way in which organized labor has handled issues of race, ethnicity, gender, and immigration status; challenges facing workers in the 21st century and ways in which organizations (unions and community-based organizations) are responding to those challenges. Letter grading.

M165. Sociology of Race and Labor. (4) (Same as Afro-American Studies M165 and Sociology M165.) Lecture, three hours; discussion, one hour. Limited to juniors/seniors. Exploration of relationship between race/ethnicity, employment, and U.S. labor movement. Analysis of underlying racial divisions in workforce and how they evolved historically. Consideration of circumstances under which workers and unions have excluded people of color from jobs and unions, as well as circumstances under which workers and unions have organized people of color into unions in efforts to improve their wages and working conditions. Impact of globalization on these dynamics. P/NP or letter grading.

M166A. Immigrant Rights, Labor, and Higher Education. (4) (Same as Asian American Studies M166A and Chicana and Chicano Studies M166A.) Seminar, three hours. New immigrant rights movement, with particular attention to labor and higher education. Overview of history of immigrant rights movement and examination of development of coalition efforts between labor movement and immigrant rights movement nationally and locally. Special focus on issue of immigrant student education. How immigration challenges facing undocumented immigrant students, and legislative and policy issues that have emerged. Students conduct oral histories, family histories, research on immigration and immigrant rights, write poetry and spoken word about immigrant experience, and work to collectively develop student publication on immigrant students in higher education. P/NP or letter grading.

M166B. Research on Immigration Rights, Labor, and Higher Education. (4) (Same as Asian American Studies M166B and Chicana and Chicano Studies M166B.) Seminar, two hours. Requisite: course M166A. Expansion of research conducted by students in course M166A involving oral histories, research on immigration/labor/higher education, and evaluation of legislation and legal issues impacting undocumented students. Letter grading.

M173. Nonviolence and Social Movements. (4) (Same as Afro-American Studies M173 and Chicana and Chicano Studies M173.) Lecture, three hours; discussion, one hour. Overview of nonviolence and its impact on social movements both historically and in its present context in contemporary society, featuring lectures, conversations, films, and guest speakers. Exploration of some historic contributions of civil rights struggles and role of nonviolent action throughout recent U.S. history. Examination of particular lessons of nonviolent movements as they impact social change organizing in Los Angeles. P/NP or letter grading.

M180. Southern California Regional Economy. (4) (Same as Urban Planning CM137.) Lecture, three hours. Introduction to regional economy, with emphasis on Los Angeles. Key economic sectors, labor market composition, and review of conflicting portrayals depicting dynamics of region. Two all-day bus tours of key economic regions and guest lectures by regional experts included. Letter grading.

188. Special Courses in Labor and Workplace Studies. (4) Seminar, four hours. Departmentally sponsored experimental or temporary courses, such as those taught by visiting faculty members. May be repeated for credit. P/NP or letter grading.

195. Community or Corporate Internship in Labor and Workplace Studies. (5) Tutorial, three hours; internship, 10 hours. Enforced corequisite: course 160. Limited to juniors/seniors. Internship in supervised setting in community agency, labor union, or other organization concerned with work and employment issues. Placements to be arranged by instructor. Students meet on regular basis with instructor and provide periodic written reports on their experience. Individual contract with supervising faculty member required. P/NP grading.

196. Directed Research in Labor and Workplace Studies. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

LATIN AMERICAN STUDIES

Interdepartmental Program
College of Letters and Science
UCLA
10373 Bunche Hall
Box 951487
Los Angeles, CA 90095-1487
(310) 206-6571 fax: (310) 206-3555
e-mail: undergrads@international.ucla.edu
dipgrads@international.ucla.edu
http://www.international.ucla.edu/idps/
Kevin B. Terraciano, Ph.D., Chair
Faculty Advisory Committee
Stephan A. Bell, Ph.D. (Geography)
Carole H. Browner, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Barbara Geddes, Ph.D. (Political Science)
David E. López, Ph.D. (Sociology)
Steven J. Loza, Ph.D. (Ethnomusicology)
Anna H. More, Ph.D. (Spanish and Portuguese)
Robert Chao Romero, Ph.D. (Chicana and Chicano Studies)
Bonnie Taub, Ph.D. (Community Health Sciences)
Kevin B. Terraciano, Ph.D. (History)

Scope and Objectives

UCLA has been in the forefront of U.S. universities with significant teaching and research interests in Latin American studies for more than 50 years. More than 100 faculty members from 22 departments and professional schools regularly offer a broad range of courses with an emphasis on Latin America. These course offerings in the humanities, social sciences, fine arts, and professional fields provide students a unique opportunity to focus on Latin America, a region of growing importance.

The Latin American Studies Program offers the Bachelor of Arts and Master of Arts degrees. In the undergraduate major students develop a program combining language and methodological training with interdisciplinary studies in one of three areas: arts and humanities, social sciences, or ecology and environment. At the graduate level, students pursue more specialized coursework and interests, culminating in an interdisciplinary research study. Cooperative degree programs with the UCLA Schools of Education and Information Studies, Management, Public Health, and Public Affairs provide the opportunity to combine the M.A. in Latin American Studies with a master’s degree in a professional field.

Undergraduate Study

Latin American Studies B.A.

Undergraduate studies of the Latin American region are designed to serve the needs of students (1) desiring a general education focused on the Latin American cultural region, (2) planning to enter business, government, or international agency service, (3) preparing to teach social sciences or language, and (4) preparing for advanced academic study of Latin America. Students must complete all preparation courses with a C (2.0) in each course; the courses are applicable toward the Letters and Science lower division general education requirements.

Foreign Language Requirement

Language requirements are uniform for all students in the major regardless of core area. Proficiency in two languages equivalent to (1) Spanish 25 and Portuguese 3 or (2) Portuguese 25 and Spanish 5 is required. In lieu of Portuguese 1, 2, and 3, students may take Portuguese 102A and 102B which are designed for those with a background in Spanish. An indigenous language of Latin America (i.e., Quechua) may be substituted for the minor language.

Transfer Students

Transfer applicants to the Latin American Studies major with 90 or more units must complete...
the following introductory courses prior to admission to UCLA: advanced Spanish and one year of elementary Portuguese, or advanced Portuguese and intermediate Spanish, two Latin American history courses, and additional coursework in the area of concentration.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

Course Limitations
Students may not take more than 8 units of Latin American Studies 199 for letter-grade credit nor more than 8 units in any single term. No course taken on a Passed/Not Passed basis may be applied toward the B.A. degree requirements. In order to register in a 199 course, students must have achieved junior standing and an overall grade-point average of 3.0, or senior standing.

Double Majors
Through judicious use of electives, students may find it possible to obtain the B.A. degree with two majors (e.g., Latin American Studies and History). Interested students who have achieved junior standing should consult the undergraduate advisers of both departments involved, initiating the appropriate petition with the student affairs counselor in Latin American Studies.

Study in Latin America
Students are encouraged to spend up to one year in Latin America either (1) to study with an education abroad program, (2) to study in Latin American universities, (3) to conduct research, or (4) to complete an internship in an international or development agency. Full credit is granted according to the individual programs arranged in consultation with the undergraduate adviser. For information on studying in Mexico, Costa Rica, Chile, or Brazil, contact the Education Abroad Program, B300 Murphy Hall, (310) 794-9820.

Core Areas for the Major
Students select one of three core areas as the focus of their major: arts and humanities, social sciences, or ecology and environment. Requirements for each core area are listed below.

Core I: Arts and Humanities
Preparation
Required: Two courses from History 8A, 8B, 8C; Latin American Studies 97A (or 191 with department consent); Spanish and Portuguese M44; Art History 55B or Ethnomusicology 91K and World Arts and Cultures 6 or 8.

Core Area
Required: Ten upper division courses from the approved list of Latin American courses distributed as follows:

1. Core Concentration: Five courses as listed below in either the literature and folklore field or the linguistics field selected from Portuguese or Spanish, or in the fine arts field selected from art history or ethnomusicology. Only one course from the electives list within the arts and humanities core area may be applied toward the core concentration

2. Theory and Methods: One course from theory and methods within the core concentration field

3. Internal Breadth: Four additional courses from the arts and humanities core area but outside the core concentration field. No more than two of these may be electives

External Breadth
Required: From the approved list, six upper division courses outside the arts and humanities core area distributed as follows: at least two courses in social sciences (e.g., history) and two courses in ecology and environment (e.g., geography). The two additional courses required may be from either social sciences or ecology and environment. No more than three external breadth courses may be electives.

Approved Undergraduate Courses
Special courses which may be applied toward the M.A. degree requirements with advanced departmental approval are indicated with asterisks. These courses do not have any exclusive focus on Latin America but provide an opportunity for students to relate a particular perspective or phenomenon to Latin America.

(1) Literature and Folklore Field
History 160A, Portuguese 130A, 130B, C132, C133, C134, C135, 141, Spanish 120A through 120D, 137, 139, 140, 142, 143, 144A, 144B, 144C, 147, 149, 151B, 161, 191A, 191B, 198

Theory and Methods
Portuguese 197, Spanish *119A, *119B, *119C, 197, World Arts and Cultures 122

(2) Fine Arts Field

Theory and Methods
Art History *197, Ethnomusicology *180, *183, *197E, Film and Television 199, World Arts and Cultures *199

(3) Linguistics Field

Theory and Methods

(4) Arts and Humanities Electives
Chicana and Chicano Studies 141, 142, Ethnomusicology *CM110A, *CM110B, Film and Television 112, Latin American Studies 191, 199 Theater M103C, World Arts and Cultures *131

Core II: Social Sciences
Preparation
Required: Two courses from History 8A, 8B, 8C; Latin American Studies 97A (or 191 with department consent); Economics 1 and 2, or 100; Statistics 10.

Core Area
Required: Ten upper division courses from the approved list of Latin American courses distributed as follows:

1. Core Concentration: Five courses as listed below in one of the five fields (anthropology and sociology or economics or geography or history or political science). Only one course from the electives list within the social sciences core area may be applied toward the core concentration

2. Theory and Methods: One course from theory and methods within the core concentration field

3. Internal Breadth: Four additional courses from the social sciences core area but outside the core concentration field. No more than two of these may be electives

External Breadth
Required: From the approved list, six upper division courses outside the social sciences core area distributed as follows: at least two courses in arts and humanities (e.g., fine arts) and two courses in ecology and environment (e.g., geography). The two additional courses required may be from either arts and humanities or ecology and environment. No more than three external breadth courses may be electives.

Approved Undergraduate Courses
Special courses which may be applied toward the M.A. degree requirements with advanced departmental approval are indicated with asterisks. These courses do not have any exclusive focus on Latin America but provide an opportunity for students to relate a particular perspective or phenomenon to Latin America.

(1) Anthropology and Sociology Field
Anthropology 114P, 114Q, 114R, 173Q, 174P, 179, Sociology 186

Theory and Methods

(2) Economics Field

Theory and Methods

(3) History Field
Theory and Methods

History 191E, *197, Information Studies M111C

(4) Political Science Field


Theory and Methods


(5) Geography Field


Theory and Methods

Geography *1M171

(6) Social Sciences Electives


Core III: Ecology and Environment

Preparation

Required: Two courses from History 8A, 8B, 8C; Latin American Studies 97A; Geography 5; Statistics 10.

Core Area

Required: Ten upper division courses from the approved list of Latin American courses distributed as follows:

1. Core Concentration: Five courses as listed below in geography. Only one course from the electives list within the ecology and environment core area may be applied toward the core concentration

2. Theory and Methods: One course from theory and methods within the core concentration field

3. Internal Breadth: Four additional courses from the ecology and environment core area to be selected from theory and methods core courses or electives

External Breadth

Required: From the approved list, six upper division courses outside the ecology and environment core area distributed as follows: at least two courses in arts and humanities (e.g., fine arts) and two courses in social sciences (e.g., history). The two additional courses required may be from either arts and humanities or social sciences. No more than three external breadth courses may be electives.

Approved Undergraduate Courses

Special courses which may be applied toward the M.A. degree requirements with advanced departmental approval are indicated with asterisks. These courses do not have any exclusive focus on Latin America but provide an opportunity for students to relate a particular perspective or phenomenon to Latin America.

Ecology and Environment


Theory and Methods

Anthropology *M186, Geography *M171

Electives


Latin American Studies Minor

The interdisciplinary program leading to the Latin American Studies minor allows students to choose from a broad range of course offerings in various departments to develop professional and methodological skills with area expertise.

To enter the minor, students must have an overall grade-point average of 2.0 or better and have completed 45 units. For further information, contact Magda Yamamoto at (310) 206-6571.

Required Lower Division Courses (8 units): History 8A or 8B or 8C or Latin American Studies 97A, Spanish 25 or Portuguese 25.

Required Upper Division Courses (20 units): Five courses selected from the approved list of Latin American studies courses in at least two of the following fields: (1) arts and humanities (art history, ethnomusicology, folklore, Spanish and Portuguese), (2) ecology and environment (geography, public health), (3) social sciences (anthropology, economics, history, political science, sociology). If the social sciences field is selected, at least two courses must be taken in that field. No more than 4 units of course 199 may be applied toward the minor, and at least three upper division courses (12 units) must be taken in residence at UCLA.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Latin American Studies Program offers the Master of Arts (M.A.) degree in Latin American Studies.


Latin American Studies

Lower Division Courses

97A, Introduction to Latin America. (4) (Formerly numbered 99.) Lecture, three hours. Interdisciplinary freshman/sophomore survey course designed as introduction to modern Latin America. P/NP or letter grading.

Upper Division Courses

191. Interdisciplinary Topics in Latin American Studies. (4) (Formerly numbered 197.) Seminar, four hours. Advanced interdisciplinary research seminar for juniors/seniors. Reading, discussion, and development of culminating project. May be repeated for credit with topic change. P/NP or letter grading.

199. Special Studies in Latin American Studies. (4 or 8) Limited to juniors/seniors. Intensive directed research program in which students conduct interdisciplinary research or complete internship with an international agency or program dealing with Latin America. Faculty sponsorship and written reports required.

Graduate Courses

M200. Latin American Research Resources. (4) (Same as Anthropology M272.) Lecture, three hours. Survey of literature and research topics related to Indian cultures of South America. May be repeated for credit.

250B. Interdisciplinary Seminar: Latin American Studies. (4) Seminar, three hours. Problem-oriented seminar on critical areas stressed in University’s co-operative programs in Latin America.

250C. Interdisciplinary Topics in Latin American Studies. (4) Reading knowledge of Spanish or Portuguese normally required. Seminar devoted to selected topics of an interdisciplinary nature.

M264. Latin America: Traditional Medicine, Shamanism, and Folk Illness. (4) (Same as Anthropology M264 and Community Health Sciences M264.) Lecture, three hours. Recommended preparation: proficiency in Spanish or Portuguese normally required. Seminar devoted to selected topics of interdisciplinary nature. In Progress (M268A) and letter (M268B) grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

506. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. May be repeated, but only 4 units may be applied toward the minimum graduate course requirement. S/U or letter grading.

507. Preparation for M.A. Comprehensive Examination. (4) Tutorial, to be arranged. Ordinarily taken only during term in which student is being examined. S/U grading.

508. Research for and Preparation of M.A. Thesis. (4) Tutorial, to be arranged. Only 4 units may be applied toward minimum graduate course requirement. S/U grading.

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**Scope and Objectives**

The School of Law, one of two academic units at UCLA that operate on a semester (rather than quarter) system, offers a three-year curriculum leading to the J.D. degree. The school also offers two advanced degrees — Master of Laws (LL.M.) and Doctor of Juridical Science (S.J.D.). The school is accredited by the California Committee of Bar Examiners, is a member of the Association of American Law Schools, and is on the approved list of the American Bar Association. Graduates of the school are qualified to apply for admission to practice in any state in the U.S.

The school is designed to produce lawyers who are well-prepared for the various private and public roles that are assigned to members of the legal profession. Students do not undertake a specific major but have the opportunity to enroll in a wide variety of courses dealing with various legal fields.

**Professional Study**

The School of Law offers the Juris Doctor (J.D.), Doctor of Juridical Science (S.J.D.), and Master of Laws (LL.M.) degrees.


The undergraduate courses offered by the School of Law are designed for undergraduate students only. For information about the legal curriculum of the School of Law, see http://www.law.ucla.edu.

**Law, Undergraduate**

**Upper Division Courses**

156. American Political Thought Seminar. (3) Seminar, nine hours. Examination of American political thought from founding to writings of Abraham Lincoln. Readings include Locke’s Second Treatise of Government, Declaration of Independence, Federalist numbers 10 and 51, and numerous writings and speeches of Lincoln, including extensive portions of Lincoln-Douglas debates. Emphasis on class discussion. Letter grading.
161. Consumer Bankruptcy Policy Seminar. (3) Seminar, 13 hours. Examination of consumer bankruptcy policy with one architect of 1978 Bankruptcy Code. Discussion of debt payment in ancient Babylon where spouses and siblings could be sold into slavery for nonpayment of relative’s debt. Examination of bankruptcy in U.S. history and analysis of heart of consumer bankruptcy policy, such as when debtors should be released from debts, what property debtors should keep, and how debtors can put together repayment plans. P/NP or letter grading.

170. Race and Racism in California Legal History. 1846 to the Present. (4) Seminar, 14 hours. Limited to freshmen/sophomores. Exploration of California legal history, with focus on issues of race and racism, beginning with transition from Mexican Alta California to U.S. territory and statehood. Topics include state measures affecting California Indians, relocation of Japanese citizens after Pearl Harbor, California’s response to U.S. immigrants from dust bowl during great depression, post-World War II through 1960s measures aimed at equal access to things like home ownership, employment, and rental housing, and uses of initiative in modern era. P/NP or letter grading.

173. Topics in American Constitutional History. (4) Lecture, three hours. Introduction to major themes, events, and cases in American constitutional history. Use of Supreme Court decisions and other sources of constitutional meaning, including popular movements and expressions of constitutional principle from actors in other branches of federal government and in states. Emphasis on historical background and ideological context for particular constitutional controversies at various points in American history, with more formal analysis of particular decisions and competing methods of constitutional interpretation considered. Topics include origins of judicial review, debates over meaning of federalism in early republic, slavery and constitution, Reconstruction Amendments, laissez-faire constitutionalism, citizenship and empire, origins of civil liberties, New Deal constitutionalism, and prehistory of Brown versus Board of Education. P/NP or letter grading.

175. Seminar: Individual Rights Protected by U.S. Constitution. (3) Seminar, two hours. Limited to juniors/seniors. Broad introduction to and examination of individual rights protected under Bill of Rights and 14th Amendment to U.S. Constitution, including freedom of speech and press, religious freedom, right to privacy (including procreative rights) and due process of law, constitutional protection against discrimination based on race and gender, and basic criminal procedure protections. Emphasis on principal Supreme Court cases establishing scope of those rights and their limits. Letter grading.

180. Special Topics in Law. (4) Lecture, four hours. Topics of special interest to undergraduate students. Specific subjects may vary each term depending on particular interest of instructors or students. May be repeated for credit. P/NP or letter grading.

187A. Legal History Colloquium. (3) Seminar, two hours. Corequisite: course 193. Reading of scholarly papers prepared by school faculty members and other scholars in fields of legal history, economics, and political science. Preparation of critiques and discussion of issues in seminar setting with author of papers. P/NP or letter grading.

187B. Politics and International Law Colloquium. (3) Seminar, two hours. Corequisite: course 193. Limited to College Honors students. Lectures on alternative theoretical approaches (including realism, institutionalism, and constructivism) to understand relationship between politics and international law. Weekly presentations on a selected topic by leading law and political science scholars from the U.S. and abroad. Reading of scholarly papers, preparation of critiques, and discussion of issues in seminar setting with authors of papers. P/NP or letter grading.

191. Research Seminar: California Legal History. (4) Seminar, two hours. Requisite: course 170. Research project, selected in consultation with faculty member and using original and secondary materials, to be conducted, followed by major presentation of student work to class and writing of major research paper. Letter grading.

193. Journal Club Seminars: Law. (1) Seminar, one hour; discussion, two hours. Corequisite: course 187A. Adjunct course limited to undergraduate students taking law colloquium. Intensive review and follow-up of scholarly papers presented in colloquium series. Reading of legal cases and supplemental material to provide legal framework for each scholarly paper presented in colloquium. Supervised by faculty member in charge of colloquium series. P/NP grading.

199. Directed Research in Law. (1 to 6) Tutorial, three hours per week per unit. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. Culminating scholarly paper required. Individual contract required. P/NP or letter grading.

LESBIAN, GAY, BISEXUAL, AND TRANSGENDER STUDIES

Interdisciplinary Minor
College of Letters and Science
UCLA
2214 Rolfe Hall
Box 951531
Los Angeles, CA 90095-1531
(310) 206-0516
fax: (310) 206-4118
e-mail:-lgbs@humnet.ucla.edu
http://www.humnet.ucla.edu/humnet/lgbs/

James A. Schultz, Ph.D., Director
Sandra Harding, Ph.D., Chair

Faculty Advisory Committee
Stuart Biegel, J.D. (Education, Law)
Maylei S. Blackwell, Ph.D. (Chicana and Chicano Studies)
Sue-Ellen Case, Ph.D. (Theater)
Mitchell B. Harris, Ph.D. (Musicology)
Steven D. Nelson, Ph.D. (Art History)
Catherine S. Opie, M.F.A. (Art)
James A. Schultz, Ph.D. (Germanic Languages)
Mark A. Schuster, M.D., Ph.D. (Health Services)
Robert Bradley Sears, J.D. (Law)

Scope and Objectives

Although lesbian, gay, bisexual, and transgender studies has only recently found a place in university curricula, the field actually represents the intersection of two traditions that have existed for thousands of years. The better known is the learned tradition, which, at least since the end of the ancient world, has been overwhelmingly hostile. Medieval theology condemned the sodomite, nineteenth-century medicine pathologized the invert, and until very recently psychiatry felt called on to “cure” the homosexual. For at least as long, however, women and men attracted to others of their own sex have kept alive another affirmative tradition, a knowledge of their past that sustained them, often in the face of overwhelming official hostility. The guests at Plato’s Symposium looked back to Achilles and Patroclus; women-loving-women in early twentieth-century Paris remembered Sappho.

After the birth of the modern gay liberation movement in 1969, this underground knowledge came out of the closet and found a public voice sufficiently strong to mount a sustained challenge to the official teachings concerning minority sexualities and genders. This challenge led to a dramatic increase in research on same-sex desire and cross-gender phenomenon, most of it the work of scholars without academic affiliations. Inspired by these accomplishments, students and faculty at colleges and universities eventually mustered the courage to address similar topics, thereby transforming — partly by assimilation, partly by contestation — the previously hostile learned tradition. This originally rather disparate work gradually coalesced into lesbian, gay, bisexual, and transgender studies, which, over the last decade, has developed into an academic discipline of remarkable breadth and vitality. The field embraces work in genetics and cultural studies, literature and anthropology, the health sciences, history, and the visual arts. It ranges from archival research to the elaboration of queer theory, from the analysis of constitutional law to questions of public health, from the study of identical twins to the study of popular culture.

Although the initial focus in lesbian, gay, bisexual, and transgender studies is usually on minority sexualities and genders, it is impossible to study them in any meaningful way without raising questions about sexuality and gender in general. And those questions cannot be responsibly answered without considering class, race, ethnicity, history, political economy, and the construction of scientific knowledge. Thus lesbian, gay, bisexual, and transgender studies, which may at first seem to concern the private practices of a small number of people, inevitably leads to the much larger study of sexuality, gender, and culture. It represents an important vantage point from which to investigate the social construction of gender and sexual identity, social control of behavior, changing definitions of the family, and the place of sexual and gender expression in the public and private spheres. Because of the kinds of questions asked, lesbian, gay, bisexual, and transgender studies is the site of some of the most exciting work being done today on the relation of culture, gender, and sexuality.

UCLA’s minor in Lesbian, Gay, Bisexual, and Transgender Studies provides the opportunity to study sexuality from a variety of interdisciplinary perspectives. Interdisciplinarity is assured by requiring students to take at least one course each in the life sciences, social sci-
ences, and humanities. In addition, seniors in the minor are expected to do an internship in a community organization, thereby acquiring a kind of knowledge not usually available in the classroom. After completing the minor, students should be familiar with the theoretical tools that different disciplines employ to study sexuality and gender. They should be acquainted with some of the many different ways sexuality and gender have been organized in the past and are organized in different cultures in the present and should have an enhanced understanding and appreciation both of the sexual and gender diversity of the world in which they live and of the complex ways in which sexuality and gender intersect with other categories of identity and practice.

Undergraduate Study

Lesbian, Gay, Bisexual, and Transgender Studies Minor

To enter the Lesbian, Gay, Bisexual, and Transgender Studies minor, students must have an overall grade-point average of 2.0 or better.

Required Upper Division Courses (32 units): Lesbian, Gay, Bisexual, and Transgender Studies M114, 195, and six additional courses, including at least one each in the humanities, life sciences, and social sciences, to be selected from the approved list of courses available in the program office each term. Students may petition to apply a related course not on the list toward the six-course requirement if they can show that lesbian, gay, bisexual, or transgender issues represent a significant part of the course content. Students are strongly urged to keep in close contact with advisers in the program office who can help them plan their course of study.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Lesbian, Gay, Bisexual, and Transgender Studies

Upper Division Courses


M101C. Special Topics in Lesbian and Gay Literature. (5) (Formerly numbered M197D.) (Same as English M101C and Women's Studies M101C.) Lecture, four hours. Enforced requisite: English Composition 3 or 3H. Variable specialized studies course in lesbian and gay literature. Topics focus on particular problem or issue in terms of its relationship to lesbian and gay culture and writing. May be repeated for credit. P/NP or letter grading.

M114. Introduction to Lesbian, Gay, Bisexual, and Transgender Studies. (5) (Same as Women's Studies M114.) Lecture, three hours; discussion, one hour. Introduction to history, politics, culture, and scientific study of lesbian, gay, and/or bisexual people; examination of sexuality and gender as categories for investigation; interdisciplinary theories and research on minority sexualities and genders. P/NP or letter grading.

M115. Topics in Study of Sexual and Gender Orientation. (4) (Same as Women's Studies M115.) Lecture/discussion, three hours. Requisite: course M114 or Women's Studies 10. Survey of arts, humanities, social sciences, and life sciences on aspects of sexual orientation, gender identity, and lesbian, gay, and/or bisexual issues; variable topics may include cultural representations, historical and political change, life and health experiences, and queer or transgender theories; multiethnic and cross-cultural emphases. May be repeated for credit. Letter grading.


M118. Queering American History. (4) (Same as Women's Studies M118.) Lecture, four hours. History of sexual and gender minorities in the U.S. Topics include changing norms, romantic friendships, medical discourse, liberation politics, post-Stonewall culture, AIDS, transgender movement, queer theory and politics. P/NP or letter grading.

M133. Chicana Lesbian Literature. (4) (Same as Chicana and Chicano Studies M133 and Women's Studies M133.) Lecture, three hours. Exploration of intersection of radical First and Third World feminist politics, lesbian sexuality and its relationship to Chicana identity, representation of lesbianism in Chicana literature, meaning of famila in Chicana lesbian lives, and impact of Chicana lesbian theory on Chicana Chicano studies. Letter grading.

M134. Cultural Construction of Gender and Sexuality: Homosexualities. (4) (Same as Anthropology M134 and Honors Collegium M129.) Seminar, three hours. Comparative analysis of role of environment, history, and culture in structuring of patterns of same-sex erotic behavior in Asia, Africa, Middle East, Pacific, Caribbean, and aboriginal America. P/NP or letter grading.

M137. Gay and Lesbian Perspectives in Pop Music. (5) (Same as Music History M137.) Lecture, four hours; discussion, one hour. Survey of English-language popular music in the 20th century, with focus on lesbians, gay men, and members of other sexual minorities as creators, performers, and audience members. Letter grading.

M147A. Psychology of Lesbian Experience. (4) (Same as Psychology M147A and Women's Studies M147A.) Lecture, two hours; discussion, one hour. Requisite: course M114 or Psychology 10 or Women's Studies 10. Designed for seniors. Review of research and theory in psychology and women's studies to examine various aspects of lesbian experience with emphasis on interactions of heterosexism/misogyny, gender role socialization, minority status of women and lesbians, identity development within a multicultural society, changes in psychological theories about lesbians in sociohistorical context. P/NP or letter grading.

150. Speaking Out: Public Speaking on Lesbian, Gay, Bisexual, and Transgender Issues. (1) Lecture, two hours. Interdisciplinary course designed to teach leadership and public speaking skills on lesbian, gay, bisexual, and transgender issues. May be repeated for credit. P/NP or letter grading.

M167. Contested Sexualities. (4) (Same as Sociology M167 and Women's Studies M167.) Lecture, three hours. Topics include changing norms, focal points in feminist theories on formation, control, and resistance of lesbian, gay, bisexual, and transgendered people. Variable topics include identity and community; age, class, gender, and race; political diversity; and analysis of contemporary issues affecting contested sexualities. Letter grading.

187. Selected Topics in Lesbian, Gay, Bisexual, and Transgender Studies. (4) (Formerly numbered M187.) Lecture, four hours; discussion, three hours. Study of selected topics in lesbian, gay, bisexual, and transgender studies. Consult Schedule of Classes for topics and instructors. May be repeated for credit with consent of instructor. P/NP or letter grading.

194. Research Group or Internship Seminars: Lesbian, Gay, Bisexual, and Transgender Studies. (2 to 4) (Formerly numbered M194.) Tutorial, one hour. Preparation: completion of four courses toward minor. Requisite: course M114. Corequisite: course 195. Designed for seniors who are doing internship in lesbian, gay, bisexual, or transgender organization. Discussion of organization theoretical and political issues in context of internship and relation of those issues to ideas explored in minor courses already taken. P/NP grading.

195. Community or Corporate Internship in Lesbian, Gay, Bisexual, and Transgender Studies. (4) (Formerly numbered M195.) Tutorial, one hour. Preparation: completion of four courses toward minor. Requisite: course M114. Corequisite: course 194. Limited to seniors. Internship in supervised setting in lesbian, gay, bisexual, or transgender community organization. Students meet on regular basis with instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. P/NP or letter grading.

197. Individual Studies in Lesbian, Gay, Bisexual, and Transgender Studies. (2 to 4) (Formerly numbered M197.) Tutorial, one hour. Requisite: course M114. Limited to juniors/seniors. Directed program of independent study or research on specific topic within lesbian, gay, bisexual, and transgender studies, with scheduled meetings to be arranged between faculty member and student. Tangible evidence of mastery of subject material required. Individual contract required. P/NP or letter grading.

LIFE SCIENCES

College of Letters and Sciences

UCLA

2305 Life Sciences
Box 951606
Los Angeles, CA 90095-1606
(310) 825-6614
http://www.iscore.ucla.edu
Scope and Objectives
Students who wish to study life sciences have a choice of 10 majors, all of which lead to a Bachelor of Science degree: Biology, Ecological Behavior, and Evolution, Marine Biology, and Plant Biology (Ecology and Evolutionary Biology Department), Microbiology, Immunology, and Molecular Genetics (Microbiology, Immunology, and Molecular Genetics Department), Molecular Cell and Developmental Biology and Plant Biotechnology (Molecular Cell and Developmental Biology Department), Neuroscience (Neuroscience Interdepartmental Program), Physiological Science (Physiological Science Department), and Psychology (Psychology Department). This choice reflects the diversity of undergraduate instruction in life sciences at UCLA. Despite this diversity, all of these majors require a common core of introductory courses that forms the foundation for any study of life sciences and that is required for more advanced courses in each major. The common core includes courses in chemistry, physics, and mathematics, as well as introductory courses in evolution and biodiversity, cellular and organismal biology, molecular biology, and genetics. During the first two years, students may also gain experience in a research laboratory through the Student Research Program. For more information on each major, see the individual departmental listings in this section of the catalog. For additional information on the life sciences core curriculum, see http://www.lscore.ucla.edu.

Students considering one of the life sciences majors are encouraged to declare a major as early as possible, even in their first year. In this way, they are identified by the life sciences advising offices and receive important curricular and other information. Because the core curriculum prepares them for any of the 10 majors, they have the flexibility to switch to another life sciences major at any time during their progression through the core curriculum. Note: The Marine Biology and Psychobiology majors may require some courses in addition to the life sciences core curriculum as part of the preparation. Consult the course requirements for both majors.

Undergraduate Study
Life Sciences Core Curriculum
Required: Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade of D or F in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

Transfer Students
Transfer applicants with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

Undergraduate Research Consortium in Functional Genomics
The Undergraduate Research Consortium in Functional Genomics (URCFG) offers a sequence of laboratory-intensive courses designed for undergraduate students committed to pursuing research. The innovative partnership between UCLA and the Howard Hughes Medical Institute (HHMI) was formed through a major award to Professor Utpal Banerjee. The HHMI Professors Program seeks to engage leading scientists in transmitting the excitement and values of scientific research to undergraduates. The goal of the URCFG is to emphasize the importance for aca
demia and industry of research in the fields of medicine and biotechnology.

Sponsored by the Life Sciences Core, the URCFG provides undergraduates from any UCLA major with the opportunity to learn biological research techniques early in their educational careers and within a structured institutional environment. Undergraduates devote between one and four terms to the study of biological research in genetics, bioinformatics, and functional genomics. The training emphasizes research concepts in basic science such as the model organism and in advance research techniques such as electron microscopy.

Students participate in one structured lower division course — Life Sciences 10H — which is limited to 30 students per term and is offered every term. After satisfactorily completing course 10H and with instructor consent, students may participate in up to three terms of upper division research in genetics, bioinformatics, and genomics. The upper division courses — Life Sciences 100HA, 100HB, 100HC — do not involve preexisting laboratory experiments. Syllabi for the courses are instead based on individual research projects whose outcomes students discover through the course of their studies. It is anticipated that only about one third of the students who complete course 10H will subsequently enroll in course 100HA, and students are advised that they can benefit significantly from course 10H alone.

Each course must be taken for a letter grade. Under special circumstances, one course may be waived for students who have prior research experience in fields covered by the courses. Students who complete the required courses receive a certificate of merit indicating their completion of the consortium.

To participate, students must be accepted into the Undergraduate Research Consortium in Functional Genomics. Interested students should contact the URCFG coordinator in the Molecular Cell and Developmental Biology Student Affairs Office, 2128 Life Sciences, (310) 825-7109, for information regarding admission and an application. Applications are due no later than Friday of the fourth week of the term prior to the term in which students plan to enroll in course 10H.

Life Sciences
Lower Division Courses
1. Evolution, Ecology, and Biodiversity. (5) Lecture, three hours; laboratory, two hours; one field trip. Introduction to principles and mechanisms of evolution by natural selection; population, behavioral, and community ecology; and biodiversity, including major taxa and their evolutionary, ecological, and physiological relationships. P/NP or letter grading.

2. Cells, Tissues, and Organs. (5) Lecture, three hours; discussion/laboratory, three hours (alternate weeks). Enforced requisite: Chemistry 14A or 20A. Introduction to basic principles of cell structure, organization of cells into tissues and organs, and principles of organ systems. Letter grading.

3. Introduction to Molecular Biology. (5) Lecture, three hours; discussion/laboratory, three hours (alternate weeks). Enforced requisites: course 2, and Chemistry 14C or 30A. Introduction to basic principles of biochemistry and molecular biology. Letter grading.

4. Introduction to Molecular Biology (Honors). (5) Lecture, two and one-half hours; discussion, 90 minutes; movie section, two and one-half hours. Enforced requisites: course 2, and Chemistry 14C or 30A. Honors course parallel to course 3, but at a more advanced level. Letter grading.


5A. Biomedical Research: Concepts and Strategies. (4) Lecture, three hours. Designed for freshmen/sophomores. Exploration of scientific concepts and experimental approaches through seminars by UCLA faculty members on their cutting-edge research. Topics may include areas of study such as cancer, stem cells, and infectious disease, as well as more basic research in cell and molecular biology. Letter grading.

5B. Biomedical Research: Essential Skills and Concepts. (4) Lecture, three hours; discussion, one hour. Requisite: course 5A. Designed for freshmen/sophomores. Exploration of scientific concepts and experimental approaches through seminars by UCLA faculty members on their cutting-edge research. Topics may include areas of study such as cancer, stem cells, and infectious disease, as well as more basic research in cell and molecular biology. Student investigation of one or more laboratories on campus and presentation of brief synopsis of single research project from one laboratory. Letter grading.
10H. Research Training in Genes, Genetics, and Genomics. (6) Lecture, 90 minutes; laboratory, six hours; corequisite laboratory, 90 minutes. Limited to 30 students. Basic training in biological research, including techniques in genetics, model organism, bioinformatics, functional genomics, electron microscopy. Part of Undergraduate Research Consortium in Functional Genomics sponsored by Howard Hughes Medical Institute Professors Program. Letter grading.

15. Life: Concepts and Issues. (5) Lecture, three hours; discussion, two hours. Introduction to important concepts and issues in the field for non-science majors. Topics include chemistry of life, genetics, physiology, evolution, and ecology — all explored in lecture and debates, with a writing component. P/NP or letter grading.

71SL. Classroom Practices in Elementary School Science. (2) Seminar, 90 minutes; fieldwork, three hours. Introduction for prospective science teachers to field of elementary education and teaching and learning of science in elementary school classrooms. Pairs of students are placed in local elementary school classrooms to observe, participate, and assist mentor teachers in instruction. Discussion regarding teaching practices in elementary school, classroom management, and learning assessment. P/NP or letter grading.

72SL. Classroom Practices in Middle School Science. (2) Seminar, 90 minutes; fieldwork, three hours. Enforced prerequisite: course 71SL. Introduction for prospective science teachers to field of secondary education and teaching and learning of science in middle school classrooms. Pairs of students are placed in middle school classrooms to observe, participate, and assist mentor teachers in instruction. Discussion of learning in middle school culture, cognitive development of students at this level, and best means to teach appropriate science concepts at this level. P/NP grading.

97. Variable Topics in Life Sciences. (1 to 4) Seminar, two to four hours. Current issues in research and/or development in life sciences. Consult Schedule of Classes for topics and instructors. May be repeated once for credit with consent of instructor. P/NP or letter grading.

98X. PEERS Collaborative Learning Workshops for Life Sciences Majors. (1 Laboratory, three hours. Corequisite, associated undergraduate lecture course in life sciences. Development of intuition and problem-solving skills in collaborative learning environment. May be repeated three times, but only 1 unit may be applied toward graduation. P/NP grading.

Upper Division Courses

100HA-100HB-100HC. Advanced Research in Genes, Genetics, and Genomics. (4-4-4) Lecture, two hours; laboratory, 10 hours. Requisite: course 10H. Corequisite: associated undergraduate lecture course in life sciences. Requisite: 100HC. Designed for undergraduates who are committed to pursuing research. Advanced research training in genetics, cell and developmental biology, bioinformatics, functional genomics. Techniques include electron microscopy, other light microscopies, immunohistochemistry. Part of Undergraduate Research Consortium in Functional Genomics sponsored by Howard Hughes Medical Institute Professors Program. Letter grading.

130. Science Classroom Observation and Participation. (1 to 2) Seminar, one hour; classroom observation and participation, two hours. Preparation: completion of three mathematics and/or science courses at level required of science majors. Observation, participation, and assisting in science classes at elementary, middle, and secondary schools, offered for 1 unit or 2 units (project required). May be repeated for credit. P/NP grading.

187A-187B-187C. Research Experience in Life Sciences. (4-4-4) Seminar, three hours; laboratory, six hours. Requisite: course 3. Course 187A is requisite to 187B, which is requisite to 187C. Students work together as research group to analyze and sequence DNA as part of microbial genome sequencing project. May not be repeated for credit. Letter grading.

192A. Undergraduate Practicum in Life Sciences. (4) (Formerly numbered 194.) Seminar, two hours. Requisite: course 2 or 3. Training and supervised practicum in laboratory setting for advanced undergraduate students in courses related to life sciences. Students work on oral presentation skills and assist in preparation and presentation of materials and development of programs under guidance of faculty members. May be repeated once for credit. Letter grading.

192B. Undergraduate Practicum in Life Sciences. (4) Seminar, two hours. Requisite: course 2 or 3. Limited to sophomores/juniors/seniors. Training and supervised practicum for advanced undergraduate students in courses related to life sciences. Students work on oral presentation skills and assist in preparation and presentation of materials and development of programs under guidance of faculty members. Letter grading.

193H. Journal Club Seminars: Current Topics in Life Sciences. (2) Seminar, two hours. Limited to Biomedical Research minor students. Presentation and discussion of recent papers from primary literature in biosciences. Letter grading.

194H. Research Group Seminars: Data Presentation in Life Sciences. (2) Seminar, two hours. Requisite: course 193H. Limited to Biomedical Research minor students. Preparation of oral presentations based on student laboratory research at UCLA. May be repeated for credit. Letter grading.

Graduate Course

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. SU/graded.

Scope and Objectives

The goal of linguistics is the enrichment of knowledge about the nature, grammar, and history of human language. Linguistics is a theoretical discipline, akin to philosophy, anthropology, and cognitive psychology. It is important for prospective students to understand that studying linguistics is not a matter of learning to speak many languages. Linguistics courses draw examples from the grammars of a wide variety of languages, and the more languages linguists know about in depth (as distinct from possessing fluency in the use of them), the more likely they are to discover universal properties. It is also possible to pursue these universal aspects of human language through the intensive in-depth study of a single language. This accounts for the high proportion of examples from European languages found in linguistics courses and research publications.

The core areas of linguistic theory are phonology (with its roots in phonetics), morphology, syntax, and semantics. A grammar is a system of rules that characterize the phonology, morphology, syntax, and semantics of a natural language. The properties of grammars are the central focus of linguistic theory.

Because language is central to all humanistic disciplines, as well as to several social science areas, it is studied from many points of view. Linguistics itself cannot be said to recognize a single optimal approach to the subject. Hence, the courses provide a variety of approaches which reflect the diversity of the field.

The Linguistics Department has consistently been ranked among the very best linguistics departments in the country. It offers programs leading to the Bachelor of Arts, Master of Arts, and Ph.D. degrees.

Undergraduate Study

The majors described below are of three types: (1) a major that concentrates entirely on general linguistics, (2) several majors that combine the basic courses of the general program with a language concentration or other related fields, and (3) a major that concentrates entirely on an African language area. The com-
bined majors in conjunction with instructional certification programs are especially appropriate for students who have nonuniversity teaching careers as goals, and the African major is for students with specific African interests.

A 2.0 grade-point average in linguistics courses is required for all Linguistics Department majors.

**Linguistics B.A.**

The B.A. degree program is designed for students with an exceptional interest in and aptitude for the study of languages and linguistics. It enables undergraduates to gain substantial familiarity with several languages and types of linguistic structure and to become conversant with the historical study of language and formal theories of linguistics.

**Preparation for the Major**

*Required:* Linguistics 20; two of the following: Philosophy 31, Psychology 10 or 100A, one cultural anthropology course; completion of the equivalent of the sixth term of one foreign language and the third term of a second foreign language.

Students who complete an advanced language course are considered to have completed the equivalent of whatever courses are requisite to that one (e.g., if students complete French 100, they have automatically satisfied the requirement of the sixth term of work in one language). Students are required to complete at least the equivalent of the third term in a language other than those in the Romance, Slavic, or Germanic families. This requirement may be satisfied either as part of or in addition to the language requirement described in the preceding paragraph.

**Transfer Students**

Transfer applicants to the Linguistics major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one introduction to linguistics course, two courses from symbolic logic, introductory psychology or psychological statistics, or cultural anthropology, and two years of one foreign language and one year of a second foreign language (at least one year must be in a language other than those in the Romance, Slavic, or Germanic families).

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

*Required:* Eleven upper division courses as follows: Linguistics 103, 110, 120A, 120B, 165A or 165B (or 200A or 200B with a grade of A in 120A or 120B respectively and consent of instructor), one upper division elective in linguistics; for the classical Japanese track: Japanese 100A, 100B, CM122, 140A, 140B, 140C, 140D, 140E, 141; for the modern Japanese track: Japanese 100A, 100B, 100C, M120, CM122, CM123 or CM127, 130B; for the modern Chinese track: Chinese 110A, 110B, 110C, four courses from 140A, 140B, 140C, 140D, 165, 170, 187; for the modern Chinese track: Chinese 100A, 100B, 100C, 101A, 101B, 130A, 130B; for the Korean track: Korean 100A, 100B, 100C, CM120, three courses from 101A, 101B, 101C, CM127, 130A, 130B.

**Linguistics and Asian Languages and Cultures B.A.**

**Preparation for the Major**

*Required:* Completion of the sixth term in either Chinese, Japanese, or Korean; Linguistics 20; one cultural anthropology course; either Chinese 50, Japanese 50, or Korean 50, as appropriate; completion of the equivalent of the third term of a second foreign language.

**Transfer Students**

Transfer applicants to the Linguistics and Asian Languages and Cultures major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of either Chinese, Japanese, or Korean, one introduction to linguistics course, one cultural anthropology course, one Chinese, Japanese, or Korean civilization course, and one year of a second foreign language.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**


**Linguistics and Computer Science B.A.**

**Preparation for the Major**

*Required:* Linguistics 20, Mathematics 31A, 31B, Philosophy 31, Program in Computing 10A, 10B, 10C, 30, completion of the sixth term in one foreign language or the third term in each of two foreign languages. Mathematics 61 is recommended.

**Transfer Students**

Transfer applicants to the Linguistics and Computer Science major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one introduction to linguistics course, two calculus courses, one symbolic logic course, four computer programming courses, and two years of one foreign language or one year in each of two foreign languages. One discrete structures course is recommended.
Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

**Required:** Twelve upper division courses as follows: Linguistics 103, 110, 120A, 120B, 165A or 165B (or 200A or 200B with a grade of A in 120A or 120B respectively and consent of instructor), one upper division elective in linguistics, French, Latin, Italian, and one elective upper division French literature course.

**Linguistics and English B.A.**

**Preparation for the Major**

**Required:** Linguistics 20, English 4W or 4HW, 10A, 10B, 10C, Philosophy 31, completion of the equivalent of the sixth term of one foreign language and the third term of a second foreign language.

**Transfer Students**

Transfer applicants to the Linguistics and English major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one introduction to linguistics course, one critical reading and writing course, one year of English literature survey courses, one symbolic logic course, and two years of one foreign language and one year of a second foreign language.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

**Required:** Twelve upper division courses as follows: Linguistics 103, 110, 120A, 120B, 165A or 165B (or 200A or 200B with a grade of A in 120A or 120B respectively and consent of instructor), one upper division elective in linguistics, one cultural anthropology course, and one cultural anthropology course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**Linguistics and Italian B.A.**

**Preparation for the Major**

**Required:** Linguistics 20, Italian 1, 2, 3, 4, 5, 6, Latin 1, 2, 3, one cultural anthropology course.

**Transfer Students**

Transfer applicants to the Linguistics and Italian major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of Italian, one year of Latin, one introduction to linguistics course, and one cultural anthropology course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

**Required:** Twelve upper division courses as follows: Linguistics 103, 110, 120A, 120B, 165A or 165B (or 200A or 200B with a grade of A in 120A or 120B respectively and consent of instructor), two upper division electives in linguistics, Italian 102A, 180, and three upper division electives in Italian.

**Linguistics and Philosophy B.A.**

**Preparation for the Major**

**Required:** Linguistics 20, Philosophy 31, 32, and two courses from 1, 6, 7, 21, completion of the equivalent of the sixth term of one foreign language and the third term of a second foreign language.

**Transfer Students**

Transfer applicants to the Linguistics and Philosophy major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one introduction to linguistics course, one symbolic logic course and two courses from Western philosophy, political philosophy, philosophy of mind, or skepticism and rationality, and two years of one foreign language and one year of a second foreign language.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

**Required:** Thirteen upper division courses as follows: Linguistics 103, 120A, 120B, 165B (or 200B with a grade of A in 120B and consent of instructor), two upper division electives in linguistics; six upper division courses in philosophy, including at least five from Philosophy 124 through 135, 170, 172, 174, 180, 181, 184, of which at least two must be from 127A, 127B, 172.

**Linguistics and Psychology B.A.**

**Preparation for the Major**

**Required:** Linguistics 20, Psychology 10, 85, 100A, 100B, completion of the equivalent of the sixth term of one foreign language and the third term of a second foreign language. Program in Computing 10A is strongly recommended.

**Transfer Students**

Transfer applicants to the Linguistics and Psychology major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one introduction to linguistics course, one introduction to psychology course, one introduction to cognitive science course, one psychological statistics course, one psychology research methods course, and two years of one foreign language and one year of a second foreign language. One introduction to programming course is strongly recommended.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

**Required:** Eleven upper division courses (six in linguistics and five in psychology) as follows: Linguistics 103, 120A, 120B, 130, 132, and one upper division elective in linguistics (multiple-listed courses may not be applied). Linguistics C135 or 165A or 165B (or 200A or 200B with a grade of A in 120A or 120B respectively and consent of instructor) is strongly recommended. Also required are Psychology 120A, 121, 133B, and two electives to be selected from 115, 116, M117C, 118, M119L, 124A, 124B, 124C, 124E, 130, 133C, 133E, 133F, 186A, 186B.

**Linguistics and Scandinavian Languages B.A.**

**Preparation for the Major**

**Required:** Linguistics 20, Scandinavian 1, 2, 3, 4, and 5, or 11, 12, 13, 14, and 15, or 21, 22, 23, 24, and 25, completion of the equivalent of the third term of a second foreign language.

**Transfer Students**

Transfer applicants to the Linguistics and Scandinavian Languages major with 90 or
more units must complete as many of the fol-
lowing introductory courses as possible prior to
admission to UCLA: two years of either Swed-
ish, Norwegian, or Danish, one introduction to
linguistics course, and one year of a second
foreign language.

Refer to the UCLA Transfer Admission Guide
at http://www.admissions.ucla.edu/prospect/
adm_tr.htm for up-to-date information regarding
transfer selection for admission.

The Major

Required: Eleven upper division courses as fol-
lows: Linguistics 103, 110, 120A, 120B, 165A
or 165B (or 200A or 200B with a grade of A in
120A or 120B respectively and consent of in-
structor), one upper division elective in linguis-
tics, two courses from Scandinavian 105, 110,
115 (or one of these courses twice), 197 (in a
topic related to Scandinavian linguistics, under
the direction of a Scandinavian or Linguistics
faculty member), and three upper division elec-
tives in Scandinavian.

Linguistics and Spanish

B.A.

Preparation for the Major

Required: Linguistics 20, Spanish 1, 2, 3, 4, 5,
6, 25 or 27, M42, M44, completion of the
equivalent of the third term of a second foreign
language.

Transfer Students

Transfer applicants to the Linguistics and Span-
ish major with 90 or more units must com-
plete as many of the following introductory
courses as possible prior to admission to
UCLA: two years of Spanish, one Spanish com-
position course, one Spanish civilization
course, one Spanish American civilization
course, one introduction to linguistics course,
and one year of a second foreign language.

Refer to the UCLA Transfer Admission Guide
at http://www.admissions.ucla.edu/prospect/
adm_tr.htm for up-to-date information regarding
transfer selection for admission.

The Major

Required: Twelve upper division courses as fol-
lows: Linguistics 103, 110, 120A, 120B, 165A
or 165B (or 200A or 200B with a grade of A in
120A or 120B respectively and consent of in-
structor), one additional upper division Spanish
M118A, two courses from 119A, 119B, 119C,
in linguistics, Spanish 100A, 100B, 115 or
M118A, two courses from 119A, 119B, 119C,
and one additional upper division Spanish
course.

African Languages B.A.

Preparation for the Major

Required: Linguistics 20, nine courses from Af-
crian Languages 1A through 42C and 197 (six
in one language and three in another).

Transfer Students

Transfer applicants to the African Languages
major with 90 or more units must complete as
many of the following introductory courses as
possible prior to admission to UCLA: one intro-
duction to linguistics course and two years of
one language and one year of one other lan-
guage.

Refer to the UCLA Transfer Admission Guide
at http://www.admissions.ucla.edu/prospect/
adm_tr.htm for up-to-date information regarding
transfer selection for admission.

The Major

Required: A minimum of 13 upper division
courses, including three courses in an African
language; African Languages M187, Linguis-
tics 103; two courses from Film and Television
106C, French 121, Theater 102E, World Arts
and Cultures 134, or one or more special 4-
unit African Languages 197 tutorials focusing
on literature in an African language; three
courses from English 114, Ethnomusicology
C136A, C136B, History 121A, 121B, 121C,
122A, 122B, 123A, 123B, 124A, 124B, Linguis-
tics 110, 120A, 120B or 127, C140, M146, 170,
Political Science 151A, 151B, 151C. Linguis-
tics 165A or 165B (or 200A or 200B with a grade
of A in 120A or 120B respectively and consent of instructor) and completion of the
sixth term in one of the following non-African
languages are strongly recommended: Afri-
kaans, Arabic, Dutch, French, German, Portu-
guese.

Honors Program

Honors in linguistics are awarded at graduation
to those students who have a grade-point aver-
age of 3.6 or better in their junior and senior years and who have received a grade of A in
Linguistics 198A and 198B or in 199. Qualified
students may be proposed by any member of
the faculty to the faculty as a whole for the
award of highest honors on the basis of a piece
of research in linguistics completed at UCLA.

Computing Specialization

Students in any of the linguistics majors (ex-
cept Linguistics and Computer Science) may
select a specialization in Computing by (1) sat-
fisfying all the requirements for a bachelor's de-
gree in the specified major and (2) completing
Program in Computing 10A, 10B, 10C, 60, Lin-
guistics C180, 185A. Students graduate with a
bachelor's degree in their major and a special-
zation in Computing.

Linguistics Minor

The Linguistics minor is designed for students
where training in linguistic analysis could be an
enhancement to their major programs and to
students who are interested in language(s) but
do not have time in their undergraduate pro-
rgrams to pursue multiquarter language se-
quences. In addition, the minor provides stu-
dents with a way to design "custom" joint de-
grees with linguistics where the Linguistics
Department does not have an existing joint de-
gree program combining linguistics and an-
other field.

To enter the minor, students must have an
overall grade-point average of 2.0 or better.

Required Lower Division Course (5 units): Lin-
guistics 20.

Required Upper Division Courses (27 to 30
units): Six courses, which must include Lin-
guistics 103, 120A, 120B, two elective courses
selected from 104 through 185B, and an addi-
tional elective linguistics course, which may be
upper or lower division.

All minor courses must be taken for a letter
grade, with an overall grade-point average of
2.0 or better. Successful completion of the mi-
nor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are de-
tailed in Program Requirements for UCLA
Graduate Degrees; available at the Graduate
Division website, http://www.gdn.net/ucla/ 
gasa/library/pgmrqintro.htm. In many cases,
more detailed guidelines may be outlined in
announcements, other publications, and web-
sites of the schools, departments, and pro-
grams.

Graduate Degrees

The Department of Linguistics offers Master of
Arts (M.A.) and Doctor of Philosophy (Ph.D.)
degrees in Linguistics.

African Languages

Lower Division Courses

1A-1B-1C. Elementary Swahili. (4-4-4) Lecture,
five hours. Course 1A is enforced requisite to 1B, which is
enforced requisite to 1C. Major language of East Afri-
ca, particularly Tanzania. P/NP or letter grading.

2A-2B-2C. Intermediate Swahili. (4-4-4) Lecture,
four hours. Enforced requisite: course 1C. Course 2A
is enforced requisite to 2B, which is enforced requisite
2C. P/NP or letter grading.

4. Conversational Swahili. (1) Seminar, one hour.
Practice in Swahili conversation on general
interest, including east African current events, for
Swahili students at intermediate level. May be repeat-
ed for credit. P/NP grading.

7A-7B-7C. Elementary Zulu. (4-4-4) Lecture,
five hours. Course 7A is enforced requisite to 7B, which is
enforced requisite to 7C. Most widely spoken of the
Nguni languages of South Africa, mutually intelligible
with other members of this group. P/NP or letter grad-
ing.

8A-8B-8C. Intermediate Zulu. (4-4-4) Lecture,
four hours. Enforced requisite: course 7C. Course 8A is
enforced requisite to 8B, which is enforced requisite
8C. P/NP or letter grading.

11A-11B-11C. Elementary Yoruba. (4-4-4) Lecture,
five hours. Course 11A is enforced requisite to 11B, which is
enforced requisite to 11C. Major language of western
Nigeria. P/NP or letter grading.

12A-12B-12C. Intermediate Yoruba. (4-4-4) Lec-
ture, four hours. Enforced requisite: course 11C. Course 12A
is enforced requisite to 12B, which is enforced requisite
12C. P/NP or letter grading.

15. Intensive Elementary Swahili. (12) Lecture, 20
hours (eight weeks). Intensive instruction (equivalent
to courses 1A, 1B, 1C) in Swahili, major language of
East Africa, particularly Tanzania. Letter grading.

17. **Intensive Elementary Zulu.** (12) Lecture, 20 hours (eight weeks). Intensive instruction (equivalent to courses 7A, 7B, 7C) in Zulu, most widely spoken of the Nguni languages of South Africa, mutually intelligible with other members of this group. Letter grading.

18. **Intensive Intermediate Zulu.** (12) Lecture, 20 hours (eight weeks). Enforced requisite: course 7C or 17. Intensive instruction (equivalent to courses 8A, 8B, 8C) in Zulu, most widely spoken of the Nguni languages of South Africa, mutually intelligible with other members of this group. Letter grading.


31A-31B-31C. **Elementary Bambara.** (4-4-4) Lecture, five hours. Course 31A is enforced requisite to 31B, which is enforced requisite to 31C. Major language of Mali, also widely spoken in adjacent parts of Senegal (Maliene), Gambia, and other mutually intelligible dialects. P/NP or letter grading.

32A-32B-32C. **Intermediate Bambara.** (4-4-4) Lecture, four hours. Enforced requisite: course 31C. Course 32A is enforced requisite to 32B, which is enforced requisite to 32C. P/NP or letter grading.


41A-41B-41C. **Elementary Hausa.** (4-4-4) Lecture, five hours. Course 41A is enforced requisite to 41B, which is enforced requisite to 41C. Major language of northern Nigeria and adjacent areas. P/NP or letter grading.

42A-42B-42C. **Intermediate Hausa.** (4-4-4) Lecture, four hours. Enforced requisite: course 41C. Course 42A is enforced requisite to 42B, which is enforced requisite to 42C. P/NP or letter grading.


61A-61B-61C. **Elementary Wolof.** (4-4-4) Lecture, five hours. Course 61A is enforced requisite to 61B, which is enforced requisite to 61C. Major language of Senegambia. P/NP or letter grading.

62A-62B-62C. **Intermediate Wolof.** (4-4-4) Lecture, four hours. Enforced requisite 61C. Course 62A is enforced requisite to 62B, which is enforced requisite to 62C. P/NP or letter grading.

75. **Intensive Elementary Chichewa.** (12) Lecture, 20 hours. Intensive instruction in Chichewa (ChiNyanja), major language of Malawi and adjacent areas of Zimbabwe, Mozambique, Zambia, and Tanzania. Letter grading.


97. **Variable Topics in Elementary and Intermediate Studies in African Languages.** (1 to 6) Seminar, four hours; discussion. Discussion mainly in Yoruba. P/NP or letter grading.

103A-103B-103C. **Advanced Swahili.** (4-4-4) Lecture, four hours. Requisite: course 2C. Course 103A is requisite to 103B, which is requisite to 103C. Readings in Swahili literature and the contemporary press. Discussions mainly in Swahili. P/NP or letter grading.

109A-109B-109C. **Advanced Zulu.** (4-4-4) Lecture, five hours. Requisite: course 8C. Course 109A is requisite to 109B, which is requisite to 109C. Readings in Zulu literature and the contemporary press. Discussions mainly in Zulu. P/NP or letter grading.

123A-123B-123C. **Advanced Yoruba.** (4-4-4) Lecture, four hours. Requisite: course 12C. Course 123A is requisite to 123B, which is requisite to 123C. Readings in Yoruba literature and the contemporary press. Discussions mainly in Yoruba. P/NP or letter grading.

133A-133B-133C. **Advanced Bambara.** (4-4-4) Lecture, four hours. Requisite: course 32C. Course 133A is requisite to 133B, which is requisite to 133C. Readings in Bambara literature and the contemporary press. Discussions mainly in Bambara. P/NP or letter grading.

143A-143B-143C. **Advanced Hausa.** (4-4-4) Lecture, four hours. Requisite: course 42C. Course 143A is requisite to 143B, which is requisite to 143C. Readings in Hausa literature and the contemporary press. Discussions mainly in Hausa. P/NP or letter grading.

150A-150B. **African Literature in English Translation.** (4-4) Lecture, four hours. Narrative and didactic prose and poetry of sub-Saharan Africa and written prose and poetry of South Africa. P/NP or letter grading.

153A-153B-153C. **Advanced Amharic.** (4-4-4) Lecture, five hours (15 hours for intensive course). Requisite: course 52C. Course 153A is requisite to 153B, which is requisite to 153C. Readings in Amharic literature and the contemporary press. Discussions mainly in Amharic. P/NP (undergraduates), SU (graduates), or letter grading.

170. **South African Literatures and Cinema.** (4) Lecture/screenings, six hours. South African apartheid and postapartheid written literature and cinema, including lectures and discussion of written texts and films in English, P/NP or letter grading.

M187. **Survey of African Languages.** (4) Formerly numbered M190.) (Same as Linguistics M115.) Lecture, four hours. Requisite: Linguistics 20. Introduction to languages of Africa, their distribution and classification, and their phonological and grammatical structures; elementary practice in several languages. P/NP or letter grading.

Graduate Courses

202A-202B-202C. **Comparative Bantu.** (4-4-4) Lecture, four hours. Requisites: Linguistics 110, 165A, 165B. Recommended; three quarter courses in one Bantu language selected from 1A through 8C, 199. Investigation of relationships among the Bantu languages; extent and external relationships of Bantu. S/U or letter grading.

596. **Directed Studies.** (1 to 8) Tutorial, to be arranged. Directed individual study or research. Four units may be applied toward M.A. course requirements. May be repeated for credit. S/U grading.

**Linguistics**

**Lower Division Courses**

1. **Introduction to Study of Language.** (5) Lecture, three hours; discussion. Survey for general undergraduates, of what is known about human language; unique nature of human language, its structure, its universality, and its diversity; language in its social and cultural setting; language in relation to other aspects of human inquiry and knowledge. P/NP or letter grading.

2. **Language in the U.S.** (5) Lecture, four hours; discussion, one hour. Survey of languages of the U.S. (American Indian languages, oldest immigrant languages, ethnic and regional varieties of English, and newest arrivals) and social and political aspects of American language use. P/NP or letter grading.


4. **Language and Evolution.** (5) Lecture, four hours; discussion, one hour. Basic concepts and tools of evolutionary theory and linguistics relevant to how organizations of linguistic systems evolve, and how particular languages, as cultural artifacts, survive and change so rapidly. P/NP or letter grading.

5. **Languages of the World.** (5) Lecture, four hours; discussion, one hour. Introduction to linguistic diversity of world and to such core areas of linguistics as study of sound production and patterning (phonetics and phonology), word formation (morphology), and sentence formation (syntax). Structural characteristics of world’s languages and methods of classifying languages into families and types. Detailed discussion of representative languages with audiovisual illustrations to acquaint students with distinctive features of several of the world’s key language families. Discussion of such linguistic concepts as pidgins and creoles, unaffiliated languages, language contact, and language endangerment, together with related sociopolitical issues. P/NP or letter grading.
M10. Structure of English Words. (5) Same as English M40.) Lecture, four hours; discussion, one hour. Introduction to studies of words of classical and Continental origin, including most common base forms and rules by which alternate forms are derived. Students may expect to achieve substantial enrichment of their vocabulary while learning about etymology, semantic change, and the internal realizability of English word formation. P/NP or letter grading.

20. Introduction to Linguistics. (5) Lecture, four hours; discussion, one hour. Introduction to theory and methods of linguistics: universal properties of human language; phonetic, phonological, morphological, syntactic, and semantic structures and analysis; nature and form of grammar. P/NP or letter grading.

88A-88B. Lower Division Seminars. (4-4) Seminar, three hours. Limited to freshmen/sophomores. Variable topics; consult Schedule of Classes, College of Letters and Science, or department for topics to be offered in specific term. May be repeated for credit. P/NP or letter grading.

97. Variable Topics in Linguistics. (1 to 4) Seminar, three hours; fieldwork, two hours. Variable topics offered by departmental faculty members. May be repeated for credit with topic change. P/NP or letter grading.

Upper Division Courses

103. Introduction to General Phonetics. (5) Lecture, four hours; discussion, one hour. Enforced requisite: course 20. Phonetics of variety of languages and phonetic phenomena that occur in languages of the world. Emphasis on the nature of speech sounds, and phonetic mechanisms underlying such phenomena. P/NP or letter grading.


105. Morphology. (5) Lecture, four hours; discussion, one hour. Enforced requisite: course 20. In linguistics, morphology is study of word structure. Morphological theory seeks to answer questions such as how should words and their component parts (roots, prefixes, suffixes, vowel changes) be classified crosslinguistically? how do speakers store, produce, and process complex words (words with affixes, compounds)? how do speakers know how to produce correct word forms even when they have not previously heard them and how do speakers know that particular words are well-formed or ill-formed? is there principled distinction in traditional division between inflection and derivation? how does best account for variation in forms that are same (e.g., root in keep/kept even though vowels are different)? can we formulate crosslinguistic generalizations about word structure? P/NP or letter grading.

110. Introduction to Historical Linguistics. (5) Lecture, four hours; discussion, one hour. Requisites: courses 20, 103, 120A. Methods and theories appropriate to historical study of language, such as comparative method and method of internal reconstruction. Sound change, grammatical change, semantic change. P/NP or letter grading.

111. Intonation. (4) (Formerly numbered C111.) Lecture, two hours; laboratory, two hours. Requisites: courses 20, 103, 120A or 120B. Recommended: course 104 or 204. Survey of intonational theory for English and other languages, with particular emphasis on phonological realization of intonation. Laboratory equipment used for recording and analyzing intonation, and students learn to transcribe intonational elements. Letter grading.

114. American Indian Linguistics. (5) Lecture, four hours; discussion, one hour. Strongly recommended preparation: course 20. Survey of genetic, areal, and typological classifications of American Indian languages; writing systems for American Indian languages; American Indian linguistics in social and historical context. One or more languages may be investigated in detail. P/NP or letter grading.


120B. Syntax I. (5) Lecture, four hours; discussion, one hour. Requisite: course 20. Course 120A is not requisite to 120B. Descriptive analysis of morphological and syntactic structures in natural languages; emphasis on insight into nature of such structures rather than linguistics formalization. P/NP or letter grading.

125. Semantics. (4) Lecture, discussion, one hour. Requisite: course 120B. Survey of most important theoretical and descriptive claims about the nature of meaning. P/NP or letter grading.

127. Syntactic Typology and Universals. (5) Lecture, four hours; discussion, one hour. Requisite: course 20. Course 120A is not requisite to 120B. Study of essential similarities and differences among languages in grammatical devices they use to signal the following kinds of concepts: relations between nouns and verbs (case and word order), negation, comparison, existence/location/possession, causation, interrogaton, reflexivization, relativization, attribution (adjectives), tense and aspect, and backgrounding (subordination). Data from a range of languages presented and analyzed. P/NP or letter grading.

C128A-C128B. Romance Syntax. (French-4) Lecture, four hours. Preparation: some knowledge of French (or a Romance language). Requisite: course 120B. Course C128A is requisite to C128B. Aspects of structure of French language, with emphasis on properties of construction not found in English. Concurrently scheduled with courses CM260A-CM260B. P/NP or letter grading.

130. Language Development. (5) (Formerly numbered C130.) Lecture, four hours; discussion, one hour. Requisites: courses 120A, 120B. Survey of research and theoretical perspectives in language development. Topics include infant speech perception and production, development of phonology, morphology, syntax, and word meaning. P/NP or letter grading.

132. Language Processing. (5) (Formerly numbered C132.) Lecture, four hours; laboratory, one hour. Requisites: courses 20, 120A, 120B. Central issues in language comprehension and production, with emphasis on how theories in linguistics inform processing models. Topics include word understanding (with emphasis on spoken language), parsing, anaphora and inference, speech error models of sentence production, and computation of syntactic structure during production. Letter grading.

135. Neurolinguistics. (5) Lecture, four hours; discussion, one hour. Requisites: courses 20, 120A, 120B. Recommended requisite: course 120B. Examination of relationship between brain, language, and mind. Topics include infant speech perception and production, development of phonology, morphology, syntax, and word meaning. P/NP or letter grading.

140. Bilingualism and Second Language Acquisition. (5) Lecture, four hours; discussion, one hour. Requisites: courses 120A, 120B, 130. Introduction to theory and methods of second language learning: (1) child and adult second language (L2) acquisition, with focus on understanding nature of L2 grammar and grammatical processes underlying L2bilingual acquisition. Discussion of second-language acquisition of bilingualism. Concurrently scheduled with course C244. P/NP or letter grading.

146. Language in Culture. (5) Same as Anthropology 140.) Lecture, four hours; discussion, one hour. Requisites: courses 120A, 120B, 130. Focus on various aspects of human culture: kinship, family, social divisions, gender, work, leisure, art, etc. Letter grading.

M150. Introduction to Indo-European Linguistics. (5) (Same as Indo-European Studies M150.) Lecture, four hours. Recommended requisite: course 1 or 20. Indo-European languages (ancient and modern), including their relationships, characteristics, writing systems, and sociolinguistic contexts; nature of reconstructed Indo-European proto-language and proto-culture. One or more Indo-European languages may be investigated in detail. Letter grading.

160. Field Methods. (5) Lecture, four hours; individual or group sessions, one to two hours. Requisites: courses 103, 120A, 120B. Analysis of a language unknown to members of class from data elicited from a native speaker or teacher of the language. P/NP or letter grading.

165A. Phonology II. (5) Lecture, four hours; discussion, one hour. Requisite: course 120A (undergraduate with grade of A in course 120A may replace course 165A with 200A, with consent of instructor). Further study in phonological theory and analysis: autosegmental theory, syllable structure,metrical theory, interface of phonology and grammar. P/NP or letter grading.

165B. Syntax II. (5) Lecture, four hours; discussion, one hour. Requisite: course 120B. Recommended for students who plan to do graduate work in linguistics. Form of grammars, word formation, formal and substantive universals in syntax, relation between syntax and semantics. P/NP or letter grading.


175. Linguistic Change in English. (5) Lecture, four hours. Requisites: courses 110, 120A, 120B. Prerequisites: linguistic change. Analysis of linguistic change through detailed study of history of English pronunciation, lexicology, and syntax. P/NP or letter grading.


M176B. Structure of Japanese II. (4) (Same as Japanese CM132.) Lecture, three hours. Recommended preparation: at least two years of Japanese language study. Survey of Japanese language at three different levels of organization: (1) word level — word class, verbal morphology and semantics; (2) clause/sentence level — grammatical constructions; (3) discourse level — point of view, ellipsis, topicalization. Letter grading.

Graduate Courses

200A. Phonological Theory I. (4) Preparation: graduate linguistics student or grade of A in course 120A or equivalent course in phonology. Courses 200A and 201 form two-course survey of current research in phonological theory. Introduction to phonology with morphology and syntax, syllable structure, stress.

200B. Syntactic Theory I. (4) Preparation: graduate linguistics student or grade of A in course 120B or equivalent course in syntax. In-depth introduction to selected topics in theory of constituent structure and syntax of predicates, arguments, and grammatical relations. Topics include levels of representation, X-bar theory, case theory, thematic roles, case assignment, gramma- rical function-changing rules, head-complement relations.

200C. Semantic Theory I. (4) Lecture, four hours. Requisite: course C180 or C208. Overview of current research in formal semantics. Topics include generalized quantifiers and semantic universals, predicate argument structures, variable binding and pronounalization, formal semantic inter- pretation, syntax and LF; tense, ellipsis, and focus. Letter grading.

201. Phonological Theory II. (4) Requisite: course 200A. Second course in two-course survey of current research in phonological theory. Topics include autosegmentalism (tone, tiers, segment structure), feature theory, underspecification, prosodic morphology.


203. Phonetic Theory. (4) Requisite: course 120A. Preliminaries to speech analysis. Functional anatomy of vocal organs; fundamental principles of articu- lation, resonance, physical bases for language, language development, and other components of grammar, with particular emphasis on acquisition on phonetic processing; topics include models of intonation. Laboratory equipment used for recording and analyzing intonation, and students learn to transcribe intonational elements. Letter grading.

210A. Field Methods I. (4) Lecture, four hours. Preparation: grade of B or better in course 103 or in examination of practical proficiency. Requisites: courses 200A, 200B. Analysis of a language unknown to members of class from data elicited from a native speaker of the language. Term papers to be relatively full descriptive sketches of the language. May be re- peated for credit with topic change. S/U or letter grading.

210B. Field Methods II. (4) Lecture, four hours. Requisite: course 210A in preceding term. Because different languages are prerequisites, in different years, course 210B can only be taken as direct continuation of 210A in same year. When there are multiple sec- tions, continuation must be in same section. May be repeated for credit with topic change. S/U or letter grading.

211. Intonation. (Formerly numbered C211.) Lecture, two hours. Requisite: course 200A. Survey of intonation theory for English and other languages with particular emphasis on phonological and prosodic bases for intonation. Laboratory course. Letter grading.

212. Learnability Theory. (4) Requisite: course C180 or C208. Survey of some of most significant re- sults on capabilities of learners, given precise as- sumptions about their memory, time, and computa- tional power, and precise assumptions about informa- tion provided by the environment.

213A. Grammatical Development. (4) Requisites: courses 200A, 200B. Recommended: course 130 or 233. Survey of theoretical perspectives and contem- porary empirical research in development of syntax and other components of grammar, with particular emphasis on acquisition on theory, linguistic theory, and issues of learnability.


213C. Linguistic Processing. (4) Requisites: courses 165B and/or 200A. Recommended: courses 132 or 233. Survey of recent work on computational and contemporary empirical research in human process- ing of language (comprehension and/or production), with emphasis on syntactic processing, ambiguity resolution, effects of memory load, and relationship between grammar and processor.


215. Computational Linguistics I. (5) Formerly numbered C209A. Lecture, four hours; laboratory, one hour. Survey of recent work on natural language processing, including basic syntactic parsing strate- gies, with brief glimpses of semantic representation, reasoning, and response generation. S/U or letter grading.


198B. Honors Research in Linguistics II. (2) (Formerly numbered 198B.) Tutorial, to be arranged. Requisite: course 198A. Limited to juniors/seniors. Completion of honors thesis or comprehensive research project based on independent research under direct supervision of faculty member. Consultant professor in charge to enroll. Individual contract required. Letter grading.

199. Directed Research or Senior Project in Lin- guistics. (4) (Formerly numbered 199.) Tutorial, to be arranged. Limited to senior Linguistics majors. Super- vision of faculty member. Culminating paper required. Consult profes- sor in charge to enroll. Individual contract required. P/ NP or letter grading.

185A. Computational Linguistics I. (5) (Formerly numbered C185A.) Lecture, four hours; laboratory, one hour. Requisite: courses 120B, C180, Program in Computing 10B. Recommended: course 165B or 200B, Program in Computing 60. Survey of recent work on natural language processing, including basic syntactic parsing strategies, with brief glimpses of se- mantic representation, reasoning, and response gen- eration. P/NP or letter grading.

185B. Computational Linguistics II. (5) (Formerly numbered C185B.) Lecture, four hours; laboratory, one hour. Requisite: course C180. Extension of ba- sic language processing techniques to natural lan- guage processing. Recent models of syntactic, se- mantic, and discourse analysis, with particular atten- tion to their linguistic sophistication and psychological plausibility. P/NP or letter grading.

191. Variable Topics in Linguistics. (4) (Formerly numbered 191.) Seminar, three hours. Requisite: course 1 or 20. Research seminar on selected topics. Reading, discussion, and development of culminating project. May be repeated for credit with topic change. P/NP or letter grading.

191A. Variable Topics Research Seminars: Lin- guistics. (2 or 4) (Formerly numbered 191A.) Seminar, three hours. Requisite: course 1 or 20. Selected top- ics. Reading, discussion, and development of culmi- nating project. May be repeated for credit with topic change. P/NP or letter grading.

191B. Variable Topics Research Seminars: Lin- guistics. (2 or 4) Seminar, three hours. Selected top- ics. Reading, discussion, and development of culmi- nating project. May be repeated for credit with topic change. P/NP or letter grading.

197. Individual Studies in Linguistics. (2 to 4) (Formerly numbered 197.) Tutorial, four hours. Requi- site: course 1 or 20. Limited to juniors/seniors. Indi- vidual intensive study, with scheduled meetings to be arranged between faculty member and student. As- signed reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

198A. Honors Research in Linguistics I. (4) (For- merly numbered 198A.) Tutorial, to be arranged. Preparation: 3.5 grade-point average. Requisite or corequisite: course 165A (or 200A) or 165B (or 200B). Recommended: completion of both courses 165A and 165B (or 200A and 200B) before or during term in which course 198A is taken. Limited to jun- iors/seniors. Development of honors thesis or compre- hensive research project on linguistic topic select- ed by student under direct supervision of faculty member. Consultant professor in charge to enroll. Indi- vidual contract required. In Progress grading (credit to be given if satisfactory completion of course by student). May be repeated for credit. Letter grading.

198B. Honors Research in Linguistics II. (2) (For- merly numbered 198B.) Tutorial, to be arranged. Requisite: course 198A. Limited to juniors/seniors. Com- pletion of honors thesis or comprehensive research project based on independent research under direct supervi- sion of faculty member. Consultant professor in charge to enroll. Individual contract required. Letter grading.
214. Survey of Current Syntactic Theories. (4) Requisite: course 206. Survey of several current syntactic theories, compared with one another and with theory discussed in course 206, from point of view of theories’ relative descriptive and explanatory power.

215. Syntactic Typology. (4) Requisite: course 200B. Current results in word-order universals; genetic classification of the world’s languages; cross-linguistic properties of specific construction types, including relative clauses, passives, positive and negative coreference systems, agreement systems, deixis systems, and hypotactic-complement structures.

216. Syntactic Theory III. (4) Requisite: course 206. Selected topics on syntactic theories of anaphora and quantification from the following areas: typology of binding categories (pronouns, anaphors, etc.); theory of locality conditions in binding theory; parametric variation in binding; quantifier movement; existential quantification and unselective binding; strong and weak crossover; superiority; scope interactions; complex quantifier structures.

217. Experimental Phonology. (4) Lecture, four hours. Requisite: course 200A. Survey of experimental work that bears on claims about speakers’ knowledge of phonology, including theories of lexicon, relation between syntax and phonology, and universal markedness relations. Letter grading.

218. Mathematical Structures in Language II. (4) Lecture, four hours. Requisite: course C180 or C208. In-depth study of questions involving theories related to lexicalized primitive features from distinctive feature theory, formal syntax, partial orders and lattices, formal language theory, variable binding operators. May be repeated for credit with consent of instructor. S/U or letter grading.


220. Linguistic Areas. (4) Requisites: courses 120A, and 120B or 127. Recommended: courses 165A or 200A, 165B or 200B. Analysis and classification of languages spoken in a particular area (e.g., Africa, the Balkans, South Asia, Southeast Asia, Australia, Aboriginal North America, Aboriginal South America, Far East, etc.). May be repeated for credit with topical change.

221. Linguistic Structures. (4) Lecture, four hours. Requisites: courses 120A, and 120B or 127. Recommended: courses 165A or 165B or 200A, 200B. Phono- logical and grammatical structure of a selected language and its genetic relationships to others of its family. May be repeated for credit with topical change. S/U or letter grading.

CM228A-CM228B. Romance Syntax: French. (4-4) (Same as Romance Linguistics M204A-M204B.) Lecture, four hours. Preparation: some knowledge of French (or a Romance language). Requisite: course 120B. Course CM228A is requisite to CM228B. Aspects of structure of French language, with emphasis on properties of construction not found in English. Concurrently scheduled with courses C128A-C128B. S/U or letter grading.

230. History of Linguistics. (4) Requisites: courses 200A, 200B. Aspects of history of linguistics. Different course offerings may deal with different areas of linguistics (e.g., phonology, syntax) or with different historical periods. May be repeated for credit with topic change.

232. Language Processing. (5) Formerly numbered C232.) Lecture, four hours; laboratory, one hour. Centered on comprehension and production, with emphasis on how theories in linguistics inform processing models. Topics include word understanding (with emphasis on spoken language), parsing, speech generation, speech error models of sentence production, and computation of syntactic structure during production. S/U or letter grading.


23S. Neurolinguistics. (5) Lecture, four hours; discussion, one hour. Requisites: courses 1 or 20, and 130. Examination of relationship between brain, language, and linguistic theory, with evidence presented from atypical language development and language disorders in the neurologically intact. Topics include methods to investigate normal and atypical hemispheric specialization for language and children and adults with acquired and/or congenital language disorders. Concurrently scheduled with course C135. Graduate students expected to read more advanced neurolinguistic literature and produce research papers of greater depth. S/U or letter grading.

236. Computational Phonology. (4) Lecture, four hours. Introduction to computer models of phonology and phonological acquisition. Topics include finite state machines, probabilistic automata, over-constrained models, dynamic programming methods. Letter grading.

237. Linguistic Methods Laboratory. (4) Laboratory, four hours. Variable content, with topics such as computer implementation of linguistic models, corpus studies, experimental methods for linguistic data collection, statistical analysis of results. May be repeated for credit. Letter grading.

M238. Analyzing Historical Texts. (4) (Same as History M266C.) Seminar, four hours. Designed for graduate students. Analysis of linguistic structure and ethnohistorical context of legal and other documents written by native-speaking scribes and translators. Topics include paleographic technique and text analysis software. May be repeated for credit. S/U grading.

244. Bilingualism and Second Language Acquisition. (5) Lecture, four hours; discussion, one hour. Requisites: courses 120A, 120B, 130. Introduction to study of childhood bilingualism and adult and child second language (L2) acquisition, with focus on understanding of L2 grammar and grammatical processes underlying L2 bilingual acquisition. Discussion of neurolinguistic and social aspects of bilingualism. Concurrently scheduled with course C140. Graduate students expected to read more advanced literature, do in-class presentation, and submit graduate-level term paper. S/U or letter grading.

M246C. Topics in Anthropological Linguistics. (4) (Same as Anthropology M241.) Problems in relations of language, culture, and society. May be repeated for credit.

251A. Topics in Phonetics and Phonology. (4) Lecture, four hours. Requisite: course 200A. Course 201, 203, or 204 may be required. Specialized topics in phonetics and phonology. Meets with course 251B. May be repeated for credit.

251B. Topics in Phonetics and Phonology. (2) Lecture, four hours. Requisite: course 200A. Course 201, 203, 204, 205, 206, 207, C208, 209A, 209B, 212, 213A, 213C, 214, 215, 216, or 218 may be required. Individual proseminars on topics such as child language, sociolinguistics, neurolinguistics, computational linguistics, etc. Meets with course 251A. May be repeated for credit. S/U grading.

254A. Topics in Linguistics. (4) Seminar, four hours. Requisites: courses 200A, 200B. Course 201, 202, 203, 204, 205, 206, 207, C208, 209A, 209B, 212, 213A, 213C, 214, 215, 216, or 218 may be required. Individual proseminars on topics such as child language, sociolinguistics, neurolinguistics, computational linguistics, etc. Meets with course 254B. May be repeated for credit.

254B. Topics in Linguistics. (2) Seminar, four hours. Requisites: courses 200A, 200B. Course 201, 202, 203, 204, 205, 206, 207, C208, 209A, 209B, 212, 213A, 213C, 214, 215, 216, or 218 may be required. Individual proseminars on topics such as child language, sociolinguistics, neurolinguistics, computational linguistics, etc. Meets with course 254A. May be repeated for credit. S/U grading.

256A. Topics in Phonetics and Phonology II: Pros Emerson. (4) Requisite: course 256A. Specialized topics in phonetics and phonology. May be repeated for credit.

257A. Topics in Syntax and Semantics II: Pros Emerson. (4) Requisite: course 200B. Course 206, 207, 214, 215, or 216 may be required. Specialized topics in syntax and semantics. May be repeated for credit. Meets with course 253. In Progress grading (credit to be given only on completion of course 257B).

257B. Topics in Syntax and Semantics II: Pros Emerson. (2) Requisite: course 257A. Specialized topics in syntax and semantics. May be repeated for credit.

258A. Topics in Language Variation II: Pros Emerson. (4) Requisite: course 110. Course 202 may be required. Specialized topics in language variation. May be repeated for credit. Meets with course 253. In Progress grading (credit to be given only on completion of course 258B).

258B. Topics in Language Variation II: Pros Emerson. (2) Requisite: course 258A. Specialized topics in language variation. May be repeated for credit.

259A. Topics in Linguistics: Pros Emerson. (4) Requisites: courses 200A, 200B, Course 201, 202, 203, 204, 205, 206, 207, C208, 209A, 209B, 212, 213A, 214, 215, 216, or 218 may be required. Individual proseminars on topics such as child language, sociolinguistics, neurolinguistics, computational linguistics, psycholinguistics, etc. May be repeated for credit. Meets with course 254. In Progress grading (credit to be given only on completion of course 258B).

259B. Topics in Linguistics II: Pros Emerson. (2) Requisite: course 259A. Individual proseminars on topics such as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May be repeated for credit.

260A-260B-260C. Seminars: Phonetics. (2 or 4 each) Seminar, three hours. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for 2 units. May be repeated for credit. S/U grading.

261A-261B-261C. Seminars: Phonology. (2 or 4 each) Seminar, three hours. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for 2 units. May be repeated for credit. S/U grading.
262A-262B—262C. Seminars: Syntax and Semantics. (2 or 4 each) Seminar, three hours. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for 2 units. May be repeated for credit. S/U grading.

263A-263B—263C. Seminars: Language Variation. (2 or 4 each) Seminar, three hours. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for 2 units. May be repeated for credit. S/U grading.

264A-264B—264C. Seminars: Special Topics in Linguistic Theory. (2 or 4 each) Seminar, three hours. Special topics may include child language, neurolinguistics, psycholinguistics, sociolinguistics, etc. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for 2 units. May be repeated for credit. S/U grading.

265A-265B—265C. American Indian Linguistics Seminar. (1 or 4 each) Seminar, two hours; fieldwork, four hours. Presentation of research on American Indian linguistics. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for 1 unit. May be repeated for credit. S/U grading.


276. Linguistics Colloquium. (No credit) Designed for graduate students. Same as course 275, but taken without credit by students not presenting a colloquium. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticehip under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.


411A—411B. Research Orientation. (2-2) Designed for graduate students. Seminar in preparation of lectures by department faculty to acquaint new graduate students with research directions and resources of department and elsewhere on campus. May not be applied toward M.A. or Ph.D. degree requirements. S/U grading.

422. Practicum: Phonetic Data Analysis. (2) Designed for graduate students. Workshop in examination of phonetic data, such as sound spectrograms, oscillographic records, and computer output. May not be applied toward M.A. or Ph.D. degree requirements. S/U grading.

444. M.A. Thesis Preparation Seminar. (4) Student presentations, two hours. Student presentations of proposed topics for M.A. theses, with discussion and criticism by other students and faculty. May not be applied toward M.A. or Ph.D. degree requirements. S/U grading.

495. College Teaching of Linguistics. (2) Seminar, to be arranged. Designed for graduate students. Required of all new teaching assistants. Seminars, workshops, and apprentice teaching. Selected topics, including curriculum development, various teaching strategies and their effects, teaching evaluation, and other topics on college teaching. Students receive unit credit toward full-time equivalence but not toward any degree requirements. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

506A. Directed Studies. (1 to 8) Preparation: completion of all undergraduate deficiency courses. Directed individual study or research. May be applied toward M.A. course requirements. May be repeated for credit. S/U grading.

506B. Directed Linguistic Analysis. (1 to 8) Preparation: completion of M.A. degree requirements. Intensive work with native speakers by students individually. May be repeated for credit. S/U grading.

507. Preparation for M.A. Comprehensive and Ph.D. Qualifying Examinations. (1 to 8) Preparation: at least six graduate linguistics courses. May be taken only in terms in which students expect to take comprehensive or qualifying examinations. May not be applied toward M.A. course requirements. May be repeated for credit. S/U grading.


509. Research for Ph.D. Dissertation. (1 to 16) Preparation: advancement to Ph.D. candidacy. May not be applied toward Ph.D. course requirements. May be repeated for credit. S/U grading.

Quechua

17. Intensive Elementary Quechua. (12) Formerly numbered Indigenous Languages of the Americas 17.) Lecture, 15 hours; laboratory, five hours. Intensive course equivalent to courses 18A, 18B, 18C. Language of Incas and its present-day dialects, as spoken in Andean South America. Offered in summer only. Letter grading.

18A—18B—18C. Elementary Quechua. (4-4-4) Formerly numbered Indigenous Languages of the Americas 18A-18B-18C.) Lecture, five hours. Course 18A is enforced requisite to 18B, which is enforced requisite to 18C. Language of Incas and its present-day dialects, as spoken in Andean South America. P/NP or letter grading.

Upper Division Courses

119A-119B-119C. Advanced Quechua. (4-4-4) Formerly numbered Indigenous Languages of the Americas 119A-119B-119C.) Lecture, five hours. Requisite: course 18C. Course 119A is requisite to 119B, which is requisite to 119C. Readings in Quechua. Dialectical and stylistic variation. Discussions mainly in Quechua. P/NP or letter grading.

Graduate Course

596. Directed Studies in Quechua. (1 to 8) Formerly numbered Indigenous Languages of the Americas 596.) Tutorial, to be arranged. Requisites: courses 119A, 119B, 119C. Directed individual study or research in Quechua. Four units may be applied toward M.A. course requirements. May be repeated for credit. S/U grading.

Management

John E. Anderson Graduate School of Management

UCLA
110 Westwood Plaza, Suite F407 Box 951481
Los Angeles, CA 90095-1481
(310) 825-6121
fax: (310) 206-9830
http://www.anderson.ucla.edu

Antonio E. Bernardo, Ph.D., Chair

Professors
Reza H. Ahmadi, Ph.D.
Antonio E. Bernardo, Ph.D.
Sushil Bikhchandani, Ph.D.
Bart J. Bronnenberg, Ph.D.
Ralph E. Buecklin, Ph.D.
Bhagwan Chowdhry, Ph.D.
Samuel A. Cubert, Ph.D.
Michael R. Darby, Ph.D.
Warren C. Cordern Professor of Money and Financial Markets
Sebastian Edwards, Ph.D.
Henry Ford II Professor of International Management
Christoph D. Erickson, Ph.D.
Eric G. Flamholtz, Ph.D.
Stuart A. Gabriel, Ph.D.
Arden Realty Professor at the Ziman Real Estate Center
Arthur M. Geoffrin, Ph.D.
Martin Greenberger, Ph.D.
IBM Professor of Computers and Information Systems
Mark S. Grinblatt, Ph.D.
(310) 825-6121
Los Angeles, CA 90095-1481
110 Westwood Plaza, Suite F407
UCLA
Management / 417

Joseph D. Carrabino, Ph.D.
(825-6121)
Los Angeles, CA 90095-1481
110 Westwood Plaza, Suite F407
UCLA

Bennet P. Lientz, Ph.D.
Dennis M. Lieberman, Ph.D.
William G. Ouchi, Ph.D.
Mark S. Grinblatt, Ph.D.
Arthur M. Geoffrion, Ph.D.
Sebastian Edwards, Ph.D.
Michael R. Darby, Ph.D.
Bart J. Bronnenberg, Ph.D.
Rakesh K. Sarin, Ph.D.
Richard P. Rumelt, D.B.A.
Anthony P. Raia, Ph.D.
Judy D. Olian, Ph.D.
William O. Beach, Ph.D.
Francis A. Longstaff, Ph.D.
John W. Warner, Ph.D.
Kevin F. McCaird, Ph.D.
Daniel J. Mitchell, Ph.D.
Donald G. Morrison, Ph.D.
(James G. Martin Professor of Management)
Judy D. Ollan, Ph.D.
Andersen Worldwide Professor of Management
William G. Ouchi, Ph.D.
Sanford and Betty Sigoloff Professor of Corporate Renewal
John J. McDonough, D.B.A.
Bill McKelvey, Ph.D.
Bruce L. Miller, Ph.D.
Eduardo S. Schwartz, Ph.D.
(Andersen Professor of Real Estate and Land Economics)
Carol A. Scott, Ph.D.
Avard Lord Subrahmanyan, Ph.D.
(Goldyne and Irwin Hearsh Professor of Money and Banking)
E. Burton Swanson, Ph.D.
Christopher S. Tang, Ph.D.
(Edward W. Carter Professor of Business Administration)
Walter N. Torous, Ph.D.
(Andersen Worldwide Professor of Business and Society)
Rakesh K. Sarin, Ph.D.
(Paine Professor of Management)
Hans Schollhammer, D.B.A.
Eduardo S. Schwartz, Ph.D.
(Professor of Money and Banking)
Sanford M. Jacoby, Ph.D.
(Howard Noble Professor of Money and Banking)
Sebastian Edwards, Ph.D.
(Professor of Management)
John W. Buckely, Ph.D.
Joseph D. Carrabino, Ph.D., P.E.
Lee G. Cooper, Ph.D.
Bradford Cornell, Ph.D.
José de la Torre, Ph.D.
David K. Elteman, Ph.D.
Donald Erkenkotter, Ph.D.
Glenn W. Graves, Ph.D.
Alfred E. Hoffmeister, Ph.D.
Patricia J. Hughes, Ph.D.
James R. Jackson, Ph.D.
Harold H. Kassarjian, Ph.D.
Larry J. Kimbel, Ph.D.
Archie Kleingartner, Ph.D.
L. Clayburn La Force, Jr., Ph.D.
James B. MacQueen, Ph.D.
Fred Massarik, Ph.D.
Frank G. Mittlebach, M.A.
Rosser T. Nelson, Ph.D.
Alfred Nichols, Ph.D.
William P. Pierskalla, Ph.D.
John P. Shelton, Ph.D.
R. Clay Sprowls, Ph.D.
George A. Steiner, Ph.D., Litt.D.
James Q. Wilson, Ph.D. (James A. Collins Professor Emeritus of Management)

Management at UCLA offers a variety of pro-
subject to department approval and is consid-
grams leading to graduate degrees at the mas-
ter's and doctoral levels. These include an aca-
demic (M.S.) and professional (M.B.A.) mas-
ter's and a Master of Financial Engineering (M.F.E.), as well as a 21-month Executive M.B.A. Program designed for working man-
agers who are moving from specialized areas into general management and a three-year
Fully Employed M.B.A. Program for emerging man-
gers. A Ph.D. in Management is also of-
ered, as are a certificate Executive Program and research conferences and seminars for
experienced managers.

The John E. Anderson Graduate School of
Management offers a variety of program
Transfer credit for any of the above courses is
limited. The school limits the number of courses taken by undergraduate students to
11.

The Accounting minor provides students with a comprehensive accounting background; ad-
mission is competitive and based on overall UCLA grade-point average, grade-point aver-
age in preadmission courses, the grades in Management 1A and 1B. Decisions on ad-
mission to the minor are made by the Anderson School Accounting Area. Applications are
accepted in Fall, Winter, and Spring Quarters. Nontransfer students must apply subsequent to
completing 90 units. Transfer students must apply after completing two academic quarters
(excluding Summer Sessions) at UCLA.

To enter the minor, students must (1) have a minimum cumulative UCLA grade-point aver-
age of 3.2, (2) complete all required preadmis-
sion courses with a minimum course grade-
point average of 3.2, and (3) receive grades of
B or better in Management 1A and 1B. Repeti-
tion of more than one preadmission course or
of any preadmission course more than once
results in automatic denial of admission to the
minor. Satisfying these requirements does not guarantee admission to the program, as only a
limited number of students are admitted each year. For further information, see http://
www.anderson.ucla.edu/x315.xml.

Required Preadmission Courses (31 units min-
imum): Economics 1, 2, 41 or Statistics 10 or
11, Management 1A and 1B (former course 100
taken at UCLA may be substituted), Math-
ematics 3A or 31A, 3B or 31B or 31E, one
Writing II course. If Management 1A and 1B
are not taken at UCLA, students must com-
plete courses 120A and 122.

Required Upper Division Courses (36 units):
Management 120A, 120B, 122, 127A, and
two courses from 108, 123, 124, 126, 127B,
130A.

Transfer credit for any of the above courses is
subject to department approval and is consid-
ered only for non-management courses. Only
one upper division course repeat is allowed.

All minor courses must be taken for a letter
grade; all management courses must be com-
pleted at UCLA with a grade of C or better.
Successful completion of the minor is indicated
on the transcript and diploma.

Graduate Study

Official, specific degree requirements are de-
tailed in Program Requirements for UCLA
Graduate Degrees, available at the Graduate
Division website, http://www.gdnet.ucla.edu/
gasaalibrary/pgmrqintro.htm. In many cases,
more detailed guidelines may be outlined in
announcements, other publications, and web-
sites of the schools, departments, and pro-
grams.

Graduate Degrees

The John E. Anderson Graduate School of
Management offers Master of Science (M.S.)
and Doctor of Philosophy (Ph.D.) degrees in
Management, the Master of Business Adminis-
tration (M.B.A.) degree, and the Master of Fi-
nancial Engineering (M.F.E.) degree. The
school also offers the Executive M.B.A. Pro-
gram (EMBA) and the M.B.A. for the Fully Em-
ployed (FEMBA).

Ten concurrent degree programs (Manage-
ment M.B.A./Computer Science M.S., Man-
agement M.B.A./Dentistry D.D.S., Manage-
ment M.B.A./Latin American Studies M.A.,
Management M.B.A./Law J.D., Management
M.B.A./Library and Information Science M.L.I.S., Management M.B.A./Medicine M.D.,
Management M.B.A./Nursing M.S.N., Manage-
ment M.B.A./Public Health M.P.H., Manage-
ment M.B.A./Public Policy M.P.P., and Manage-
ment M.B.A./Urban Planning M.A.) are also of-
fered.

Management

Lower Division Courses

1A-1B. Principles of Accounting. (4-4) Lecture,
three hours; discussion, one hour. Not open to fresh-
men. P/NP or letter grading. 1A. Introduction to finan-
cial accounting principles, including preparation and
analysis of financial transactions and financial state-
ments. Valuation and recording of asset-related trans-
actions, including cash, receivables, marketable secu-
rities, inventories, and long-lived assets. Current li-
abilities. 1B. Requisite: course 1A. Completion of
balance sheet with emphasis on debt and equity, in-
cluding in-depth introduction to time value of money
concepts. Introduction to partnership and individual
income tax accounting.

88. Lower Division Seminar: Special Topics in
Management. (1 to 4) Seminar, three hours; outside
study, nine hours. Requisite: satisfaction of Entry-Lev-
el Writing requirement. Variable topics seminar that
examines specific issues or problems and ways that
professionals in management approach study of
them. Students define, prepare, and present their
own research projects with guidance of professional
school faculty member. Letter grading.
Upper Division Courses

107. Business Communications. (4) Process and discipline of effective spoken presentations. Examination and application of classical and contemporary thinking on substance, structure, and delivery of messages. Elements of graphic presentation of data and preparation and presentation of formal and informal informative and persuasive presentations on key management issues. Critique of all efforts; certain efforts to be videotaped for review. P/NP or letter grading.


124. Advanced Accounting. (4) Lecture, three hours. Requisite: course 120B. Specialized accounting topics in business combinations, consolidated financial statements, use of “Strategic Management,” a computer program that simulates experience on a senior management team. Under real and sometimes adverse economic conditions, teams must make strategic and tactical decisions, evaluate performance results, and compete for key resources, market share, and business opportunities. Emphasis on theories of return on equity, product life cycles, product line margin analysis, issuing debt versus equity, and other topics that allow students to apply accounting principles learned in previous courses. P/NP or letter grading.

125. Special Applications in Accounting. (4) Requisite: course 120B. Recommended: course 122. Descriptions of key accounting topics that allow students to apply accounting principles learned in previous courses. P/NP or letter grading.


127A. Tax Principles and Policy. (4) Lecture, three hours. Requisite: course 100 or former course 1B. Study of general income tax problems encountered by individuals and other entities in analyzing business, investment, employment, and personal decisions. Special emphasis on role of tax rules in capital transactions and decision making. P/NP or letter grading.

127B. Corporate and Partnership Taxation. (4) Lecture, three hours. Requisite: course 100 or former course 1B. Recommended: course 127A. Study of tax issues arising in formation, operation, and termination of corporations and partnerships. Special emphasis on closely held enterprises, including S corporations. P/NP or letter grading.


130A. Basic Managerial Finance. (4) Lecture, three hours. Requisites: course 100 or former course 1B, one statistics course. Nature, objectives, and procedures of cost accounting and control; job costing and process costing; accounting for manufacturing overhead; cost budgeting; cost reports; joint-product costing; distribution cost; standard costs; differential cost analysis; profit-volume relationships and break-even analysis. P/NP or letter grading.

130B. Advanced Managerial Finance. (4) Lecture, three hours. Requisite: course 130A. Analysis of capital budgeting and working capital management. Review of long-term financing through security markets and financial institutions; major financial analysis, leverage under and bankruptcy laws. P/NP or letter grading.

133. Investment Principles and Policies. (4) Lecture, three hours. Requisite: course 130A. Principles underlying investment analysis and policy; salient characteristics of governmental and corporate securities; policies of investment companies and investing institutions; relation of investment policy to money markets and business fluctuations; security pricing forces; construction of personal investment programs.


150. Elements of Industrial Relations. (4) Principles and methods of effectively utilizing human resources in organizations. Relationship between social, economic, and other environmental factors and current problems in industrial relations.

175. Elements of Real Estate and Urban Land Economics. (4) Examination of business decision making as related to logical forces shaping cities and influencing the real estate and business decision making process. Emphasis on decision making as it relates to appraising, building, financing, marketing, ownership changes, and other real estate decisions. P/NP or letter grading.

180. Special Topics in Management. (4) Formerly numbered 188.) Lecture, four hours. Topics of special interest to undergraduate students. Specific subjects may vary each term depending on particular interest of instructors or students. May be repeated for credit. P/NP or letter grading.

182. Leadership Principles and Practice. (4) Knowledge and skills leading to effectiveness in interpersonal relations. Understanding oneself as a leader and enhancing individual and group effectiveness in working groups. Understanding of group process, including group leadership. Lectures and “sensitivity training” laboratory.

195. Community or Corporate Internship in Management. (2 to 4) Tutorial, to be arranged. Limited to juniors/seniors. Internship in supervised setting in community agency or business. Students meet on regular basis with instructor and provide periodic reports of their experiences. May be repeated for a maximum of 8 units. Individual contract with supervising faculty member required. P/NP or letter grading.

199. Directed Research in Management. (2 to 8) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation of selected research topic under guidance of faculty mentor. Culumination paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses


201A. Business Forecasting: Turning Numbers into Knowledge. (4) Discussion, three hours. Preparation: familiarity with linear regression. Examination of one approach to analytical thinking — forcing numerical and textual data into carefully formulated alternative models. Data studied include macroeconomic variables (growth, inflation, unemployment, interest rates, and exchange rates), industry data, and firm data. Letter grading.

201B. Econometrics and Business Forecasting. (4) Lecture, three hours. Development of standard topics in applied econometric modeling. Emphasis on understanding and analyzing linear regression model, special problems in application, and interpretation of results. Practical applications extensively developed in student projects.


203A. Economics of Decision. (4) Discussion, three hours. Preparation: basic probability theory. Ba- sics of single-person decision theory and introduction to noncooperative game theory. Examination in some detail of von Neumann/Morgenstern expected utility theory. Other topics in decision theory include subjec- tive expected utility theory and departures from ex- pected utility behavior. S/U or letter grading.


205B. Comparative Market Structure and Compe- tition. (4) Requisite: course 205A. Comparative study of public policies toward competition, market structures, and competitive practices in key industries in selected countries.


207. Resource Administration of Nonmarket Ac- tivities. (4) Seminar, three hours. Requisite: course 405. Examination of behavior of managers in profit vs. not-for-profit sectors to determine critical variables that explain observed differences in behavior. Use of methodology of microeconomics, particularly utility maximization.

208. Public Services and Private Functions. (4) Requisites: courses 405, 406. Sources and uses of federal, state, and local revenues and their impact on public and private resource allocation. Examination of proper roles of government and private sector in fin- ancing and provision of public goods and services.

209. Selected Topics in Business Economics. (4) Special topics in business economics. Current develop- ments in theory or practice in business economics. May be repeated for credit.


210B. Applied Stochastic Processes. (4) Discuss- tion, three hours. Preparation: probability theory at level of Electrical Engineering 131A or Mathematics 170A or Statistics 107. Topics: inclusion Poisson pro- cesses, renewal theory, Markov chains, and Markov decision processes, with emphasis on problem form- ulation, decision making, and characterization of optimal policies. Specific applications include tradi- tional operations research topics (inventory, queue- ing, maintenance, reliability), as well as several in mi- croeconomics (search and research and develop- ment). S/U or letter grading.

210C. Network Flows and Integer Programming. (4) Discussion, three hours. Preparation: linear pro- gramming. Survey course to (1) lay foundations for more advanced study of graphs, network flow mod- els, and integer programming models and their appli- cations, (2) establish connections between these technical foundations and real problems drawn from many areas of management, and (3) build professio- nal skills needed to apply these tools. S/U or letter grading.

211A. Nonlinear Mathematical Programming. (4) Discussion, three hours. Preparation: course 210A, Mathematics 32A. Theory, methods, and applications of optimization for situations where models must be nonlinear, with special emphasis on case of “convexi- ty.” Topics include classical approaches to optimiza- tion, theory of optimality and duality, main computa- tional approaches, and survey of currently available computer software. S/U or letter grading.

211B. Large-Scale Mathematical Programming. (4) Discussion, three hours. Preparation: course 210A. Theory, methods, and applications of optimization for situations where models are large and have special structure, as is often the case in real applications. Foc- us on use of automatic code generation, FORTRAN and other high-level languages, and decomposition tech- niques, as well as applications to transportation, economics, and operations research. S/U or letter grading.

212A. Decision Sciences Models I. (4) Lecture, four hours. Requisites: course 407, Mathematics 31B. Survey of deterministic models of decision sci- ences, including solution methods and applications management. Solution methods include linear pro- gramming, network optimization, integer program- ming, nonlinear programming. Application areas in- clude corporate planning, finance, marketing, produc- tion and operation management, distribution, and project management. S/U or letter grading.

212B. Decision Sciences Models II. (4) Lecture, four hours. Requisites: courses 402, 407. Broad sur- vey of nonlinear, time-staged, and probabilistic mod- els for managerial decision making. Application areas include finance, marketing, facilities design, produc- tion, and energy systems. S/U or letter grading.

213A. Intermediate Probability and Statistics. (4) Discussion, three hours. Preparation: working knowl- edge of differential and integral calculus of several variables, basic probability theory, and univariate mathematical statistics. Introduction to probability the- ory and hypothesis testing as applied to manage- ment. SAS programs used in this course and its se- quels. S/U or letter grading.

213B. Statistical Methods in Management. (4) Dis- cussion, three hours. Requisite: course 402. Introduc- tion to parameter and interval estimation, simple and multiple regression and correlation, fixed, ran- dom, and mixed effects analysis of variance models and nonparametric statistics, all as they apply to man- agement studies. S/U or letter grading.

213C. Introduction to Multivariate Analysis. (4) Discussion, three hours. Preparation: working knowl- edge of differential and integral calculus of several variables, basic probability theory, and univariate mathematical statistics. Introduction to use of multi- variate models in management research to organize and represent information; interpretation of coeffi- cients from multivariate exploratory models (e.g., prin- cipal axes and factor analysis models); survey of mul- tivariate statistical procedures (e.g., multiple discrimi- nate analysis, multivariate analysis of variance, canonical correlation, and confirmatory factor mod- els). S/U or letter grading.


216A. Simulation of Modeling and Analysis. (4) Discussion, three hours. Preparation: probability the- ory, mathematical statistics, analytical modeling. De- velopment of computer simulation models for mana- gement decision making under uncertainty and complex dynamics, with emphasis on simulation methodology such as design, validation, operating procedures, and interpretation of results. Application areas include fi- nance, marketing, and production. S/U or letter grad- ing.

217A. Decision Analysis. (4) Lecture, three hours. Requisite: course 402. Managerial decision making occurs in presence of uncertainty which can be about events over which no individual has any control or it can be about what other individuals will do. Frame- work provided for structuring and analyzing such de- cisions, with application of framework to such scenari- os as product development, business of treasure hunting, and bidding. S/U or letter grading.

217B. Game Theory. (4) Discussion, three hours. Requisites: courses 402, 405. Theory of games plays increasingly important role in clear lan- guage and concepts for analysis of policy problems in every area. Introduction to subject, with emphasis on interpretation and application of ideas to variety of practical issues in management and public policy, and in practical questions of ethics, fairness, and bargain- ing. S/U or letter grading.

218A. Selected Topics in Decisions, Operations, and Technology Management. (1 to 4) Discussion, three hours. Newly developing topics of interest to Ph.D. students. Topics have included reliability and optimal maintenance theory, large-scale distribution/ inventory systems, and Markovian decision processes under uncertainty. May be repeated for credit. S/U or letter grading.

220. Corporate Financial Reporting. (4) Lecture, three hours. Requisite: course 403. In-depth treat- ment of significant corporate financial reporting is- sues to enhance understanding of financial state- ments and student ability to interpret and use infor- mation contained in these disclosures. Emphasis on economic substance of transactions. S/U or letter grading.


224. Topics in Business Law. (4) Lecture, three hours. Requisite: course 403. In-depth treatment of significant corporate financial reporting is- sues to enhance understanding of financial state- ments and student ability to interpret and use infor- mation contained in these disclosures. Emphasis on economic substance of transactions. S/U or letter grading.


238A. Special Topics in Accounting. (4) Lecture, three hours. Designed for Ph.D. students. Examination in depth of problems or issues of current concern in accounting, such as application of information eco-
nomics and principal-agent model to accounting.

238B. Empirical Research in Accounting. (4) Lecture, three hours. Preparation: training in economet-
ric. Designed for Ph.D. students. Introduction to em-
pirical accounting literature, focusing on role that ac-
counting information plays in formation of capital market
prices.

229X-229Y-229Z. Accounting Workshops. (1-1-2) Discussion, two hours. Designed for Ph.D. students. Intended to develop ability to critically evaluate re-
search in fields relevant to study of accounting. Pa-
ers presented in colloquium format by leading schol-
ars in accounting. Active participation and intellectual
interchange encouraged through discussion of papers
during colloquium. May be repeated for credit. S/U or
grading.

230. Theory of Finance. (4) Lecture, three hours. Requisite: course 408. Primary focus on valuation of
corporate assets and corporate securities under un-
certainty. Capital asset pricing model developed rigor-
ously and compared with more recent theories of as-
test pricing such as arbitrage pricing theory and option
pricing model, using empirical evidence. Secondary
focus on analysis of problems in corporate finance
such as optimal financing of the corporation and the
market for corporate control. S/U or letter grading.

231A. Topics in Corporate Finance. (4) Lecture, three hours. Requisites: courses 230 or (430), 408. Identifying and solving financial problems through use of
cases. Application of financial theory and financial
techniques to business problems, using written re-
ports and classroom discussion. S/U or letter grading.

231B. Nonprofit Sector Financial Policy. (4) Lecture,
tree hours. Requisites: courses 408, 430, 408. Identi-
fying and solving financial problems for all types of
nonprofit organizations, with attention to funds ac-
counting, budgeting, and control. Investment decision
making when market valuation cannot be used as cri-
terion, and sources of funds for nonprofit organiza-
tions. Use of cases. S/U or letter grading.

231D. Theorizing, Planning, and Corporate Governance. (4) Lecture, three hours. Requisites:
courses 230 or (430), 408. Process by which corpo-
rate control transactions take place; role of market for
corporate control in leading to economic restructuring
and shifts in resource allocation by corporations. Em-
pirical evidence on economic and capital market re-
actions to control transactions and to defensive mea-
sures by management. Focus on interaction of strate-
gic planning, firm value maximization, and investment
decisions in life cycle of growth of firm. S/U or letter
grading.

231E. Managing Finance and Financing Emerging Enterprises. (4) Lecture, three hours. Requisites:
courses 230 or (430), 430, 408. Designed for second-
year graduate students. Emphasis on financial, con-
trol, and investment issues confronting rapidly grow-
ing companies in entrepreneurial settings. Consider-
ation and selection of financing vehicles that may be
appropriate to securing organizations’ money require-
ments. S/U or letter grading.

232A. Security Analysis and Investment Manage-
ment. (4) Lecture, three hours. Requisites: courses
230 (or 430), 408. Topics include security valuation,
application of portfolio theory to investment decisions,
performance evaluation, and basics of fixed income
portfolio management strategies. S/U or letter grad-
ing.

Requisites: courses 230 (or 430), 408. Introduction to fixed-income instruments: institutional arrangements in
primary and secondary markets; description and
analysis of various types of fixed-income instruments;
valuation; fixed-income portfolio management; use of
derivative instruments and investment strategies; asset
securitization. S/U or letter grading.

232D. Option Markets. (4) Lecture, three hours. Requisites: courses 230 or (430), 408. Organization
and use of organized derivative markets, including OT
options and futures: arbitrage and hedging
relationships, valuation of derivative trading
strategies, and innovations in derivative markets.
Students learn fundamentals of hedging and spreading
by playing option trading game and writing term paper
analyzing their strategies. S/U or letter grading.

233A. Money and Capital Markets. (4) Lecture,
tree hours. Requisites: courses 230 or (430), 408.
Application of interest theory and flow funds analysis
for price determination process in markets for bonds,
mortgages, stocks, and other financial instruments.
Study of funds flow from credit markets. Analysis of
prices of capital in individual industries. S/U or letter
grading.

233B. Financial Institutions. (4) Lecture, three hours. Requisites: courses 230 (or 430), 408. Theory
and practice of financial institutions and stock ex-
thange. Regulation and supervision of insurance and
and regulation, international banking, market microstruc-
ture, and investment banking. S/U or letter grading.

234A. International Financial Markets. (4) Lecture,
tree hours. Requisites: courses 408, 430. 408. Conceptual understanding of foreign exchange mar-
et, Eurocurrency market, international bond market,
and equity markets in various countries. Emphasis on
underlying economic principles, although where rele-
vant, institutional features helpful in understanding
structure and operations of markets to be dealt with in
detail. S/U or letter grading.

234B. Financial Management of Multinational Cor-
porations. (4) Lecture, three hours. Requisites:
courses 230 (or 430), 408. Financial management of
multinational firms from perspective of financial vice
president or other financial officer within company.
Topics include measuring foreign exchange risk, man-
aging that risk with both contractual and operat-
ing strategies, foreign investment decisions, capital
budgeting and cost of capital in international perspec-
tive, regulation and control of risk exposure, and use
of transactions. S/U or letter grading.

235A. Special Topics in Finance. (4) Lecture,
tree hours. Requisites: courses 230 or (430), 408. Select-
ed topics in finance theory, empirical studies, and fi-
nancial policy. May be repeated for credit with instruc-
tor change. S/U or letter grading.

239A. Theory of Exchanges under Uncertainty. (4) Lecture, three hours. Primarily designed for Ph.D.
students, but well-prepared master’s students may find course useful. Focus on applications of theory of exchange developed as introduction to
theoretical literature on pricing of capital assets. S/U or
letter grading.

239B. Theory of Investment under Uncertainty. (4) Lecture, three hours. Primarily designed for Ph.D.
students, but well-prepared master’s students may find course useful in their career preparation. Focus of
theory of firm capitalization and investment deci-
sions, with special attention to questions of exchange
and allocative efficiency. S/U or letter grading.

239C. Empirical Research in Finance. (4) Lecture,
tree hours. Preparation: training in econometrics.
Primarily designed for Ph.D. students, but well-pre-
pared master’s students may find course useful in
their career preparation. In-depth study of empirical
research in field of finance, statistical methodologies
applied to test market efficiency, and asset pricing
theory. S/U or letter grading.

239D. Ph.D. Seminar: Corporate Finance. (4) Sem-
in, three hours. Designed for Ph.D. students. Ad-
dvanced topics in corporate finance theory and empiri-
cal research. May be repeated for credit with instruc-
tor change. S/U or letter grading.

239X-239Y-239Z. Finance Workshops. (1-1-2) Dis-
cussion, 90 minutes. Designed for Ph.D. students. In-
tended to develop ability to critically evaluate finance
research. Papers presented in colloquium format by
leading scholars in finance. Active participation and
intellectual interchange encouraged through discuss-
ion of papers in sessions prior to workshop, as well as
during colloquium. May be repeated for credit. S/U or
grading.

240A. Managing Service Operations. (4) Discus-
sion, three hours. Requisite: course 410. Design,
management, improvement, and measurement of service
and loyalty interactions for businesses, industries, and
organizations, with emphasis on understanding service
and loyalty opportunities, their operating prob-
lems, and successful resolution. Extensive employ-
ment of cases. S/U or letter grading.

240D. Operations Strategy: Theory and Practi-
cum. (4) Discussion, three hours. Requisite: course
410. Definition and scope of operations strategy. Inte-
grasion of framework for analysis of strategy and
strategic, tactical, and operational concepts and oper-
ational strategies and corporation’s strategic posi-
tioning. Cases used to illuminate strategic issues in
both manufacturing and nonmanufacturing situa-
tions. Object of practical, applied strategy aspect
of course, to provide students with skill in identifying
operationally appropriate business processes and
metrics required to implement enterprise’s strategic
position. S/U or letter grading.

240E. Managing Entrepreneurial Operations. (4) Lecture, three hours. Requisite: course 410. De-
sign for second-year graduate students. Explora-
tion of operating issues involved in managing entre-
preneurial enterprises. Integrative course, building on
methodologies, principles, and concepts provided in
requisite functional and strategic core courses. Use of
extensive readings and case studies to develop skills
and philosophical basis for evaluating and ap-
plauds to entrepreneurial operations. S/U or letter
grading.

240F. Supply Chain Management. (4) Lecture,
tree hours. Requisite: course 410. Business environ-
ment is characterized by rapid globalized operations,
intense competition, rapid technological change, and
short product life cycles. Consequently, firms can no
longer afford to operate in isolation. In many indus-
tries competition has moved from firm level to supply
chain level. Provides understanding of strategic, tactic,
al and operational issues in supply chain manage-
ment, with generous attention to emerging digital
economy. S/U or letter grading.

240G. Global Operations Strategy. (4) Lecture,
tree hours. Requisite: course 410. Study of chal-
gen challenges of operating globally in range of indus-
tries, including software, consulting, automotive, and
textiles. May be repeated for credit with instruc-
tor change. S/U or letter grading.

241A. Technology Management. (4) Lecture,
tree hours. Requisite: course 410. 411A or 411B.
Management of high-technology firm, including acquisi-
tion, creation, and utilization of technology and knowl-
edge assets. Research and product development,
product procurement, technology policy and regu-
lation, high-technology markets, competition, and
strategy technologies. Case examples from sectors
such as computing, telecommunications, e-business,
medical devices, nanotechnology, transportation sys-
tems, and electronics. S/U or letter grading.

242A. Models for Operations Planning, Scheduling, and Control. (4) Discussion, three hours. Designed for Ph.D. students with some knowledge of mathematical programming and stochastic processes. Foundations of operations planning, scheduling, and control, with emphasis on formal models and their applications. Aggregate planning, work force scheduling, inventory management, and detailed operations scheduling and control. S/U or letter grading.

242B. Models for Operations Systems Design. (4) Discussion, three hours. Requisite: course 210C. Designed for Ph.D. students. Survey of research literature on models for design of manufacturing and service systems, including long-range forecasting, operational economics, capacity, location, facilities, processes/technology, work, and work structures. S/U or letter grading.

243B. Inventory Theory. (4) Discussion, three hours. Requisite: course 210B. General discussion of inventory models, with emphasis on characterizing form of optimal policies and efficient computational methods. Deterministic, stochastic, discrete-time, and continuous-time models. S/U or letter grading.


244X-244Y-244Z. Research in Decisions, Operations, and Technology Management. (1-1-2) Lecture, three hours. Designed for first- and second-year Ph.D. students in decisions, operations, and technology management. Survey of research literature in operations and technology management. Seminar reports dealing with special topics. May be repeated for credit with consent of faculty. S/U or letter grading.


246A. Business and Environment. (4) Lecture, three hours. Overview of many ways in which environmental issues interact with main functional areas of business: finance, marketing, strategy, operations, accounting. Basic introduction to background of environmental issues, with focus primarily on business aspects. Specific topics vary from year to year, but course determines what manager should know about environmental issues in business. S/U or letter grading.

246C. Management in Public and Private Nonprofit Sectors. (4) Designed for graduate students. Examination of roles and management systems of the three sectors of U.S. society: unique aspects and managerial issues of public and private nonprofit organizations and of their political, social, and technical environments. Financial, marketing, and operational considerations and evaluation of control, and ethical issues of service delivery systems.

247A. Environment of the Art World. (4) Consideration and analysis of political, social, economic, and environmental forces as they affect development and existence of arts institutions in the U.S. Exploration of present policies and trends and potential future developments.

247B. Role of Management in Artistic Decision Making. (4) Descriptive study of criteria for decision making in artistic institutions, including role of the institution in society, economic environment of the arts, and artistic value systems of arts organizations.

248A. Strategic Management in the Entertainment Industry. (4) Discussion, three hours. Requisites: courses 403, 405, 406, 408, 420. Examination of financial and strategic aspects of transactions and company management in the entertainment industry. Cases may include organization behavior and decision-making in creative companies; trends in industry structure and competitive economics; accounting issues; institutional and private investment in entertainment; motion pictures; theater, distribution, international and ancillary markets (pay TV, videocassettes, syndication).

249A. Special Topics in Public and Private Nonprofit Management. (4) Studies of advanced subjects of current interest in public/not-for-profit management. Emphasis on recent developments and application of specialized knowledge to public/not-for-profit management. Topics vary each term. May be repeated for credit with topic change.

249B. Special Topics in Arts Management. (4) Examination of current issues in management of artistic organizations. Relevant combinations of lectures, discussions, case studies, and team research projects.

M250A. Labor Relations: Process and Law. (4) (Same as Public Policy M232.) Lecture, three hours. Designed for graduate students. Consideration, at advanced level, of collective bargaining process, labor management agreement, administration of the contract, law of labor/management relations, union structure and goals, and influence of external labor markets on labor relations. S/U or letter grading.

250B. Human Resource Management: Process and Law. (4) Requisite: course M250A. Systematic exposure to theoretical and empirical literature concerning administrative and legal aspects of human resource management. Topics include processes of managing human resources and impact of governmental policies on employer/employee relations.

250C. Behavioral Foundations of Human Resource Management. (4) Requisite: course 250B. Topics include development and training; human resource accounting; behavioral foundations of participating management; motivation, productivity, and satisfaction; designing reward systems; and evaluation of organization effectiveness. Discussion of understanding, predicting, and influencing human behavior in organizations.

251. Managing Human Resources. (4) Management of people in organizations, designating for managers as well as personnel specialists. Organized at three related but distinct levels of analysis: (1) day-to-day utilization of people as organizational resources to achieve optimal productivity, satisfaction, retention, and development; (2) management functions or system that performs specialized human resource functions; and (3) issues facing top management which involve management of human resources, union/management relations, and design of corporate culture.

252. Systems of Employee/Management Participation. (4) Designed to provide understanding of systems of employee/participation around the world (apart from traditional collective bargaining systems). Specific concepts such as worker participation in decision-making, industrial democracy, joint consultation, workers' councils, profit sharing.

253. International Political Economy. (4) Lecture, three hours. Examination of political, legal, and social institutions to demonstrate varieties of modern capitalism and business/government relations around world. Analysis of major domestic policy options that nations are pursuing in response to economic globalization and introduction to international coalitions being formed as result of globalization, including NAFTA and to non-wage frameworks for analyzing human resource systems that deal with special problems such as global environmental crisis. Letter grading.

254. Pay and Rewards in Organizations. (4) Lecture, three hours. Systematic treatment of pay (compensation) and rewards in organizations, with emphasis on design, implementation, and outcomes of organizational pay and reward systems and practices that are shaped by strategic, labor market, and motivation considerations. Specific topics include variable compensation (e.g., bonus, profit-sharing, stock ownership, and stock option plans) and noncompensation rewards; compensation and rewards for performance and in entrepreneurial organizations; compensation and benefits; executive compensation; and international and comparative compensation/reward practices. S/U or letter grading.

M255. Comparative Industrial Relations. (4) (Same as Public Policy CM231.) Lecture, three hours; outside study, nine hours. Requisite: course 409 or elementary knowledge of labor economics. At national and international levels, examination of patterns of employee participation in society, economic environment of the arts, and contemporary analytical comparison of political, social, and economic contexts influencing human resource systems of selected developed countries. In addition to discussion of existing frameworks for analyzing human resource systems, examination of institutions and ideologies of labor, management, and government, and interaction of their power relationships; substance and manner of determination of “web of rules” governing rights and obligations of the parties; and resolution of conflicts. S/U or letter grading.

257. Human Resource Management in Creative and Nonprofit Sectors. (4) Designed for graduate students. Analysis of human resource management theory and practices in industries where primary product is creative or intellectual (e.g., arts, entertainment, education, high technology, and journalism). Consideration of incorporation of work design, employee influences, systems, and business strategies in human resource management. Interpersonal and group process for managing human behavior. S/U or letter grading.

258. Selected Topics in Industrial Relations. (1 to 4) Designed for Ph.D. students. Examination in depth of problems or issues of current concern in industrial relations. Emphasis on recent contributions to theory, research, and methodology. Of special interest to advanced Ph.D. candidates, academic staff, or distinguished visiting faculty. May be repeated for credit.

259A. Individuals and Groups in Human Systems. (4) Lecture, three hours. Designed for graduate students. Doctoral-level survey of research literature dealing with interpersonal dynamics, groups, and aspects of culture in work organizations, with emphasis on theory and research. Current research in psychology, anthropology, and small group studies. Variety of methods represented, including clinical and cross-cultural approaches. S/U or letter grading.

274Y. Current Research in Information Systems. (1-1-2) Discussion, two hours. Designed for Ph.D. students. Year-long sequence associated with Information Systems Colloquium Series. Regularly scheduled presentations of current research and state-of-the-art developments in information systems field. Study and discussion of research presented. May be repeated for credit. S/U grading.

278A. Urban Real Estate Financing and Investing. (4) Lecture, three hours. Requirements: courses 408, 430. Investor-oriented course in which real estate and business trends are evaluated to determine alternative real estate investment opportunities. Use of current financial, economic, and investment theories and techniques to real estate investment opportunities in case studies and short case problems to illustrate development of investment strategies. S/U or letter grading.

278B. Real Estate Securitization: Debt. (4) Lecture, three hours. Requirements: courses 230 (or 430), 408. Analysis of money, capital, and mortgage market to determine potential availability and costs of mortgage monies from various sources. Evaluation of various sources of funds to determine factors influencing decisions to make mortgage loans. Examination of all types of lending instruments, particularly mortgage instruments. Use of mortgage-based securities for their impacts on real estate investment decisions. S/U or letter grading.

279A. Cases in Real Estate Investments. (4) Lecture, three hours. Requirements: course 281A or 281B. Study and discussion of research presented. New developments in information systems technical fields engaged with various technologies and environments, emphasizing design approaches emerging primarily from Europe, the Orient, and the U.S. In-depth comparisons of selected job and organizational design cases. May be repeated for credit. S/U or letter grading.

279B. Entrepreneurial Real Estate Development. (4) Lecture, three hours. Requirements: courses 408, 430. Introduction to various aspects of real estate development for the entrepreneur and investor. Coverage of all types of developments, including single family, multifamily, hotel, office, retail, and industrial. Industry guest speakers to help reinforce technical systems analytic approach and understanding developments of these skills. S/U or letter grading.

280A. Studies, Research Philosophies, and Methodology in Human Systems. (4) Discussion, three hours. Designed for Ph.D. students. Survey of seminal studies of human systems, including individual, group, and intergroup behavior, and organization behavior. Consideration of objectivist and subjectivist philosophies of science and their implications for related methodologies, including experimentation, field studies, case approaches, and a range of analytic and descriptive procedures in data collection. Emphasis on existing literature, philosophy of science, and concepts. May be repeated for credit. S/U or letter grading.

280B. Personal and Professional Development. (4) Discussion, three hours. Designed for Ph.D. students. Provides setting where students may explore their own professional values and approaches in process of testing and learning values and standards in applied behavioral sciences and human systems development. S/U or letter grading.

280C. Research Design in Human Systems Studies. (4) Discussion, three hours. Designed for Ph.D. students. Process of designing studies of human systems, including topics. Actively involves students in preparation of research proposals for research papers and Ph.D. dissertations. May be repeated for credit. S/U or letter grading.

281A. Sociotechnical Systems. (4) Designed for graduate students. Introduction to systems concepts and view of work organizations as interacting social and technical systems open to forces from the surrounding environment. Focus on developing socio-technical systems analytic approach and understanding advantages of this approach for designing and managing organizations.

281B. People in Organizations. (4) Designed for graduate students. Introduction to different philosophical perspectives for understanding human behavior. Theories and concepts important for understanding human behavior in organizations, as well as management implications of individual, group, and social behavior. Special attention to knowledge about satisfac- tion, motivation, and productivity in organizations.


284A. Organization Design. (4) Lecture, three hours. Requires: course 281A or 281B. Survey of organizational design theories and methods, including bureaucratic, participative, and cognitive models. Development of specific methods ranging from microcode to job-to-macrodex of total organizational systems. Special emphasis on sociotechnical and differentiation models. S/U or letter grading.

284B. Organization Development. (4) Discussion, three hours. Designed for graduate students. Analysis of effects of organizational and managerial practices on individual self-fulfillment and systems effectiveness. Theories of organization change and action/research methods in organization development. Theory merged with practice through seminar discussions of field observations. S/U or letter grading.

284C. Managing Entrepreneurial Organizations. (4) Lecture, three hours. Designed for graduate students. New developments in information systems technical fields engaged with various technologies and environments, emphasizing design approaches emerging primarily from Europe, the Orient, and the U.S. In-depth comparisons of selected job and organizational design cases. May be repeated for credit. S/U or letter grading.

285A. Leadership, Motivation, and Power. (4) Discussion, three hours. Designed for graduate students. Theoretical and practical approaches to influencing and motivating people. Relative effectiveness of various leadership styles, different motivation theories, and power tactics from managerial point of view. Use of experience-based learning methods to aid diagnosis and understanding of one’s own influence styles. S/U or letter grading.

285B. Managerial Interpersonal Communication. (4) Discussion, three hours. Designed for graduate students. Interpersonal and personality factors affecting managerial communications. Styles and modes of communication in one-to-one, group, and large-systems settings. Opportunities offered to deepen understanding of one’s own communication styles and skills, considering verbal, nonverbal perceptual, and cross-cultural aspects. S/U or letter grading.

286. Negotiations Behavior. (4) Discussion, three hours. Presentation of theoretical principles and concepts in the psychology of economics through lectures and readings, with focus primarily on improving practical negotiating skills through experi- mental learning (i.e., negotiations simulations). Participants learn not only to enhance their individual abilities in dyadic and group situations, but also to analyze contexts for most effective application of these skills. S/U or letter grading.

287. Groups and Their Facilitation. (4) Discussion, three hours. Development of cognitive and interpersonal understandings of dynamics of small group training and its facilitation, including “sensitivity” basic groups, group counseling, self-help groups, small groups, and committees in managerial decision making. Analysis of relevant theory, research findings, and case studies. S/U or letter grading.

288A. Selected Topics in Behavioral Science. (4) Discussion, three hours. Designed for graduate students. Theories of human behavior fundamental to study of individual, group, organizational, and cultural behavior. Exploration in depth of selected theoretical positions, extending and consolidating behavioral science knowledge and application. May be repeated for credit. S/U or letter grading.

288B. Current Issues in Sociotechnical Systems and Organization Design. (4) Discussion, three hours. Designed for graduate students. Current topics in analysis and design of organization. Sociotechnical systems engaged with various technologies and environments, emphasizing design approaches emerging primarily from Europe, the Orient, and the U.S. In-depth comparisons of selected job and organizational design cases. May be repeated for credit. S/U or letter grading.

288C. Selected Topics in Human Systems Studies and Organizational Behavior. (4) Discussion, three hours. Designed for graduate students. Psychological and social psychological aspects of human behavior and performance in organizations. Theoretical models, empirical findings, and applications of such topics as attitudes and values, cognitive and perceptual processes, behavioral conflict, and individual change processes. May be repeated for credit. S/U or letter grading.

288D. Current Issues in Human Systems Change and Development through Consulting. (4) Discussion, three hours. Current topics in philosophy, art, and technology of improving organizations and increasing managerial effectiveness through consulting interventions. In-depth treatment of consultant entry and exit, diagnosing, process consultation, consciousness raising, team building, and values. Relevant to development of effective M.B.A. field-study teams. S/U or letter grading.

288E. Proseminar: Behavioral and Organizational Sciences Colloquium. (4) Discussion, three hours. Designed for graduate students. Series of presentati- ons by scholars and practitioners in behavioral and organizational sciences, with focus on integrative themes or major issues in the field, designed to provide dialogue among students and faculty on significant topics, controversies, and leading-edge ideas. May be offered in one or successive terms and may be repeated for credit. S/U or letter grading.


M292A. Research and Development Policy. (4) (Same as Public Policy M280A.) Lecture, three hours. Examination of research and development as a process and as element of goal-oriented organization. Factors affecting innovation and innovation transfer of technology; organizational and behavioral considerations; coupling of science, technology, and organizational goals; assessing of and forecasting technological futures. S/U or letter grading.


299R. Research Methods in Management. (4) Discussion, three hours. Designed for Ph.D. students. Provides feedback and evaluation of papers prepared for research requirement. Information about discussion expectations of research committee and Doctoral Office. Students must enroll the term in which they are submitting their research paper. May be repeated for credit.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit.
408. Financial Markets. (4) Lecture, three hours. Provides foundation for all fundamental concepts in investments. Topics include discounted and present values, bond and stock valuation, risk and return, constructing optimal portfolios, asset pricing models, and introduction to options and futures markets. Letter grading.


410. Operations Technology Management. (4) Lecture, three hours. Requires: courses 402, 403. Principles and decision analysis related to effective utilization of factors of production in manufacturing and nonmanufacturing activities for both intermittent and continuous systems. Production organizations, analytical models and methods, facilities design, and design of control systems for production operations. Letter grading.


411B. Marketing Management II. (4) Lecture, three hours. Requires: course 411A. Examination of analytical tools to gauge market attractiveness and to allocate resources to elements of marketing mix. Topics include market sizing based on diffusion of innovation and trial-and-repeat processes, customer preference measurement and market segmentation techniques, and optimal marketing resource allocation across products and customers. Letter grading.

412. Management of Organizations. (4) Lecture, three hours. Preparation: completion of first-year core program. Integrative approach to theory and practice of management in complex organizations, emphasizing managerial roles in designing organizational structures, creating and maintaining planning, control, information, incentive systems, different patterns of human interaction such structures and systems tend to produce.


421A. Management Communications I. (1) Lecture, 30 minutes; laboratory, one hour. Strategies and techniques for more effective individually written managerial communications such as memos, reports, discussion recommendations, etc. Emphasis on analytically based persuasive writing. S/U grading.

421B. Management Communications II. (1) Lecture, 30 minutes; laboratory, one hour. Strategies and techniques for more effective preparation of group written and oral communication where multiple audiences are important. Issues include achieving a single voice, establishing appropriate tone, incorporation of multiple points of view, etc. S/U grading.

422. Analysis and Communications. (4) Discussion, three hours. Designed for graduate students. Study and practice of oral and written management communications. Emphasis on audience analysis, persuasion, revising and editing, presentation of technical information, and uses of computer technology. Organization of article writing and speaking exercises. Personal attention to students' written communications and oral presentations.


444A-444B. Applied Management Research: Two-Quarter Plan. (4-4) Fieldwork, four hours. Must be taken in second year (or its equivalent for part-time students). Supervised study of an organization, including establishment of client/consultant relationships, identification of problems or strategic questions, design of study, collection and analysis of data, development and reporting of implementable recommendations. In Progress (444A) and S/U or letter (444B) grading.

445. Applied Management Research. (4) Fieldwork, eight hours. Must be taken in second year (or its equivalent for part-time students). Supervised study of an organization, including establishment of client/consultant relationships, identification of problems or strategic questions, design of study, collection and analysis of data, development and reporting of implementable recommendations. Letter grading.

451. Fieldwork in Organizational Development. (2 to 12) Fieldwork, to be arranged. Requires: course 284B. Supervised practical fieldwork in organizational development consultation in interpersonal, group, intergroup, total organization, and interorganizational settings. S/U or letter grading.

452. Fieldwork in Technical Assistance for Minority Business Enterprise. (1 to 4) Preparation: completion of first-year core program. Supervised field experience in business consulting and other forms of technical assistance for business firms and management in ethnic communities; seminars and other shared learning experiences in transmitting business administration technology to the urban ghetto.

453. Fieldwork in Arts Management. (4 to 12) Supervised field experience and practical work in all phases of an arts organization (pictorial, performing, or community), concentrating on its managerial problems and its relationship to the community and society in general.

454. Fieldwork in Organizations. (4) Fieldwork, to be arranged. Preparation: completion of two terms of M.B.A. program. Supervised, nonpaid practical experience or fieldwork in an organization as an intern or fellow. Execution of predetermined assignment(s) pursuant to a defined program of study which may include formal coursework. May not be repeated for credit. S/U grading.

455E. Internship. (1 to 18) Fieldwork, 120 hours. Requires: completion of one course in the university’s professional curriculum. Internship experience is arranged with an employer. Internship hours vary from 100 to 180. Requires: approval and signature on the internship form by academic advisor, department chairman, and employer. Letter grading.

457. Fieldwork in Investment Management. (4) Discussion, three hours. Use of academic theories learned in a practical experience by managing a portfolio started with donated funds. Mirror situations experienced by typical money management firms and includes investment strategy, asset allocation, securiety analysis, and organizational issues. S/U or letter grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA AGSM graduate adviser and assistant dean, and host campus instructor, department chair's approval;graduate degree requirements; approval of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Research in Management. (1 to 2) Directed individual study or research. May be repeated. S/U or letter grading.

597. Preparation for Qualifying Examinations. (4 or 12) Preparation for master's comprehensive examination or Ph.D. qualifying examinations. S/U grading.


Executive M.B.A. Program

461A. Leadership Foundations I. (2) (Formerly numbered 461A.) Lecture, to Executive M.B.A. Program students. Focus on individual problem-solving and decision-making skills. Alternative conceptual frameworks presented for augmenting diagnostic and decision-making skills of individuals. Use of readings, cases, decision simulations, and discussions to explore areas of charting job and career progress, working with others, and shaping work culture. S/U or letter grading.

461B. Leadership Foundations II. (1) Lecture, one hour. Limited to Executive M.B.A. Program students. Continuation of course 461A, with focus on development of self-assessment and self-reflection skills. Emphasis on self-evaluation of leadership strengths and weaknesses, with emphasis on individual problem solving and decision making and team design and development. Readings, cases, decision simulations, peer coaching, and discussions. Limited to Executive M.B.A. Program students. S/U grading.

461C. Leadership Foundations II. (1) Lecture, one hour. Limited to Executive M.B.A. Program students. Continuation of course 461B. Further exploration of leadership strengths and weaknesses, with emphasis on individual peer coaching, conflict management, individual goal setting, and goal achievement. Readings, cases, decision simulations, peer coaching, and discussions. S/U grading.

461D. Leadership Foundations III. (1) Lecture, one hour. Limited to Executive M.B.A. Program students. Continuation of course 461C. Facilitation of self-evaluation of leadership strengths and weaknesses, with emphasis on career development, social networks, and organizational design. Readings, cases, decision simulations, peer coaching, and discussions. Limited to Executive M.B.A. Program students. S/U grading.

461E. Leadership Foundations I. (1) Lecture, one hour. Limited to Executive M.B.A. Program students. Continuation of course 461D. Further exploration of leadership strengths and weaknesses, with emphasis on individual leadership and organizational change. Readings, cases, decision simulations, peer coaching, and discussions. Limited to Executive M.B.A. Program students. S/U grading.

462. Economic Analysis for Managers. (4) Lecture, three hours. Preparation: completion of course 461. In-depth study of economic theory illustrated. Topics include traditional antitrust regulations, new trends in antitrust, private versus government antitrust, securities regulation, environmental regulations, and a business firm's optimal response to regulation.

464. Managerial Accounting. (4) Limited to Executive M.B.A. Program students. Familiarizes the manager with fundamentals of accounting by focusing on use of external financial reports to evaluate corporate performance and use of accounting information for internal planning and control.

465A. Quantitative Methods for Managers. (2) (Formerly numbered 465B.) Lecture, two hours. Limited to Executive M.B.A. Program students. Survey of modeling approaches to managerial planning and decision making. Emphasis on ability to recognize situations where models can be used advantageously, to work effectively with model building specialists, and to make good use of models once they have been developed. S/U or letter grading.

465B. Game Theory. (2) Lecture, two hours. Limited to Executive M.B.A. Program students. Conceptual framework for thinking strategically about business decisions. Examination of interactions between firms and parties external to it through lens of game theory. Framework understanding game theory, such as recognizing interdependencies among players, getting away from win-lose mindset, importance of added value of players, anticipating other players' reactions to one's own actions. S/U or letter grading.

466A. Financial Policy for Managers. (4) Lecture, four hours. Limited to Executive M.B.A. Program students. Modern financial management deals with decision making under uncertainty for corporate financial management, portfolio investment decisions, financial institutions, and international financial management. Focus on learning sound theoretical tools and applying them in casework. S/U or letter grading.

466B. Advanced Financial Policy for Managers. (4) Lecture, four hours. Limited to Executive M.B.A. Program students. Modern financial management deals with decision making under uncertainty for corporate financial management, portfolio investment decisions, financial institutions, and international financial management. Focus on learning sound theoretical tools and applying them in casework. S/U or letter grading.


469. Management of Human Resources. (4) Limited to Executive M.B.A. Program students. Introduction to major areas of human resource management — personnel management, labor economics, labor law, and labor relations — accomplished by examining some major doctrines, theories, and research related to each of these topic areas, as well as some practical problems for managers posed by each.

470A. Introduction to Field Study. (2) Lecture, two hours. Limited to Executive M.B.A. Program students. Methods of strategic and operational analysis to determine relationship of organization with its environment, In Progress grading (credit to be given only on completion of course 470C).

470B. Field Study. (2) Fieldwork, two hours. Limited to Executive M.B.A. Program students. Preparation of strategic overview of selected company entailing collection of relevant secondary data, including but not limited to interviews of corporate executives, corporate financial and marketing data, industry reports, and customer and competitor interviews and surveys. In Progress grading (credit to be given only on completion of course 470C).

470C. Field Study. (2) Lecture, two hours. Limited to Executive M.B.A. Program students. Further research and analysis of selected company and identified in course 470B. Presentation of final reports and evaluation of student efforts by corporate personnel. S/U or letter grading.

470D. Seminar: Policy Analysis. (2) Seminar, two hours. Limited to Executive M.B.A. Program students. Site visit to selected company, presentation of final reports, and evaluation of student efforts by corporate personnel. S/U or letter grading.

471A-471B. Management Practicum. (2-2) Lecture, three hours. Two-term individual or group (three to five students) project on global strategic issues designed to allow students to employ and enhance concepts learned in classroom. In Progress (471A) and Fieldwork (471B) grading. Letter grading.

472A. Marketing Strategy and Policy. (4) (Formerly numbered 472.) Lecture, four hours. Limited to Executive M.B.A. Program students. Strategic marketing decision making in 21st century marketing objectives and strategies and implementation of these strategies through pricing, channel, promotion, and new product decisions. S/U or letter grading.

472B. Product Innovation and Marketing. (4) Lecture, four hours. Limited to Executive M.B.A. Program students. Exploration of innovation and marketing of products and services to customers. Use of creativity tools, customer research, and marketing science to create value and allocate resources so as to maximize revenues and profits that result. S/U or letter grading.

473A. Managerial and Organizational Processes. (2) Lecture, four hours every other week for 13 weeks. Limited to Executive M.B.A. Program students. Managerial processes, including intergroup relations, design and functioning of organizations, and relationships of organizations to their environment. S/U or letter grading.


476. Competitive Strategy and Business Policy. (4) Limited to Executive M.B.A. Program students. Study of general management task of forging a corporation’s competitive strategy with emphasis on economics of business rivalry within a variety of industrial settings and implications of changing environments on business strategy.

477. The Manager and Business/Society Relationships. (4) Limited to Executive M.B.A. Program students. While organizations may, to some extent, choose their immediate environments, there are broad environmental factors and trends that affect most, if not all, organizations. Examination of emerging trends in key areas of government regulation, labor relations, international trade, basic economic structure, and social responsibility.

478. Selected Topics in Management. (2 to 4) Seminar, 90 minutes to three hours. Limited to Executive M.B.A. Program students. Examination of selected problems and issues in an area of current concern in management. S/U or letter grading.

480. Corporate Governance. (4) Lecture, three hours. Foundations for members of corporate boards of directors to understand their responsibilities, hone their skills, and learn to improve their practices. Topics include legal and moral duties as directors, risk management, managing top management teams of corporate corporations. Letter grading.


482. Negotiations Behavior. (4) Lecture, three hours. Presentation of theoretical principles and concepts from psychology, sociology, and economics through lectures and readings, with focus primarily on improving practical negotiating skills through experiential learning (i.e., negotiations simulations). Participants learn not only to enhance their individual abilities in dyadic and group situations but also to analyze contexts for most effective application of these skills.

483. Management of Technology and Innovation. (4) Lecture, three hours. Problems of managing technological innovation in Asia. Topics include incorporation of technological consideration into strategy, adoption of technological innovation, promoting innovation through organizational design and leadership, e-business, and m-business. Letter grading.

484. Asian Business Environment. (4) Lecture, three hours. Theoretical issues related to analysis of countries’ economic, political, and social conditions. Topics include political risk analysis, demographics, urbanization. Application to scenario planning in Asia-Pacific region/countries. Letter grading.

485. Corporate Entrepreneurship. (4) Lecture, three hours. Managerial efforts aimed at identifying, development, and exploitation of technical and organizational innovations, management of new product or process developments, and effective new venture management in context of large corporations in manufacturing and service industries. Development of awareness and understanding of range, scope, and complexity of issues related to creation of organizational environment that is supportive of entrepreneurial endeavors, and insight concerning effective implementation of technological and organizational innovations in corporate setting. Letter grading.

486. Strategic Leadership and Strategic Implementation. (4) Lecture, three hours. Designed to address several fundamental aspects of leading complex organizations, with emphasis on important tasks of developing well-aligned, high-performance organizations and on challenges of leading change in organizations that enable structures and processes that are consistent with a point of view on strategic leadership and to increase their awareness of themselves as leaders. Letter grading.
MATERIALS SCIENCE AND ENGINEERING

Henry Samueli School of Engineering and Applied Science

UCLA
6532 Boelter Hall
Box 951595
Los Angeles, CA 90095-1595
(310) 825-5534
fax: (310) 206-7353
http://www.seas.ucla.edu/ms/

Mark S. Goorsky, Ph.D., Chair
Jenn-Ming Yang, Ph.D., Vice Chair
Ya-Hong Xie, Ph.D., Vice Chair

Professors
Russell E. Cafflisch, Ph.D.
Bruce S. Dunn, Ph.D. (Nippon Sheet Glass Company Professor of Materials Science)
Mehdi Ghomi, Ph.D.
Mark S. Goorsky, Ph.D.
Vijay Gupta, Ph.D.
H. Thomas Hahn, Ph.D. (Raytheon Company Professor of Manufacturing Engineering)
Richard B. Kaner, Ph.D.
Qiibing Pei, Ph.D.
King-Ning Tu, Ph.D.
Ya-Hong Xie, Ph.D.
Jenn-Ming Yang, Ph.D.
Yang Yang, Ph.D.

Professors Emeriti
Alan J. Ardel, Ph.D.
David L. Douglas, Ph.D.
William Klement, Jr., Ph.D.
John D. Mackenzie, Ph.D. (Nippon Sheet Glass Company Professor Emeritus of Materials Science)
Kanjy Ono, Ph.D.
Ali H. Shabaik, Ph.D.
George H. Sines, Ph.D.
Christian N.J. Wagner, Dr. rer. nat.
Alfred S. Yue, Ph.D.

Associate Professors
Vidvuds Ozolins, Ph.D.
Benjamin M. Wu, D.D.S., Ph.D.

Assistant Professors
Yu Huang, Ph.D.
Ioanna Kakoulli, D.Phil.
Suneel Kodambaka, Ph.D.

Adjunct Professors
Eric P. Bescher, Ph.D.
Harry Patton Gillis, Ph.D.
John G. Gilman, Ph.D.
Marek A. Przybystupa, Ph.D.

Scope and Objectives

At the heart of materials science is an understanding of the microstructure of solids. “Microstructure” is used broadly in reference to solids viewed at the subatomic (electronic) and atomic levels, and the nature of the defects at these levels. The microstructure of solids at various levels profoundly influences the mechanical, electronic, chemical, and biological properties of solids. The phenomenological and mechanistic relationships between microstructure and the macroscopic properties of solids are, in essence, what materials science is all about.

Materials engineering builds on the foundation of materials science and is concerned with the design, fabrication, and optimal selection of engineering materials that must simultaneously fulfill dimensional, property, quality control, and economic requirements.

The department also has a program in electronic materials that provides a broad-based background in materials science, with opportunity to specialize in the study of those materials used for electronic and optoelectronic applications. The program incorporates several courses in electrical engineering in addition to those in the materials science curriculum.

The undergraduate program leads to the Bachelor of Science degree in Materials Engineering. Students are introduced to the basic principles of metallurgy and ceramic and polymer science as part of the department’s Materials Engineering major. A joint major field, Chemistry/Materials Science, is offered to students enrolled in the Department of Chemistry and Biochemistry (College of Letters and Science). The graduate program allows for specialization in one of the following fields: ceramics and ceramic processing, electronic and optical materials, and structural materials.

Department Mission

The Department of Materials Science and Engineering faculty members, students, and alumni foster a collegial atmosphere to produce (1) highly qualified students through an educational program that cultivates excellence, (2) novel and highly innovative research that advances basic and applied knowledge in materials, and (3) effective interactions with the external community through educational outreach, industrial collaborations, and service activities.

Undergraduate Program Objectives

The Materials Engineering major at UCLA prepares undergraduate students for employment or advanced studies in industry, the national laboratories, state and federal agencies, and academia. To meet the needs of these constituencies, the objectives of the undergraduate program are to produce graduates who (1) possess a solid foundation in materials science and engineering, with emphasis on the fundamental scientific and engineering principles that govern the microstructure, properties, processing, and performance of all classes of engineering materials, (2) understand materials processes and the application of general natural science and engineering principles to the analysis and design of materials systems of current and/or future importance to society, (3) have strong skills in independent learning, analysis, and problem solving, with special emphasis on design of engineering materials and processes, communication, and an ability to work in teams, and (4) understand and are aware of the broad issues relevant to materials, including professional and ethical responsibilities, impact of materials engineering on society and environment, contemporary issues, and need for lifelong learning.

Undergraduate Study

Materials Engineering B.S.

The ABET-accredited materials engineering program is designed for students who wish to pursue a professional career in the materials field and desire a broad understanding of the relationship between microstructure and properties of materials. Metals, ceramics, and polymers, as well as the design, fabrication, and testing of metallic and other materials such as oxides, glasses, and fiber-reinforced composites, are included in the course contents.

Materials Engineering Option

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L; Computer Science 31 (or another programming course approved by the Faculty Executive Committee); Materials Science and Engineering 10, 90L; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C (or Electrical Engineering 1).

The Major

Required: Chemical Engineering 102A (or Mechanical and Aerospace Engineering 105A), Civil and Environmental Engineering 101 (or Mechanical and Aerospace Engineering 101), 108, Electrical Engineering 100, Materials Science and Engineering 104, 110, 110L, 120, 130, 131, 131L, 132, 140, 143A, 150, 160, Mechanical and Aerospace Engineering 181A or 182A; two laboratory courses (4 units) from Materials Science and Engineering 121L, 141L, 143L, 161L; three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and three major field elective courses (12 units) from Chemical Engineering C114, Civil and Environmental Engineering 130, 135A, Electrical Engineering 2, 123A, 123B, 124, Materials Science and Engineering 111, 121, 122, 151, 161, 162, Mechanical and Aerospace Engineering 156A, 166C, plus at least one elective course (4 units) from Chemistry and Biochemistry 30A, 30AL, Electrical Engineering 131A, Materials Science and Engineering 170, 171, Mathematics 170A, or Statistics 100A.

For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Electronic Materials Option

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L; Computer Science 31 (or another programming course approved by the Faculty Executive Committee); Electrical Engineering 10; Materials Science and Engineering 10, 90L; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C (or Electrical Engineering 1).
Graduate Degrees

The Department of Materials Science and Engineering offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Materials Science and Engineering.

Materials Science and Engineering

Lower Division Courses

10. Freshman Seminar: New Materials. (1) Formerly numbered 88. Seminar, one hour; outside study, two hours. Preparation: high school chemistry and physics. Not open to students with credit for course 104 or former course 14. Introduction to basic concepts of materials science and new materials vital to advanced technology. Microstructural analysis and various material properties discussed in conjunction with such applications as biomedical sensors, pollution control, and microelectronics. Letter grading.

90L. Physical Measurement in Materials Engineering. (2) Laboratory, four hours; outside study, two hours. Various physical measurement methods used in materials science and engineering. Mechanical, thermal, electrical, magnetic, and optical techniques. Letter grading.

Upper Division Courses

104. Science of Engineering Materials. (4) Formerly numbered 14L. Lecture, three hours; discussion, one hour; outside study, eight hours. Requisites: Chemistry 20A, 20B, 20L, Physics 1A, 1B. General introduction to different types of materials used in engineering designs: metals, ceramics, plastics, and composites, relationship between structure (crystals and microstructure) and properties of technological materials. Illustration of their fundamental differences and their applications in engineering and science. Letter grading.

110. Introduction to Materials Characterization A (Crystal Structure, Nanostructures, and X-Ray Scattering). (4) Lecture, four hours; outside study, eight hours. Requisite: course 104. Modern methods of materials characterization; fundamentals of crystallography, properties of X-rays, X-ray scattering; powder method, Laue method; determination of crystal structure; phase diagram determination; high-resolution X-ray diffraction methods; X-ray spectroscopy; design of materials characterization procedures. Letter grading.

110L. Introduction to Materials Characterization A Laboratory. (2) Laboratory, four hours; outside study, two hours. Requisite: course 104. Experimental techniques and analysis of materials through X-ray scattering techniques; powder method, crystal structure determination, high-resolution X-ray diffraction methods, and special projects. Letter grading.

111. Introduction to Materials Characterization B (Electron Microscopy). (4) Lecture, three hours; laboratory, two hours; outside study, seven hours. Requisites: courses 104, 110. Characterization of microstructure and microchemistry of materials; transmission electron microscopy; reciprocal lattice, electron diffraction, stereographic projection, direct observation of defects in crystals, replicas; scanning electron microscopy; emissive and reflective modes; chemical analysis; electron optics of both instruments. Letter grading.


121L. Materials Science of Semiconductors Laboratory. (2) Lecture, three minutes; discussion, three minutes; laboratory, two hours; outside study, three hours. Corequisite: course 121. Experiments conducted on materials characterization, including measurements of contact resistance, dielectric constant, and thin film biaxial modulus and CTE. Letter grading.

122. Principles of Electronic Materials Processing. (4) Lecture, four hours; outside study, eight hours. Requisite: course 104. Description of basic semiconductor materials for device processing; preparation and characterization of silicon, III-V compounds, and films. Discussion of principles of CVD, MOCVD, LPE, and MBE; metals and dielectrics. Letter grading.

130. Phase Relations in Solids. (4) Lecture, four hours; outside study, eight hours. Requisites: course 104, and Chemical Engineering 102A or Mechanical and Aerospace Engineering 105A. Summary of thermodynamics, crystal structure, solution thermodynamics, mass-action law, and ternary phase diagrams, glass transitions. Letter grading.

131. Diffusion and Diffusion-Controlled Reactions. (4) Lecture, four hours; outside study, eight hours. Requisite: course 130. Diffusion in metals and intermetallics; nucleation growth theory; precipita- tion from solid solution, eutectoid decomposition, design of heat treatment processes of alloys, growth of intermediate phases, gas-solid reactions, design of oxidation-resistant alloys, recrystallization, and grain growth. Letter grading.

131L. Diffusion and Diffusion-Controlled Reactions Laboratory. (2) Laboratory, two hours; outside study, four hours. Corequisite: course 131. Design of heat-treating cycles and performing experiments to study interdiffusion, growth of intermediate phases, recrystallization, and grain growth in metals. Analysis of data. Comparison of results with theory. Letter grading.


140. Materials Selection and Engineering Design. (4) Formerly numbered 191L. Laboratory, four hours. Preparation: knowledge of BASIC or C or assembly language. Limited to junior/senior Materials Science and Engineering majors. Interface and control techniques, real-time data acquisition and processing, computer-aided testing. Letter grading.

143A. Mechanical Behavior of Materials. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 104, Mechanical and Aerospace Engineering 101. Plastic flow of metals under simple and combined loading, strain rate and temperature effects, dislocations, fracture, microstructural effects, mechanical and thermal treatment of steel for engineering applications. Letter grading.

143L. Mechanical Behavior Laboratory. (2) Laboratory, four hours. Requisites: courses 90L, 143A (may be taken concurrently). Methods of characterizing mechanical behavior of various materials; elastic and plastic deformation, fracture toughness, fatigue, and creep. Letter grading.

150. Introduction to Polymers. (4) Lecture, three hours; laboratory, two hours. Polymerization mechanisms, molecular weight and distribution, chemical structure and bonding, structural morphology, and their effects on physical properties. Glassy polymers, springy polymers, elastomers, adhesives. Fiber forming polymers, polymer processing technology, plastication. Letter grading.


160. Introduction to Ceramics and Glasses. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 104, 130. Introduction to ceramics and glasses being used as important materials of engineering, processing techniques, and unique properties. Examples of design and control of properties for certain specific applications in engineering. Letter grading.
161. Processing of Ceramics and Glasses. (4) Lecture, four hours; discussion, one hour; Requisite: course 160. Study of processes used in fabrication of ceramics and glasses for structural applications, optics, and electronics. Processing operations, including modern techniques of powder synthesis, greenware forming, sintering, glass melting. Microstructure properties relationships in ceramics. Fracture analysis and design with ceramics. Letter grading.


162. Electronic Ceramics. (4) Lecture, four hours; outside study, four hours. Requisite: courses 100, 104. Electronic Engineering 1 (or Physics 1C). Utilization of ceramics in microelectronics; thick film and thin film resistors, capacitors, and substrates; design and processing of electronic ceramics and packaging; magnetic ceramics; ferroelectric ceramics and electronic devices; optical wave guide applications and designs. Letter grading.

170. Engaging Elements of Communication: Oral Communication. (2) Lecture, one hour; discussion, one hour; outside study, four hours. Comprehensive oral presentation and communication skills provided by building on strengths of individual personal styles in creation of positive interpersonal relations. Skill set prepares students for different types of academic and professional presentations for wide range of audiences. Learning environment is highly supportive and interactive as it helps students creatively develop and greatly expand effectiveness of their communication and presentation skills. Letter grading.

171. Engaging Elements of Communication: Writing for Technical Community. (2) Lecture, one hour; discussion, one hour; outside study, four hours. Comprehensive technical writing skills on subjects specific to field of materials science and engineering. Students write review term paper in selected subject field of materials science and engineering from given set of journal publications. Instruction leads students through several crucial steps, including brainstorming, choosing topics with outline, concise writing of abstract, conclusion, and final polishing. Other subjects include writing style, word choices, and grammar. Letter grading.

CM180. Introduction to Biomaterials. (4) (Same as Biomedical Engineering CM180.) Lecture, three hours; discussion, two hours; outside study, seven hours. Requisites: course 104, or Chemistry 20A, 20B, and 20L. Engineering materials used in medicine and dentistry for repair and/or restoration of damaged natural tissues. Topics include relationships between material properties, suitability to task, surface chemistry, processing and treatment methods, and biocompatibility. Concurrently scheduled with course CM280. Letter grading.

188. Special Courses in Materials Science and Engineering. (4) Seminar, four hours; outside study, eight hours. Special topics in materials science and engineering for undergraduate students that are taught on experimental or temporary basis, such as those taught by resident and visiting faculty members. May be repeated once for credit with topic or instructor change. Letter grading.

194. Research Group Seminars: Materials Science and Engineering. (4) Seminar, four hours; outside study, eight hours. Designed for undergraduate students who are part of a research group. Discussion of research methods and current literature in field or of research of faculty members or students. May be repeated for credit. Letter grading.

199. Directed Research in Materials Science and Engineering. (2 to 6) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating project or paper required. Occasional field trips may be arranged. May be repeated for credit with school approval. Individual contract required; enrollment notification available in Office of Academic and Student Affairs. Letter grading.

Graduate Courses


211. Electron Microscopy. (4) (Formerly numbered 244.) Lecture, four hours; outside study, eight hours. Requisite: course 110. Theory of diffraction of waves (X-rays, electrons, and neutrons) in crystalline and noncrystalline materials. Long- and short-range order in crystals, structural effects of plastic deformation, solid-state transformations, arrangements of atoms in liquids and amorphous solids. Letter grading.


224. Deposition Technologies and Their Applications. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 120, 130, 131. Thermodynamics and kinetics that affect semiconductor growth and device processing. Particular emphasis on fundamentals of growth (bulk and epitaxial), heteroepitaxy, implantation, oxidation, Letter grading.

222. Materials Science of Thin Films. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 120, 131. Fabrication, structure, and property correlations of thin films used in microelectronics for data and information processing. Topics include film deposition, interface properties, and strain, electromigration, phase changes and kinetics, reliability. Letter grading.

223. Electron Microscopy. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 120, 130, 131. Thermodynamics and kinetics that affect semiconductor growth and device processing. Particular emphasis on fundamentals of growth (bulk and epitaxial), heteroepitaxy, implantation, oxidation, Letter grading.

224. Deposition Technologies and Their Applications. (4) Lecture, three hours; outside study, nine hours. Designed for graduate engineering students. Deposition methods used in high-technology applications. Theory and experimental details of physical vapor deposition (PVD), chemical vapor deposition (CVD), plasma-assisted vapor deposition processes, plasma spray, electrodeposition, Applications in semiconductor, chemical, optical, mechanical, and metalurgical industries. Letter grading.


226. Si-CMOS Technology: Selected Topics in Materials Science. (4) Lecture, three hours; discussion, one hour; outside study, eight hours. Requisite: courses 130, 131, 200, 221, 222. Selected topics in materials science from modern Si-CMOS technology, including technological challenges in high-kmetal gate stacks, strained Si FETs, SOI and three-dimensional FETs, source/drain engineering including transport-enhancement modes, nonvolatile memory, and metallization for ohmic contacts. Letter grading.

243A. Fracture of Structural Materials. (4) Lecture, four hours; laboratory, two hours; outside study, four hours. Requisite: course 143A. Engineering and scientific aspects of crack nucleation, slow crack growth, and unstable fracture. Fracture mechanics, dislocation models, fatigue, fracture in reactive environments, alloy development, fracture-safe design. Letter grading.

243C. Dislocations and Strengthening Mechanisms in Solids. (4) Lecture, four hours; outside study, eight hours. Requisite: course 143A or Mechanical and Aerospace Engineering 156B. Elastic and plastic behavior of crystals, geometry, mechanics, and interaction of dislocations, mechanisms of yielding, work hardening, and other strengthening. Letter grading.


246D. Electronic and Optical Properties of Ceramics. (4) Lecture, four hours; outside study, eight hours. Requisite: course 160. Introduction to electronic properties of ceramic single crystals and glasses and effects of processing and microstructure on these properties. Electronic conduction, ferroelectricity, and photochromism. Magnetic ceramics. Infrared, visible, and ultraviolet transmission. Unique applications of ceramics. Letter grading.


# Mathematics

**Mathematics / 431**

**UCLA**

6363 Math Sciences
Box 951555
Los Angeles, CA 90095-1555
(310) 825-4701
fax: (310) 206-6673
http://www.math.ucla.edu

Christoph M. Thiele, Ph.D., Chair

Peter Petersen, Ph.D., Undergraduate Vice Chair

Don M. Blasius, Ph.D., Graduate Vice Chair Christopher R. Anderson, Ph.D., Director, Program in Computing

Richard S. Elman, Ph.D., Administrative Vice Chair

### Professors


Christoph M. Thiele, Ph.D.  V.S. Varadarajan, Ph.D.  William R. Zame, Ph.D.

### Professors Emeriti


### Associate Professors


### Assistant Professors

Inwon C. Kim, Ph.D.  Joseph Teran, Ph.D.

### Lecturers

Andrea Brose, Ph.D.  Heather Calahan, M.A.  Susie Hakansson, Ph.D.  Loong F. Kong, M.S.  Tamara Kucherenko, Ph.D.

### 252. Organic Polymer Electronic Materials. (4) Lecture, four hours; outside study, eight hours. Preparation: knowledge of introductory organic chemistry and polymer science. Introduction to organic electronic materials with emphasis on materials chemistry and processing. Topics include conjugated polymers; heavily doped, highly conducting polymers; applications as processable metals and in various electrical, optical, and electrochemical devices. Synthesis of semiconductor polymers for optical light-emitting diodes, solar cells, thin-film transistors. Introduction to emerging field of organic electronics. Letter grading.

### 270. Computer Simulations of Materials. (4) Lecture, four hours; outside study, eight hours. Introduction to modern methods of computational modeling in materials science. Topics include basic statistical mechanical, classical molecular dynamics, and Monte Carlo methods, with emphasis on understanding basic physical ideas and learning to design, run, and analyze computer simulations of materials. Use of examples from current literature to show how these methods can be used to study interesting phenomena in materials science. Hands-on computer experiments. Letter grading.

### 271. Electronic Structure of Materials. (4) Lecture, four hours; outside study, eight hours. Preparation: basic knowledge of quantum mechanics. Recommended requisite: course 200. Introduction to modern first-principles electronic structure calculations for various types of modern materials. Properties of electrons and interatomic bonding in molecules, crystals, and liquids, with emphasis on practical methods for solving Schrödinger equation and using it to calculate physical properties such as elastic constants, equilibrium structures, binding energies, vibrational frequencies, electronic band gaps and band structures, properties of defects, surfaces, interfaces, and magnetic. Extensive hands-on experience with modern density-functional theory code. Letter grading.

### 272. Theory of Nanomaterials. (4) Lecture, four hours; outside study, seven hours. Strongly recommended requisite: course 200. Introduction to properties and applications of nanoscale materials, with emphasis on understanding basic principles that distinguish nanostructures (with feature size below 100 nm) from more common microstructured materials. Explanation of new phenomena that emerge only in very small systems, using simple concepts from quantum mechanics and thermodynamics. Topics include structure and electronic properties of quantum dots, wires, nanotubes, and multilayers, self-assembly on surfaces and in liquid solutions, and, applications, and, properties of nanostructured metamaterials, molecular electronics, spin-based electronics, and proposed realizations of quantum computing. Discussion of current and future directions of this rapidly growing field using examples from modern scientific literature. Letter grading.

### CM280. Introduction to Biomaterials. (4) (Same as Biomedical Engineering CM280.) Lecture, three hours; discussion, two hours; outside study, seven hours. Prequisites: course 104, or Chemistry 20A, 20B, or 20L. Engineering materials used in medicine and dentistry for repair and/or restoration of damaged natural tissues. Topics include relationships between material properties, suitability to task, surface chemistry, processing and treatment methods, and biocompatibility. Concurrently scheduled with course CM180. Letter grading.

### 296. Seminar: Advanced Topics in Materials Science and Engineering. (2) Seminar, two hours, outside study, four hours. Advanced study and analysis of current topics in materials science and engineering. Discussion of current research and literature in research specialty of faculty members teaching course. May be repeated for credit. S/U grading.

### 297. Seminar: Engineering. (2 to 4) Seminar, to be arranged. Limited to graduate materials science and engineering students. Seminars may be organized in open enrollment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.
Adjunct Assistant Professors
Ilkikhar Burhanuddin, Ph.D.
Shaoxin Dai, Ph.D.
Shibin Dai, Ph.D.
Jason Devita, Ph.D.
Talia Fernos, Ph.D.
Geoffrey Grimmel, Ph.D.
Ali Haddad, Ph.D.
Cyril Houdayer, Ph.D.
Paul M. Jenkins, Ph.D.
Kenley Y. Jung, Ph.D.
Rizwanur Khan, Ph.D.
Edward D. Lee, Ph.D.
Young-Ju Lee, Ph.D.
Richard Oberlin, Ph.D.
Keith R. Ouellige, Ph.D.
Virginia Pasour, Ph.D.
Karel Pravda-Starov, Ph.D.
Ciprian I. Preda, Ph.D.
Olga V. Radko, Ph.D.
Thomas Richthammer, Ph.D.
Raanan Schul, Ph.D.
Brendan Sheehan, Ph.D.
Martin Short, Ph.D.
Balin Song, Ph.D.
Arthur D. Szlam, Ph.D.
Alex Usvyatsov, Ph.D.
Stefan I. Valdimarsson, Ph.D.
Thomas Ward, Ph.D.
Todd C. Wittman, Ph.D.
William C. Wylie, Ph.D.
Jianlin Xia, Ph.D.
Xinwei Yu, Ph.D.
Xinwei Zhang, Ph.D.

Scope and Objectives
Gauss has called mathematics the “Queen of the Sciences.” It has provided powerful intellectual tools that have made possible tremendous advances in modern science and technology. The Department of Mathematics provides courses of study that introduce students to the fundamentals of mathematics and allow them to master the most important parts of the subject, both pure and applied. It leads doctoral students to the frontiers of mathematical research, where they can begin to push back those frontiers.

Undergraduate Study
Admission
Students entering UCLA directly from high school who declare one of the five mathematics majors offered by the department at the time they apply for admission are automatically admitted to that major.

UCLA students who wish to enter one of the mathematics majors must have a minimum grade of C— in each preparation for the major course completed and a combined grade-point average of at least 2.0 in those courses. Grades in any completed major course must also average at least 2.0. Students with 60 or more units of credit must have completed at least 12 units of calculus to enter any of the mathematics majors.

Transfer students must have a minimum grade of C in the equivalent of each preparation for the major course completed. Those transferring with 60 or more quarter units of credit must have completed at least 12 quarter units of calculus to enter any of the Mathematics Department majors.

Preliminary Examination in Mathematics
If students wish to enroll in Mathematics 1, 3A, or 31A, they must pass the Mathematics Diagnostic Test.

The examination may be taken at any one of several times, including all sessions of the summer Orientation Program. It is also given several times during the academic year. For specific dates and test locations, refer to the Schedule of Classes or the departmental website at http://www.math.ucla.edu/undergrad/diagnostic.shtml, or contact the Mathematics Student Services Office, 6356 Math Sciences.

Advanced Placement in Calculus
Students who have taken the Advanced Placement (AP) Calculus AB Test and obtained a score of 5 receive 4 units of credit and Mathematics 31A equivalency; those with a score of 4 receive 4 units of calculus and analytic geometry credit. They may petition for 31A equivalency, or they may take course 31A at UCLA, although they must still satisfy the course requisites (Mathematics Diagnostic Test). Students who take the BC Test and obtain a score of 5 receive 8 units of calculus and Mathematics 31A, 31B equivalency; those with a score of 4 receive 4 units of credit and Mathematics 31A equivalency. They may petition for 31A, 31B equivalency, or they may take courses 31A, 31B at UCLA, although they must still satisfy the course requisites (Mathematics Diagnostic Test). Students receiving a score of 4 or lower on the AB or 3 or lower on the BC examination should consult the undergraduate mathematics counselor prior to enrolling in a calculus course at UCLA.

Credit Limitations
Credit is given for at most one course in each of the following groups: (1) 3A, 31A; (2) 3B, 31B, 31E; (3) 3C, 32A; (4) 110A, 117.

Courses from only one of the following statistics sequences may be applied toward any mathematics major: (1) Statistics 100A (or Mathematics 170A), 100B, 100C or (2) Statistics 110A, 110B.

Mathematics 170A and Statistics 100A are not open for credit to students with credit for Electrical Engineering 131A.

Mathematics 2, 38A, 38B, and Statistics 10 are not open for credit to students with credit for any course from Mathematics 110A through 199.

Mathematics 132 is not open for credit to students with credit for Physics 132.

Mathematics 151A and 151B are not open for credit to students with credit for Electrical Engineering 103.

Students may not take or repeat a mathematics course for credit if it is a requisite for a more advanced course for which they already have credit. This applies in particular to the repetition of courses (e.g., if students wish to repeat Mathematics 31B, they must do so before completing course 32A).

Students may not receive credit for both a course and the honors version of that course (e.g., they may not receive credit for both Mathematics 131A and 131AH).

Mathematics Upper Division Courses
Mathematics 113, 115A, 131A, 132, 142, 151A, and 164 are offered each term. The remaining upper division courses are usually offered once or twice each year. The tentative class schedule for the forthcoming academic year is posted in the Student Services Office in February.

Program in Computing Courses
Program in Computing 1 is designed for students who wish a broad, general introduction to the topic of computers and computation, but who have no prior experience in computing.

Courses 10A, 10B, and 10C provide an extensive introduction to programming, using the C++ language. Courses 15, 20A, 20B, 20C, 30, 40A, 40B, and 60 are of interest to Letters and Science majors who are completing a specialization in Computing or who are planning to take upper division coursework in computer science. These students should seek the advice of their major department.

Undergraduate Majors
The department offers five majors: Mathematic, Applied Mathematics, Mathematics of Computation, Mathematics/Applied Science, and Mathematics for Teaching. The department also participates with the Economics Department in the Mathematics/Economics Interdepartmental Program, which offers a Mathematics/Economics major.

The Mathematics major is designed for students whose basic interest is mathematics; the Applied Mathematics major for those interested in the classical relationship between mathematics, the physical sciences, and engineering; the Mathematics of Computation major for individuals interested in the mathematical theory and the applications of computing; the Mathematics/Applied Science major for those with substantial interest in the applications of mathematics to a particular outside field of interest; and the Mathematics for Teaching major for students planning to teach mathematics at the high school level. As part of the Mathematics/Applied Science major, the department offers programs for students interested in the fields of actuarial science, management/accounting, mathematics/history of science, and medical and life sciences.

Courses taken to fulfill any of the requirements for any of the mathematics majors must be taken for a letter grade.
Mathematics B.S.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Physics 1A, Program in Computing 10A, and two courses from Chemistry and Biochemistry 20A, 20B, Economics 11, Life Sciences 1, Philosophy 31, 32, Physics 1B, 1C, 6B, 6C. Each course must be passed with a minimum grade of C–, and students must have a minimum overall grade-point average of 2.0 for the courses.

Transfer Students

Transfer applicants to the Mathematics major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of calculus for majors, one calculus-based physics (mechanics) course, one C++ programming course, and two courses from general chemistry for majors, economics, symbolic logic, and calculus-based physics.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Mathematics 110A, 110B, 115A, 120A, 131A, 131B, 132, and at least five elective courses from 106 through 199 and Statistics 100A through 120B. The 12 courses must be passed with a minimum overall grade-point average of 2.0.

Applied Mathematics B.S.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Physics 1A, 1B, Program in Computing 10A, and one course from Chemistry and Biochemistry 20A, 20B, Physics 1C. Each course must be passed with a minimum grade of C–, and students must have a minimum overall grade-point average of 2.0 for the courses.

Transfer Students

Transfer applicants to the Applied Mathematics major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of calculus for majors, one discrete structures course, two calculus-based physics courses, three programming courses, and one course from general chemistry for majors or calculus-based physics.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Eleven Mathematics Department courses, including Mathematics 115A, 131A, 131B or 132, 151A, 151B, and six courses from 106 through 199 and Statistics 100A through 120B; three upper division computer science courses (12 units). The 14 courses must be passed with a minimum overall grade-point average of 2.0.

Mathematics/Applied Science B.S.

The Mathematics/Applied Science major is designed for students with a substantial interest in mathematics and its applications to a particular field. It is an individual major in that students, in consultation with a faculty adviser, design their own program. They may also select one of the established programs: actuarial plan, management/accounting plan, mathematics/history of science plan, or medical and life sciences plan. In the past, Mathematics/Applied Science majors have combined the study of mathematics with fields such as atmospheric and oceanic sciences, biochemistry, biology, chemistry, economics, geography, physics, psychology, and statistics.

Students interested in designing an individual program should meet with the undergraduate adviser, 6356 Math Sciences, during their sophomore year. A proposed program is drawn up, then forward to the mathematics/applied science curriculum committee for approval. All programs must include the following preparation for the major and major courses.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 10A. Each course must be passed with a minimum grade of C–, and students must have a minimum overall grade-point average of 2.0 for the courses. Additional preparation, varying with the individual program, may be required.

Transfer Students

Transfer applicants to the Mathematics/Applied Science major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of calculus for majors and one C++ programming course. Additional courses are required for each concentration plan.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Fourteen courses, seven in the Mathematics Department selected from Mathematics 106 through 199 and seven upper division courses in a related field selected from one or two other departments. The seven Mathematics Department courses must be passed with an overall grade-point average of 2.0, as must the seven courses outside mathematics.

At least five of the courses from the related discipline must be taken after the program has been approved. Students are not admitted to the major if they have 135 or more units by the end of the term in which they plan to enter the program.

Actuarial Plan

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Economics 1, 2, 11, Management 1A, 1B, Program in Computing 10A.

The Major

Required: Seven mathematics courses, including Mathematics 115A, 131A, 170A, 170B, 172A, 172B, and one course from 134, 135, 164, 171, or 181; seven outside courses, including Economics 101, 102, Statistics 100B, 100C, 170, and two courses from Economics 141A through 148.

Management/Accounting Plan

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Management 1A, 1B, Program in Computing 10A.
### The Major

**Required:** Seven mathematics courses, including Mathematics 115A, 131A, 164, 170A or Statistics 100A or 110A, Mathematics 170B or Statistics 100B or 110B, and two courses from Mathematics 106 through 199 and Statistics 100C; seven management courses, including Management 120A, 120B, 122, 140, 212A, 212B, and one additional course from 108 through 182.

### Mathematics/History of Science Plan

**Preparation for the Major**

**Required:** Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 10A, and three courses from History 2B, 2D, 3A through 3D.

**The Major**

**Required:** Eight mathematics courses, including Mathematics 106, 115A, 131A, 135A, 170A, and three courses from 110A through 199; six outside courses to be selected from History 179A through 190C, Philosophy 124, Physiological Science M168, and any upper division Honors Collegium course with history of science/medicine content.

### Medical and Life Sciences Plan

**Preparation for the Major**

**Required:** Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Chemistry and Biochemistry 20A, 20B, 20L, 30A, 30AL, Life Sciences 1, 2, 3, 4, Physics 1A, 1B, Program in Computing 10A.

**The Major**

**Required:** Seven mathematics courses, including Mathematics 115A, 134, 151A, 170A, 170B, and two courses from 110A through 199 and Statistics 100B through 120B; six outside courses, including Neuroscience M101A, M101B, and M101C, and three courses from Biomedical 110, 160, Biostatistics 100A, Chemistry and Biochemistry C160A, Computer Science CM186B, Ecology and Evolutionary Biology C119, 133, 135, Physiological Science 100, 135, and any additional upper division course from these fields with consent of the administering department and the Mathematics Department.

### Mathematics for Teaching

**B.S.**

The Mathematics for Teaching major is designed primarily for students planning to teach mathematics at the high school level. It provides exposure to a broad range of mathematical topics, especially those appropriate for the prospective teacher. Students planning to pursue graduate studies in mathematics or related fields are encouraged to enter the Mathematics, Applied Mathematics, or Mathematics of Computation major.

**Preparation for the Major**

**Required:** Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61, Physics 1A or 6A, Program in Computing 10A, and two courses from Chemistry and Biochemistry 20A, 20B, Physics 1B, 1C, 6B, 6C, Program in Computing 10B through 97. Each course must be passed with a minimum grade of C–, and students must have a minimum overall grade-point average of 2.0 for the courses.

**Transfer Students**

Transfer applicants to the General Mathematics major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA; two years of calculus for majors, one discrete structures course, one C++ programming course, and three courses from calculus-based physics, general chemistry for majors, and computing.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

### Honors

**Honors Courses**

The department offers a lower division honors sequence in calculus and upper division honors sequences in algebra and analysis. The sequences are intended for students (not necessarily mathematics majors) who desire a broad, comprehensive introduction to these topics.

**Honors Program**

Students majoring in Mathematics, Applied Mathematics, and Mathematics of Computation who wish to graduate with departmental honors should apply for admission to the honors program in the Student Services Office. They may apply any time after completing four courses from the calculus sequence or from upper division mathematics courses with an overall grade-point average of 3.6 or better. The program entails taking a specified sequence of courses as part of the major requirements, completing an approved seminar offered by the Mathematics Department or submitting an original research project, and earning an overall GPA of at least 3.6 in approved upper division and graduate mathematics courses.

Students completing the program are awarded honors at graduation; if they demonstrate exceptional achievement (i.e., at least a 3.8 GPA in upper division mathematics courses taken for the major), they are awarded highest honors. Consult the department for further information.

### Computing Specialization

**Majors in Mathematics, Applied Mathematics, Mathematics/Applied Science, or Mathematics for Teaching may select a specialization in Computing by (1) satisfying all the requirements for a bachelor’s degree in the specified major and (2) completing Mathematics 61 or 113, Program in Computing 10A, 10B, two courses from 10C, 15, 20A, 20B, 30, 40A, 60, and at least two courses from Mathematics 149 through 159, with a minimum grade of C– in each course and a combined grade-point average of at least 2.0. Students must petition for admission to this program and are advised to do so after they complete Program in Computing 10B (petitions should be filed in the Student Services Office). Students graduate with a bachelor’s degree in their major and a specialization in Computing.**

### Subject Matter Preparation Program for Single Subject Credential in Mathematics

**Students interested in obtaining a single subject secondary school credential in mathematics should consult with a departmental counselor regarding the requirements for a waiver from the California Subject Examination for Teachers (CSET), which is required by the California Commission on Teacher Credentialing. Students should meet with a departmental counselor as early as possible because the program does require additional courses beyond the major requirements. For additional information on teaching credential requirements, consult the Department of Education at (310) 825-8328.**

### Mathematics Minor

The Mathematics minor is designed to provide students with the opportunity to widen their background and general comprehension of the role of mathematics in various disciplines. To enter the minor, students must have an overall grade-point average of 2.0 or better and meet with the undergraduate mathematics advisor in the Student Services Office, 6356 Math Sciences.

**Required Lower Division Courses (12 units):**

Mathematics 32A, 33A, 33B.

**Required Upper Division Courses (20 units):** At least five courses (20 units) selected from Mathematics 106 through 199.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

### Graduate Study

Official, specific degree requirements are detailed in [Program Requirements for UCLA Graduate Degrees](http://www.gdnet.ucla.edu/) available at the Graduate Division website, http://www.gdnet.ucla.edu/
gaasalibrary/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Mathematics offers the Masters of Arts in Teaching (M.A.T.) degree and Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Mathematics.

Mathematics

Lower Division Courses


3A. Calculus for Life Sciences Students. (4) Lecture, three hours; discussion, one hour. Preparation: three and one-half years of high school mathematics (including trigonometry). Requisite: successful completion of Mathematics Diagnostic Test (score of 36 or better) or course 1 with a grade of C– or better. Not open for credit to students with credit in another calculus course sequence. Techniques and applications of differential calculus. P/NP or letter grading.

3B. Calculus for Life Sciences Students. (4) Lecture, three hours; discussion, one hour. Requisite: course 3A with a grade of C– or better. Differential and integral calculus of several variables, vector field theory. P/NP or letter grading.

3B.2AH-3B.2BH. Calculus of Several Variables (Honors). (4-4) Lecture, three hours; discussion, one hour. Honors section. P/NP or letter grading.

3B.2C. Calculus of Several Variables. (4) Lecture, three hours; discussion, one hour. Requisite: course 3B with a grade of C– or better. Introduction to integral calculus of several variables, line and surface integrals. P/NP or letter grading.

3A. Linear Algebra and Applications. (4) Lecture, three hours; discussion, one hour. Requisite: course 3A with a grade of C– or better. Introduction to linear algebra. Matrices, determinants, vectors, linear dependence, subspaces, bases and dimension, orthogonality, least-squares methods, determinants, eigenvalues and eigenvectors, matrix diagonalization, and symmetric matrices. P/NP or letter grading.

3A.2H. Linear Algebra and Applications (Honors). (4) Lecture, three hours; discussion, one hour. Honors course parallel to course 3A. P/NP or letter grading.

3B. Differential Equations. (4) Lecture, three hours; discussion, one hour. Requisite: course 3B with a grade of C– or better. Highly recommended: course 3A. First-order, linear differential equations; second-order, linear and nonlinear equations with constant coefficients; power series solutions; linear systems. P/NP or letter grading.


3A1. Differential and Integral Calculus. (4) Lecture, three hours; discussion, one hour. Preparation: at least three and one-half years of high school mathematics (including some coordinate geometry and trigonometry). Requisite: successful completion of Mathematics Diagnostic Test or course 1 with a grade of C– or better. Differential calculus and applications; introduction to integration. P/NP or letter grading.


3B1. Integration and Infinite Series. (4) Lecture, three hours; discussion, one hour. Requisite: course 3A1 with a grade of C– or better. Transcendental functions; methods and applications of integration; sequences and series. P/NP or letter grading.


3E1. Calculus for Economics Students. (4) Lecture, three hours; discussion, one hour. Requisite: course 31A with a grade of C– or better. Not open for credit to students with credit for course 3B, 3C, 3E, 3F. 31B. Calculus for applications to economics. Partial differentiation, implicit functions, exponential and logarithmic functions, optimization, constrained optimization. P/NP or letter grading.

32A. Calculus of Several Variables. (4) Lecture, three hours; discussion, one hour. Requisite: course 31B with a grade of C– or better. Introduction to differential calculus of a vector field. P/NP or letter grading.

32A.H-32B.H. Calculus of Several Variables (Honors). (4-4) Lecture, three hours; discussion, one hour. Corequisite: course 32B with a grade of B or better. Honors section. P/NP or letter grading.

32B. Calculus of Several Variables. (4) Lecture, three hours; discussion, one hour. Requisite: course 32A with a grade of C– or better. Introduction to integral calculus of several variables, line and surface integrals. P/NP or letter grading.

32A. Linear Algebra and Applications. (4) Lecture, three hours; discussion, one hour. Requisite: course 32A with a grade of C– or better. Introduction to linear algebra. Matrices, determinants, vectors, linear dependence, subspaces, bases and dimension, orthogonality, least-squares methods, determinants, eigenvalues and eigenvectors, matrix diagonalization, and symmetric matrices. P/NP or letter grading.

3. Department of Mathematics. (2) Seminar, three hours; fieldwork, three hours. Introduction to modern mathematics techniques in the field of secondary education and teaching and learning of mathematics in middle school classrooms. Pairs of students are placed in local middle school classrooms to observe, participate, and assist mentor teachers in instruction. Discussion of learning in middle school culture, cognitive development of students at this level, and best means to teach appropriate mathematics concepts at this level. P/NP grading.

98XA. Peers Collaborative Learning Workshops for Life Sciences Majors. (1) Formerly numbered 5.) Laboratory, three hours. Corequisite: associated undergraduate lecture course in mathematics for life sciences majors. Development of intuition and problem-solving skills in collaborative learning environment. May be repeated four times, but only 1 unit may be applied toward graduation. P/NP grading.

98XB. Peers Collaborative Learning Workshops for Physical Sciences and Engineering Majors. (1) Laboratory, three hours. Corequisite: associated undergraduate lecture course in mathematics for physical sciences and engineering majors. Development of intuition and problem-solving skills in collaborative learning environment. May be repeated four times, but only 1 unit may be applied toward graduation. P/NP grading.

Upper Division Courses

General and Teacher Training

105A-105B. Teaching of Mathematics. (4-4) Lecture, four hours. Course 105A is requisite to 105B. Designed for Senior Mathematics Department majors. Topics in geometry, algebra, number theory, discrete mathematics, and functions presented from problem-solving student perspective. P/NP or letter grading.


106. History of Mathematics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 31A, 31B, 32A. Roots of modern mathematics in ancient Babylonia and Greece, development of algebra through Middle Ages to Fermat and Abel, invention of analytic geometry and calculus, selected topics in modern mathematics. P/NP or letter grading.

Algebra, Number Theory, and Logic

110A-110B. Algebra. (4-4) Lecture, three hours; discussion, one hour. P/NP or letter grading. 110A. Requisite: course 115A. Not open for credit to students with credit for course 117. Ring of integers, integral domains, fields, polynomial domains, unique factorization. 110B. Requisite: course 110A or 117. Groups, structure of finite groups.

110A.H-110B.H. Algebra (Honors). (4-4) Lecture, three hours; discussion, one hour. Honors sequence parallel to courses 110A, 110B. Field extensions, Galois theory, applications to geometric constructions, and solvability by radicals.

111. Theory of Numbers. (4) Lecture, three hours; discussion, one hour. Requisites: courses 110A or 117, 115A. Divisibility, congruences, Diophantine analysis, selected topics in theory of primes, algebraic number theory, Diophantine equations.
M112. Introduction to Set Theory. (4) (Same as Philosophy M134.) Lecture, three hours; discussion, one hour. Requisites: courses 110A or 121 or 131A or Philosophy 135. Axiomatic set theory as framework for mathematical concepts; relations and functions, numbers, cardinality, axiom of choice, transfinite numbers. P/NP or letter grading.

113. Combinatorics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 32B, 33B. Permutations and combinations, counting principles, recurrence relations and generating functions, combinatorial designs, graphs and trees, with applications including games of complete information. Combinatortial existence theorems, Ramsey theorem.

114C. Computability Theory. (4) (Formerly numbered 114A.) Lecture, three hours; discussion, one hour. Requisite: course 110A or 131A or Philosophy 135. Introduction to mathematical logic, aiming primarily at completeness theorems of G"odel. Propositional and predicate logic; syntax and semantics; formal deduction; completeness, compactness, and Lowenheim/Skolem theorems. Formal number theory: nonstandard models; G"odel incompleteness theorem. P/NP or letter grading.

115A-115B. Linear Algebra. (5-4) P/NP or letter grading. 115A. Lecture, three hours; discussion, two hours. Requisite: course 33A. Techniques of proof, abstract vector spaces, linear transformations, and matrices; determinants; inner product spaces; eigenvalues, eigenvectors. 115B. Lecture, three hours; discussion, one hour. Requisite: course 115A. Linear transformations, dual space, theory of a single linear transformation, Jordan normal form; bilinear forms, quadratic forms; Euclidean and unitary spaces, symmetric skew and orthogonal linear transformations, polar coordinates.

115AH. Linear Algebra (Honors). (5) Lecture, three hours; discussion, two hours. Requisite: course 33A. Honors course parallel to course 115A. P/NP or letter grading.

115AX-115BX. Workshops in Linear Algebra. (1-1) Discussion, one hour. Corequisite for course 115AX: 115A; for course 115BX: 115B. Supplementary techniques and applications for solving problems in linear algebra. Limits of investigation set by individual instructor. P/NP grading.

115HX. Workshop in Linear Algebra (Honors). (1) Discussion, one hour. Corequisite: course 115AH. Honors course parallel to course 115AX. P/NP grading.

116. Mathematical Cryptology. (4) Lecture, three hours; discussion, one hour. Requisite: course 115A. Not open for credit to students with credit for course 110A. Introduction to number theory, public key cryptography, finite fields, symmetric and asymmetric ciphers, digital signatures, elliptic curve cryptography, RSA, discrete logs. P/NP or letter grading.

117. Algebra for Applications. (4) Lecture, three hours; discussion, one hour. Requisite: course 115A. Not open for credit to students with credit for course 110A. Integer, congruences, fields, applications of finite fields; polynomials; permutations, introduction to groups.

120A-120B. Differential Geometry. (4-4) Lecture, three hours; discussion, one hour. Requisites: courses 32B, 33B, 115A, 131A. Curves in 3-space, Frenet formulas, surfaces in 3-space, normal curvature, Gaussian curvature, congruence of curves and surfaces, intrinsic geometry of surfaces, isometries, geodesics, Gauss/Bonnet theorem. P/NP or letter grading.

121. Introduction to Topology. (4) Requisite: course 131A. Metric and topological spaces, completeness, compactness, connectedness, functions, continuity, homeomorphisms, topological properties.


Analysis

131A-131B. Analysis. (4-4) Lecture, three hours; discussion, one hour. 131A. Requisites: courses 32B, 33B. Rigorous introduction to foundations of real analysis; real numbers, point set topology in Euclidean space, functions, continuity. 131B. Requisites: courses 33B, 115A, 131A. Derivatives, Riemann integral, sequences and series of functions, power series, Fourier series.

131AH-131BH. Analysis (Honors). (4-4) Lecture, three hours; discussion, one hour. Honors sequence parallel to courses 131A, 131B.

131AX. Analysis Techniques. (1) Lecture, one hour. Requisite: course 33B. Corequisite: course 131A. Review of elementary techniques of mathematics and their applications to topics in analysis, such as geometric and algebraic constructions, least upper bound axiom, etc. P/NP grading.

131C. Topics in Analysis. (4) Lecture, three hours; discussion, one hour. Requisites: courses 131A, 131B. Advanced topics in analysis, such as Lebesgue integral, integration on manifolds, harmonic analysis. Content varies from year to year. May be repeated for credit by petition.

132. Complex Analysis for Applications. (4) Lecture, three hours; discussion, one hour. Requisites: courses 32B, 33B. Introduction to basic formulas and calculation procedures of complex analysis of one variable relevant to applications. Topics include Cauchy/Riemann equations, Cauchy integral formula, power series expansion, contour integrals, residue calculus.

133. Introduction to Fourier Analysis. (4) Lecture, three hours; discussion, one hour. Requisites: courses 33A, 33B. Fourier transform in one and several variables, finite Fourier transform. Applications, in particular, to solving differential equations. Fourier inversion formula, Plancherel theorem, convergence of Fourier series, convolution. P/NP or letter grading.


136. Partial Differential Equations. (4) Lecture, three hours; discussion, one hour. Requisites: courses 33A, 33B. Linear partial differential equations, boundary and initial value problems, separation of variables, eigenfunction expansions; selected topics, as method of characteristics for nonlinear equations.

Applied Mathematics

142. Mathematical Modeling. (4) Lecture, three hours; discussion, one hour. Requisites: courses 32B, 33B. Introduction to fundamental principles and art of applied mathematics. Emphasis on manner in which mathematical models are constructed for physical problems. Illustrations from many fields of endeavor, such as physical sciences, biology, economics, and traffic dynamics.

143. Analytic Mechanics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 32B, 33B. Foundations of Newtonian mechanics, kinematics and dynamics of a rigid body, variational principles and Lagrange equations; calculus of variations, variable mass; related topics in applied mathematics.

146. Methods of Applied Mathematics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 32B, 33B. Introduction to numerical analysis and PDEs; the numerical solution of hyperbolic equations; error analysis; stability and accuracy. Letter grading.


164. Optimization. (4) Lecture, three hours; discussion, one hour. Requisite: course 115A. Not open for credit to students with credit for Electrical Engineering 131A or Statistics 102A. Probability distributions, random variables and vectors, expectation. P/NP or letter grading.

167. Mathematical Game Theory. (4) Lecture, three hours; discussion, one hour. Requisite: course 115A. Quantitative modeling of strategic interactions. Topics include extensive and normal form games, background probability, strategies, pure and mixed Nash equilibria and refinements, bargaining; emphasis on economic examples. Optional topics include repeated games and evolutionary game theory. P/NP or letter grading.

170A. Probability Theory. (4) Lecture, three hours; discussion, one hour. Requisite: course 32B. Not open to students with credit for Electrical Engineering 131A or Statistics 102A. Probability distributions, random variables and vectors, expectation. P/NP or letter grading.


181. Mathematics of Finance. (4) Lecture, three hours; discussion, one hour. Requisite: courses 170A or 102A. Probability distributions, random variables and vectors, expectation. P/NP or letter grading.

181. Advanced Variable Topics in Mathematics. (4) (Formerly numbered 197.) Seminar, three hours. Optional topics research course in mathematics that covers material not covered in regular mathematics upper division curriculum. Reading, discussion, and development of culminating project. May be repeated for credit with topic and/or instructor change. P/NP or letter grading.

191H. Honors Seminar: Mathematics. (4) (Formerly numbered 190.) Seminar, three hours. Participating seminar on advanced topics in mathematics. Content varies from year to year. May be repeated for credit by petition. P/NP or letter grading.

195. Community Internship in Mathematics Education. (4) Tutorial, to be arranged. Limited to juniors/seniors. Internship to be supervised by Center for Community Learning and Mathematics Department. Students meet on regular basis with instructor, provide periodic reports of their experience, have assigned readings on mathematics education, and complete final paper. May not be repeated and may not be applied toward major requirements. Individual contract with supervising faculty member required. P/NP grading.

197. Individual Studies in Mathematics. (2 to 4) Tutorial, three hours per week per unit. Limited to juniors/seniors. At discretion of chair and subject to availability. Individual intensive study of topics suitable for undergraduate course credit but not specifically offered as separate courses. Scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for maximum of 12 units, but no more than one 197 or 199 course may be applied toward upper division courses required for majors offered by Mathematics Department. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Mathematics. (2 or 4) Tutorial, three hours per week per unit. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. Scheduled meetings to be arranged between faculty member and student. Culminating report required. May be repeated for maximum of 12 units, but no more than one 197 or 199 course may be applied toward upper division courses required for majors offered by Mathematics Department. Individual contract required. P/NP or letter grading.

Graduate Courses

Teacher Preparation

201A-201B-201C. Topics in Algebra and Analysis. (4-4-4) Preparation: bachelor’s degree in mathematics. Designed for mathematics/education program students. Important ideas of algebra, geometry, and calculus leading effectively from elementary to modern mathematics. Structure of groups, number systems, integer point sets, geometric interpretations of algebra and analysis, integration, differentiation, series and analytic functions. May not be applied toward M.A. degree requirements.

202A-202B. Mathematical Models and Applications. (4-4) Preparation: bachelor’s degree in mathematics. Designed for mathematics/education program students. Development of mathematical theories describing various empirical situations. Basic characterizing postulates; development of a logical structure of theorems. Modern topics such as operations research, linear programming, game theory, learning models, models in social and life sciences. May not be applied toward M.A. degree requirements.

Number Theory

205A-205B-205C. Number Theory. (4-4-4) Lecture, three hours. Requisites: courses 210A, 246A. Algebraic number theory, including ideal theory, valuations, local fields, cyclotomic fields. Introduction to class-field theory. Analytic number theory. L-function theory and class number formulas, and modular forms. S/U or letter grading.


207A-207B-207C. Topics in Number Theory. (4-4-4) Lecture, three hours, Adelic analysis on GL(1) and GL(2), explicit class field theory, arithmetic geometry, automorphic representations. Special values of L-functions and p-adic L-functions, arithmetic theory of modular forms, advanced topics in analytic number theory. Arithmetic geometry, especially modular curves. S/U or letter grading.


M209A. Cryptography. (4) (Same as Computer Science M209A.) Lecture, four hours. Requisite: course M209A. Consideration of advanced cryptographic protocol design and analysis. Topics include noninteractive zero-knowledge proofs; zero-knowledge arguments; concurrent and non-black-box zero-knowledge; IP=PSpace proof, stronger notions of security for public-key encryption, including chosen-ciphertext security; secure multiparty computation; dealing with dynamic adversary; nonamealievability and composability of secure protocols; software protection; threshold cryptography; identity-based cryptography; private information retrieval; protection against man-in-middle attacks; voting protocols; identification protocols; digital cash schemes; lower bounds on use of cryptographic primitives, software obfuscation. May be repeated for credit with topic change. Letter grading.

Algebra

210A-210B-210C. Algebra. (4-4-4) Requisites: courses 110A, 110B, 110C. Students with credit for courses 110B and/or 110C cannot receive M.A. degree credit for courses 210B and/or 210C. Group theory, including theorems of Sylow and Jordan/Holden/Schreier rings and ideal, factorizations in integral domains, modules over principal ideal rings, Galois theory of fields, multilinear algebra, structure of algebras.

211. Structure of Rings. (4) Requisite: course 210A. Radical, irreducible modules and primitive rings, rings and algebras with minimum condition.

212. Homological Algebra. (4) Requisite: course 210A. Modules over a ring, homomorphisms and tensor products of modules, functors and derived functors, homological dimension of rings and modules.

213A-213B. Theory of Groups. (4-4) Requisite: course 210A. Topics include representation theory, transfer theory, infinite Abelian groups, free products and presentations of groups, soluble and insolvent groups, classical groups, algebraic groups.

214A-214B. Introduction to Algebraic Geometry. (4-4) Requisite: course 210A. Basic definitions and first properties of algebraic varieties in affine and projective space; irreducibility, dimension, singular and smooth points. More advanced topics, such as sheaves and their cohomology, or introduction to theory of Riemann surfaces, as time permits.

215A-215B. Commutative Algebra. (4-4) Requisite: course 210A. Topics from commutative ring theory, including techniques of localization, prime ideal structure in commutative Noetherian rings, principal ideal theorem, Dedekind rings, localization of projective modules, Serre conjecture, regular local rings.
216. Further Topics in Algebraic Geometry. (4) Requisites: courses 214A, 214B. Closer examination of areas of current research in algebraic geometry. Variable content may include algebraic surfaces, Abelian varieties, invariant theory, Hodge theory, or geometry over finite fields. May be repeated for credit by petition.

217. Geometry and Physics. (4) Same as Physics M236. Lecture, three hours. Interdisciplinary course on topics at interface between physics quantum fields and superstrings and mathematics of differential and algebraic geometry. Topics include super-symmetry, Seiberg/Witten theory, conformal field theory, Calabi/Yau manifolds, mirror symmetry and duality, integrable systems. S/U grading.


Logic and Foundations

220A-220B-220C. Mathematical Logic and Set Theory. (4-4-4) Lecture, three hours. Requisite: course M112. Model theory: compactness theorem; Lowenheim/Skolem theorems; definability; ultra-products; preservation theorems; interpolation theorems. Recursion function theory: thesis of Church; recursively enumerable sets; hierarchies; degrees. Formal proofs: completeness and incompleteness theorems; decidable and undecidable theorems; quantifier elimination. Set theory: Zermelo/Fraenkel and von Neumann/Gödel axioms; cardinal and ordinal numbers; continuum hypothesis; constructible sets; independence results and forcing. S/U or letter grading.

222A-222B. Lattice Theory and Algebraic Systems. (4-4) Lecture, three hours. Requisite: course 210A. Partially ordered sets, lattices, distributivity, modularity; completeness, interaction with combinatorics, topology, and logic; algebraic systems, congruence lattices, subdirect decomposition, congruence lattices, equations, applications to lattices.

223A. Model Theory. (4) Requisites: courses 220A, 220B, 220C. Topics include ultraproducts, preservation theorems, interpolation theorems, saturated models, omitting types, categoricity, two cardinal theorems, enriched languages, soft model theory, and applied model theory.

223C. Recursion Theory. (4) Requisites: courses 220A, 220B, 220C. Topics include degrees of unsolvability, recursively enumerable sets, undecidable theories, inductive definitions, admissible sets and ordinals, and recursion in higher types.

223D. Topics in Descriptive Set Theory. (4) Lecture, three hours. Requisites: courses 220A, 220B. Classical and effective results on Borel and projective sets; infinite games of perfect information and principles of determinacy; consequences of determinacy, including periodicity, structure theory of pointclasses, and partition properties. Topics vary from year to year. May be repeated for credit with consent of instructor. S/U or letter grading.

223S. Topics in Set Theory. (Formerly numbered 223S.) Lecture, three hours. Requisites: courses 220A, 220B, 220C. Forcing and independence results, including independence of continuum hypothesis and independence of axiom of choice; inner model theory; large cardinals; proofs of determinacy; combinatorial set theory. Topics vary from year to year. May be repeated for credit with consent of instructor. S/U or letter grading.

Geometry and Topology

225A. Differential Manifolds. (4) Lecture, three hours. Requisites: courses 121, 131A, 131B. Smooth manifolds and maps, basic examples and properties, orientability, tangent spaces, cotangent spaces, embeddings and immersions, Sard theorem and transversality, vector fields and integral curves, Lie brackets and Frobenius theorem, Lie derivative, tensors, differential forms and exterior derivative, Stokes theorem on manifolds.


225C. Further Topics in Geometry and Topology. (4) Lecture, three hours. Requisites: courses 225A, 225B. Topics may include cohomology (singular, cellular, de Rham), duality theorems, de Rham theorem, degree theory, cup products, higher homotopy groups, transversality theory, Morse theory, Riemannian metric.

226A-226B-226C. Differential Geometry. (4-4-4) Lecture, three hours. Requisite: course 225A. Manifold theory; connections, curvature, torsion, and parallelism. Riemannian manifolds; completeness, submanifolds, constant curvature. Geodesics; conjugate points, variational methods. Myers theorem, nonpositive curvature. Further topics such as pinched manifolds, integral geometry, Kahler manifolds, symmetric spaces.


231. Partial Differential Equations on Manifolds. (4) Lecture, three hours. Requisites: courses 226A, 251A. Topics may include Laplacian operator on a Riemannian manifold, eigenvalues, Atiyah/Singer index theorem, isoperimetric inequalities, elliptic estimates, harmonic functions, functional theory on manifolds, Green's function, heat equation, minimal hypersurfaces, prescribed curvature equations, harmonic maps, Yang/Mills equation, Monge/Ampere equations.

234. Topics in Differential Geometry. (4) Lecture, three hours. Requisites: courses 226A, 226B. Complex and Kahler geometry. Hodge theory, homogeneous manifolds and symmetric spaces, finiteness and convergence theorems for Riemannian manifolds, almost flat manifolds, closed geodesics, manifolds of positive scalar curvature, manifolds of constant curvature. Topics vary from year to year. May be repeated for credit with consent of instructor.

235. Topics in Manifold Theory. (4) Lecture, three hours. Requisites: courses 225A, 225B. Emphasis on low-dimensional manifolds. Structure and classification of manifolds, automorphisms of manifolds, submanifolds (e.g., knots and links). Topics vary from year to year. May be repeated for credit by petition.

236. Topics in Geometric Topology. (4) Lecture, three hours. Requisites: courses 225A, 225B. Decomposition spaces, surgery theory, group actions, dimension theory, infinite dimensional topology. Topics vary from year to year. May be repeated for credit by petition.

237. Topics in Algebraic Topology. (4) Lecture, three hours. Requisites: courses 227A, 227B. Fixed-point theory, fiber spaces and classifying spaces, characteristic classes, general linear group, and cohomology theories. Topics vary from year to year. May be repeated for credit by petition.

238A-238B. Dynamical Systems. (4-4) Lecture, three hours. Recommended preparation: first-year analysis courses. Topics include qualitative theory of differential equations, bifurcation theory, and Hamiltonian systems; differential dynamics, including hyperbolicity and quasi-periodic dynamics; ergodic theory; low-dimensional dynamics. S/U or letter grading.

Analysis and Differential Equations


250C. Advanced Topics in Ordinary Differential Equations. (4) Requisites: courses 250A, 250B. Selected topics, such as spectral theory or ordinary differential operators, nonlinear boundary value problems, celestial mechanics, analysis of nonlinear solutions, and Volterra equations.


251B-251C. Topics in Partial Differential Equations. (4-4) In-depth introduction to topics of current interest in partial differential equations or their applications.


266D-266E. Applied Differential Equations. (4-4) Requisites: courses 266A, 266B, 266C. Advanced topics in the theory of linear and nonlinear partial differential equations, with emphasis on energy estimates, numerical methods, and applications to fluid mechanics. Additional topics include dispersive waves, systems with multiple time scales, and applications to fluid mechanics.


271A. Tensor Analysis. (4) Requisite: course 131A. Algebra and calculus of tensors on n-dimensional manifolds. Curvilinear coordinates and coordinate-free methods. Covariant differentiation, Green/Stokes theorem for differential forms. Applications to topics such as continuum and particle mechanics.


Probability and Statistics
275A-275B. Probability Theory. (4-4) Requisite: course 245A or 268A. Connection between probability theory and real analysis. Weak and strong laws of large numbers, central limit theorem, conditioning, ergodic theory, martingale theory.


Special Studies
285A-285L. Seminars. (4 each) (Formerly numbered 285A-285L.) Seminar, three hours. No more than two 285 courses may be applied toward M.A. degree requirements except by prior consent of graduate vice chair. Topics in various branches of mathematics and their applications by means of lectures and informal conferences with staff members. S/U or letter grading.

285A. History and Development of Mathematics.
285B. Number Theory.
285C. Algebra.
285D. Logic.
285E. Geometry.
285F. Topology.
285G. Analysis.
285H. Differential Equations.
285I. Functional Analysis.
285K. Probability.
285L. Dynamical Systems. (Formerly numbered 285N.)

290A-290M. Seminars: Current Literature. (4 each) (Formerly numbered 290A-290M.) Seminar, three hours. Topics in advanced mathematics selected from areas of current research. Designed for Ph.D. students. Readings and presentations of papers in mathematical literature under supervision of staff member. Two-hour presentation required. S/U grading.

290A. History and Development of Mathematics.
290B. Number Theory.
290C. Algebra.
290D. Logic.
290E. Geometry.
290F. Topology.
290G. Analysis.
290H. Differential Equations.
290I. Functional Analysis.
290J. Applied Mathematics.
290K. Probability.
290L. Dynamical Systems.
290M. Mathematics.

296A-296M. Participating Seminars. (1 each) (Formerly numbered 296A-296M.) Seminar, two hours. Seminars and discussion by staff and students. S/U grading.

296A. History and Development of Mathematics.
296B. Number Theory.

Program in Computing
Lower Division Courses
1. Introduction to Computers and Computing. (4) Lecture, three hours; laboratory, one hour. Not open for credit to students with credit for course 1S or 10A; may not be taken concurrently with course 1S or 10A.

15. Software Tools for Information Management. (1) Lecture, one hour; laboratory, two hours. Preparation: some familiarity with computers. Not open for credit to students with credit for course 1; may not be taken concurrently with course 1. May be taken by students with credit for more advanced courses. Introduction to spreadsheets and databases in a laboratory setting. P/NP grading.

10A. Introduction to Programming. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Recommended requisite for students with no prior computing experience: course 1. No prior programming experience assumed. Basic principles of programming, using C++; algorithmic, procedural problem solving; program design and development; basic data types, control structures and functions; functional arrays and pointers; introduction to classes for programmer-defined data types. P/NP or letter grading.

10B. Intermediate Programming. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 10A. Abstract data types and their implementation using the C++ class mechanism; dynamic data structures, including linked lists, stacks, queues, trees, and hash tables; applications; object-oriented programming and software reuse; recursion; algorithms for sorting and searching.

10C. Advanced Programming. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 10B. More advanced algorithms and data structuring techniques; additional emphasis on algorithmic efficiency; advanced features of C++; such as inheritance and virtual functions; graph algorithms.

15. Introduction to LISP and Symbolic Computation. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 10A. Introduction to symbolic computation using Lisp programming language. Basics: list structures, recursion, function abstraction. Advanced topics: knowledge representation, higher-order functions, problem-solving algorithms and heuristics. P/NP or letter grading.

20A. Principles of Java Language with Applications. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 10A. Introduction to Java computer language. Class and interface hierarchies; graphics components and graphical user interfaces; streams; multithreading; event and exception handling. Issues in class design and design of interactive Web pages. P/NP or letter grading.

20B. Advanced Aspects of Java Language with Applications. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 20A. Further aspects of use of classes, graphics components, exception handling, multithreading, and multimedia. Additional topics may include networking, servlets, database connectivity, and Java Beans. P/NP or letter grading.

20C. Seminar: Enterprise Computing with Java. (5) Lecture, three hours; discussion, two hours; laboratory, five hours. Enforced requisite: course 20B. Overview of Enterprise Java APIs: remote method invocation, database access with SQL, servlets, and JSP Issues in implementation of server-side Java applications. Use of Java in conjunction with XML, individual or group projects and presentations. P/NP or letter grading.
30. Machine Organization and Assembly Language Programming. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 10B. Description of machine organization and operation. Representation of information, instruction sets and formats, addressing modes, memory organization and management, input/output (I/O) processing and interrupts.

40A. Introduction to Programming for Internet. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 10A. Recommended: course 10B. Introduction to core technologies of Internet, with focus on client-side Web programming. Fundamental protocols, static Web pages, Perl language, Common Gateway Interface, XML. P/NP or letter grading.

40B. Advanced Topics in Programming for Internet. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced requisite: course 10A. Study of advanced topics in Web programming, with focus on server-side technologies. P/NP or letter grading.


97. Special Topics in Programming. (1 to 4) Lecture, one to three hours; discussion, zero to one hour. Enforced requisite: course 10A. Variable topics in programming not covered in regular program in computing courses. May be repeated for credit with topic change. P/NP or letter grading.

Upper Division Courses

110. Parallel and Distributed Computing. (5) Lecture, three hours; discussion, two hours; laboratory, eight hours. Requisite: course 10B or equivalent familiarity with programming in C or C++. Introduction to programming of parallel computers. Shared and distributed memory parallel architectures; currently available parallel machines; parallel algorithms and program development; estimation of algorithmic performance; distributed computing; selected advanced topics.

130. Cryptography. (4) Lecture, three hours; discussion, one hour; laboratory, three hours. Requisites: course 10B. Mathematics 115A. Design and analysis of cryptosystems for confidentiality and authentication. Classical cryptosystems and their security. Modern private-key cryptosystems and applications, public-key cryptography and applications; generating prime numbers, factoring integers, discrete logarithms, digital signatures, perfect secrecy. P/NP or letter grading.

187. Advanced Variable Topics in Programming. (4) (Formerly numbered 197) Lecture, three hours; discussion, one hour. Variable topics in programming and mathematics of programming not covered in regular program in computing courses. May be repeated for credit with topic change. P/NP or letter grading.

Graduate Courses

285C-285L. Seminars. (4 each) Considered equivalent to Mathematics 285A through 285L for purposes of degree requirements. Topics in various computational fields by means of lectures and informal conferences with staff members. S/U or letter grading.

285C. Computational Algebra.

285D. Logic and Theory of Computation.


285K. Randomness and Computation.

285L. Computational Statistics.


375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

Mathematics/Atmospheric and Oceanic Sciences

Interdepartmental Program College of Letters and Science

UCLA
7127 Math Sciences
Box 951565
Los Angeles, CA 90095-1565
(310) 825-1217
fax: (310) 206-5219
e-mail: deptsinfo@atmos.ucla.edu
http://www.atmos.ucla.edu/idp/

Robert G. Fovell, Ph.D., Co-Chair
Ronald J. Miech, Ph.D., Co-Chair

Faculty Advisory Committee
Robert G. Fovell, Ph.D. (Atmospheric and Oceanic Sciences)
Nathaniel Grossman, Ph.D. (Mathematics)
Ronald J. Miech, Ph.D. (Mathematics)
J. David Neelin, Ph.D. (Atmospheric and Oceanic Sciences)

Scope and Objectives

The Mathematics/Atmospheric and Oceanic Sciences B.S. degree program is designed for students who have an interest in and talent for both subjects. Students completing the major are well-qualified for graduate study in the most demanding graduate programs in atmospheric sciences, oceanic sciences, or applied mathematics. Postgraduate training leads to employment at a professional level in academia, government, or private enterprise. Opportunities outside academia include environmental agencies, consulting companies, and governmental agencies such as NASA, National Oceanic and Atmospheric Administration (NOAA), National Center for Atmospheric Research (NCAR), Department of Energy (DOE), and the military, the Air Force and Navy in particular.

Graduates of the program are employed by private and public weather products firms, consulting companies, public utilities, and as science teachers at the elementary and secondary levels.

Undergraduate Study

Mathematics/Atmospheric and Oceanic Sciences B.S.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Physics 1A, 1B, 1C, Program in Computing 10A, and two courses selected from Atmospheric and Oceanic Sciences 1, 2, 3, 5. Physics 4AL and 4BL are recommended but not required. Chemistry and Biochemistry 14A and 14B (or 20A and 20B) may also be required, depending on atmospheric and oceanic sciences upper division course selection. Each course must be taken for a letter grade and must be passed with a grade of C– or better, and students must have a minimum overall grade-point average of 2.0 for the courses.

Transfer Students

Transfer applicants to the Mathematics/Atmospheric and Oceanic Sciences major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two years of calculus for majors, physics courses equivalent to Physics 1A, 1B, and 1C, and one C++ programming course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Six mathematics courses, including Mathematics 115A, 131A, 135A, and three elective courses selected from 115B, 131B, 135B, 136, 142, 151A, 151B, 170A, 170B, one of which must be 115B, 131B, 151B, or 170B; six atmospheric and oceanic sciences courses, including three core courses selected from Atmospheric and Oceanic Sciences 101, 102, 103, 104, M105, and three elective courses selected from the five listed above (if not taken to satisfy the core requirement) or from C110, C115, M120, 125, 130, 145, C160, C165, C170, 180, CM185.

One senior project/thesis course, Atmospheric and Oceanic Sciences 199, taken for a minimum of 2 units, is also required. An individual project or thesis to be selected with the assistance of the program advisers and a faculty mentor must be completed.

No more than one course may be applied toward both this major and a major or minor in another department or program.

Mathematics/Economics

Interdepartmental Program College of Letters and Science

UCLA
6363 Math Sciences
Box 951555
Los Angeles, CA 90095-1555
(310) 206-1286
fax: (310) 206-6673
e-mail: ugrad@math.ucla.edu
http://www.math.ucla.edu/ugrad/mathecon.shtml
Don M. Blasius, Ph.D., Chair

Faculty Advisory Committee
Don M. Blasius, Ph.D. (Mathematics)
Robert F. Brown, Ph.D. (Mathematics)
Russel E. Caffisch, Ph.D. (Mathematics)
Bryan C. Ellickson, Ph.D. (Economics)
Ekaterini Kyriazidou, Ph.D. (Economics)
Jonathan D. Rogawski, Ph.D. (Mathematics)
Roberto H. Schonmann, Ph.D. (Mathematics)
William R. Zame, Ph.D. (Economics)

Scope and Objectives

In recent years economics has become increasingly dependent on mathematical methods, and the mathematical tools it employs have become more sophisticated. Mathematically competent economists, with bachelor's degrees and with advanced degrees, are needed in industry and government. Graduate programs in economics and finance programs in graduate schools of management require strong undergraduate preparation in mathematics for admission.

The Mathematics/Economics B.S. degree program is designed to give students a solid foundation in both mathematics and economics, stressing those areas of mathematics and statistics that are most relevant to economics and the parts of economics that emphasize the use of mathematics and statistics.

Undergraduate Study

Mathematics/Economics B.S.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61, Economics 1, 2, 11, Program in Computing 10A. Each course must be passed with a minimum grade of C–, and students must have a minimum overall grade-point average of 2.0.

Transfer Students

Transfer applicants to the Mathematics/Economics B.S. degree program must have a minimum overall grade-point average of 2.0 for the courses.

Transfer applicants to the Mathematics/Economics B.S. degree program must have a minimum overall grade-point average of 2.0. Students must petition for admission to the program and are advised to do so after completing the preparation for the major courses with an overall grade-point average of 3.5 or better.

To qualify for honors at graduation, students must (1) complete Mathematics 110B or 131B, (2) complete a senior thesis acceptable to the departmental honors committee, (3) present the thesis in Economics 198A and 198B, and (4) complete the major requirements with at least a 3.5 GPA in the mathematics and economics courses. Highest honors are awarded at the discretion of the departmental honors committee based on grade-point average and quality of the senior thesis.

Computing Specialization

Students may select a specialization in Computing by (1) satisfying all the requirements for a bachelor's degree in the major and (2) completing Mathematics 61 or 113, Program in Computing 10A, 10B, two courses from 10C, 15, 20A, 20B, 30, 40A, 60, and at least two courses from Mathematics 149 through 159, with a minimum grade of C– in each course and a combined grade-point average of at least 2.0. Students must petition for admission to the program and are advised to do so after they complete the program in Computing 10B (petitions should be filed in the Mathematics Department Student Services Office). Students graduate with a bachelor's degree in mathematics/economics and a specialization in Computing.

MECHANICAL AND AEROSPACE ENGINEERING

Henry Samueli School of Engineering and Applied Science

UCLA

48-121 Engineering IV
Box 951597
Los Angeles, CA 90095-1597
(310) 825-7793
fax: (310) 206-4830
http://www.mae.ucla.edu

Adrienne G. Lavine, Ph.D., Chair
Robert T. M’Closkey, Ph.D., Vice Chair
Xiaolin Zhong, Ph.D., Vice Chair

Professors

Mohamed A. Abdou, Ph.D.
Oddvar O. Bendiksen, Ph.D.
Gregory P. Carman, Ph.D.
Albert Carnesale, Ph.D.
Ivan Carlton, Ph.D.
Jiun-Shyan Chen, Ph.D.
Yong Chen, Ph.D.
Vijay K. Dhir, Ph.D., Dean
Rajiv Gadh, Ph.D.
Nasr M. Ghoniem, Ph.D.
James S. Gibson, Ph.D.
Vijay Gupta, Ph.D.
H. Thomas Hahn, Ph.D. (Raytheon Company Professor of Manufacturing Engineering)
Chih-Ming Ho, Ph.D. (Ben Rich Lockheed Martin Professor of Aeronautics)
Ann R. Karagopian, Ph.D.
Chang-Jin (C-J) Kim, Ph.D.
J. John Kim, Ph.D. (Rockwell International Professor of Engineering)
Adrienne G. Lavine, Ph.D.
Kuo-Nan Liou, Ph.D.
Ajit K. Mal, Ph.D.
Robert T. M’Closkey, Ph.D.
Anthony F. Mills, Ph.D.
Jeff S. Shamma, Ph.D.
Owen I. Smith, Ph.D.
Jason Spery, Ph.D.
Tsu-Chin Tsao, Ph.D.
Daniel C.H. Yang, Ph.D.
Xiaolin Zhong, Ph.D.

Professors Emeriti

Andrew F. Charwat, Ph.D.
Perez P. Friedmann, Sc.D.
Walter C. Hurty, M.S.
Robert E. Kelly, Sc.D.
Cornelius T. Leondes, Ph.D.
Michel A. Melkonoff, Ph.D.
D. Lewis Mingor, Ph.D.
Peter A. Monkewitz, Ph.D.
Philip F. O’Brien, M.S.
David Okrent, Ph.D.
Russell R. O’Neill, Ph.D., Dean Emeritus
Lucien A. Schmit, Jr., M.S.
Chauncey Starr, Ph.D., Dean Emeritus
Richard E. Stern, Ph.D.
Russell A. Westmann, Ph.D.

Assistant Professors

Pei-Yu Chiu, Ph.D.
Jeff D. Eldredge, Ph.D.
Yongho Sungtaek Ju, Ph.D.
H. Pirouz Kavehpour, Ph.D.
William S. Klug, Ph.D.
Laurent Pilon, Ph.D.

Senior Lecturer

Alexander Samson, Ph.D., Emeritus

Lecturers

Ravnesh C. Amar, Ph.D.
C.H. Chang, M.S., Emeritus
Amiya K. Chatterjee, Ph.D.
Wilbur J. Marner, Ph.D.
Rudolf X. Meyer, Dr.Eng., Emeritus

Adjunct Professors

Emilio Frazzoli, Ph.D.
Leslie M. Lackman, Ph.D.
Joseph Miller, Ph.D.
Neil B. Morley, Ph.D.
Robert S. Shaefer, Ph.D.

Scope and Objectives

The Mechanical and Aerospace Engineering Department encompasses professional disciplines that are often divided into separate departments at other engineering schools. Curricula in aerospace engineering and mechanical engineering are offered on both the undergraduate and graduate levels.
Because of the scope of the department, fac-
ulty research and teaching cover a wide range of technical disciplines. Research in thermal engineering emphasizes basic heat and mass transfer processes as well as thermal hydraulics. Topics in the area of design, dynamics, and control include robotics, mechanism design, control and guidance of aircraft and spacecraft, aeromechanics, and dynamics and control of large space structures. Studies in structural mechanics range from fracture mechanics and wave propagation, structural dynamics and aeroelasticity of helicopters and jet engine blades, computational transonic aeroelasticity to structural optimization and synthesis, and mechanics of composite structures. In the area of fluid mechanics and acoustics, investigations are under way on combustion, flow instabilities, turbulence and thermal convection, aeroacoustics, and unsteady aerodynamics of turbomachines, helicopter rotors, and fixed-wing aircraft. Other areas of research include applied plasma physics, surface modification by plasma, fusion reactor design, experimental tokamak confinement physics; light water reactor safety; reliability and risk assessment methodology; and nuclear materials. The department also has research activity in computer-aided design and manufacturing.

At the undergraduate level, the department offers accredited programs leading to Bachelor of Science degrees in Aerospace Engineering and in Mechanical Engineering. The former includes opportunity to emphasize propulsion, aerodynamics, design, dynamics and control, or structures and space technology, while the latter includes opportunity to emphasize design and manufacturing, dynamics and control, or fluids and thermal engineering. At the graduate level, the department offers programs leading to M.S. and Ph.D. degrees in Mechanical Engineering and in Aerospace Engineering. An M.S. in Manufacturing Engineering is also offered.

Department Mission
The mission of the Mechanical and Aerospace Engineering Department is to educate the nation's future leaders in the science and art of mechanical and aerospace engineering. Further, the department seeks to expand the frontiers of engineering science and to encourage technological innovation while fostering academic excellence and scholarly learning in a collegial environment.

Undergraduate Program Objectives
In consultation with its constituents, the Mechanical and Aerospace Engineering Department has set its educational objectives as follows: (1) to teach students how to apply their rigorous undergraduate education to creatively solve technical problems facing society and (2) to prepare them for successful and productive careers or graduate studies in mechanical or aerospace or other engineering fields and/or further studies in other fields such as medicine, business, and law.

Undergraduate Study

Aerospace Engineering B.S.

The ABET-accredited aerospace engineering program is concerned with the design and construction of various types of fixed-wing and rotary-wing (helicopters) aircraft used for air transportation and national defense. It is also concerned with the design and construction of spacecraft, the exploration and utilization of space, and related technological fields. Aerospace engineering is characterized by a very high level of technology. The aerospace engineer is likely to operate at the forefront of scientific discoveries, often stimulating these discoveries and providing the inspiration for the creation of new scientific concepts. Meeting these demands requires the imaginative use of many disciplines, including fluid mechanics and aerodynamics, structural mechanics, materials and aeroelasticity, dynamics, control and guidance, propulsion, and energy conversion.

Preparation for the Major

Required: Chemistry and Biochemistry 20A, 20B, 20L; Computer Science 31; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 1A, 1B, 1C, 4AL, 4BL.

The Major

Required: Mechanical and Aerospace Engineering 101, 102, 103, 105A, 107, 107L, 150A, 150B, 150P, 154A, 154B, 154S, 155 or 161A or 169A, 157A, 157S, 166A, 171A, 182A; two departmental breadth courses (Electrical Engineering 100 and Materials Science and Engineering 104 — if these courses are taken as part of the breadth requirement, an extra elective from within the department may be substituted here); three technical breadth courses (12 units) selected from an approved list available in the Office of Academic and Student Affairs; and two major field elective courses (8 units) from Mechanical and Aerospace Engineering 131AL, 132A, 133AL, 134, CM140, 150A, 150B, 150C, 150F, 150R, 155A, 155, 157A, 161A, 161B, 162C, 163A, 166C, 168, 171B, 172, 174, CM180, CM180L, 181A, 182B, 182C, 184, 185. For information on University and general education requirements, see the College and Schools section earlier in this catalog.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Mechanical and Aerospace Engineering offers the Master of Science (M.S.) degree in Manufacturing Engineering, Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Aerospace Engineering, and Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Mechanical Engineering.

Mechanical and Aerospace Engineering

Lower Division Courses


20. Programming with Numerical Methods Applications. (4) Lecture, three hours; discussion, two hours; outside study, seven hours. Requisites: Mathematics 31A, 31B, Introduction to programming with MATLAB. Applications to numerical methods used in engineering. Letter grading.

94. Introduction to Computer-Aided Design and Drafting. (4) Lecture, two hours; laboratory, four hours. Fundamentals of computer graphics and two- and three-dimensional modeling on computer-aided design and drafting systems. Students use one or more online computer systems to design and display various objects. Letter grading.

Upper Division Courses


102. Dynamics of Particles and Rigid Bodies. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: course 101, Mathematics 33A. Physics 1A. Fundamental concepts of Newtonian mechanics. Kinematics and kinetics of particles and rigid bodies in two and three dimensions. Impulse-momentum and work-energy relationships. Applications. Letter grading.

103. Elementary Fluid Mechanics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: Mathematics 32B, 33A, Physics 1B. Introductory course dealing with application of principles of mechanics to flow of compressible and incompressible fluids. Letter grading.

105A. Introduction to Engineering Thermodynamics. (4) (Formerly numbered M105A.) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: Chemistry 20B, Mathematics 32B. Phenomenological thermodynamics. Concepts of equilibrium, temperature, and reversibility. First law and concept of energy; second law and concept of entropy. Equations of state and thermodynamic properties. Engineering applications of these principles in analysis and design of closed and open systems. Letter grading.


131AL. Thermodynamics and Heat Transfer Laboratory. (4) Laboratory, eight hours; outside study, four hours. Requisites: courses 131A, 157. Experimental study of physical phenomena and engineering systems using modern data acquisition and processing techniques. Experiments include studies of heat transfer phenomena and testing of a cooling tower, heat exchangers, and combustion engine. Students take and analyze data and discuss physical phenomena. Letter grading.

132A. Mass Transfer. (4) Lecture, four hours; discussion, two hours; outside study, eight hours. Requisites: course 131A. Principles of mass transfer by diffusion and convection. Simultaneous heat and mass transfer. Analysis of evaporative and transpiration cooling, combustion, and catalysis. Mass exchangers, including automobile catalytic converters, precipitators, humidifiers, and cooling towers. Letter grading.

133A. Engineering Thermodynamics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 103, 105A, 105D. Applications of thermodynamic principles to engineering processes. Energy conversion systems. Rankine cycle and other cycles, refrigeration, psychrometry, reactive and nonreactive fluid systems. Letter grading.

133AL. Power Conversion Thermodynamics Laboratory. (4) Laboratory, eight hours; outside study, four hours. Requisites: courses 133A, 157. Experimental study of power conversion and heat transfer systems using state-of-the-art plant process instrumentation and equipment. Experiments include studies of thermodynamic operating characteristics of an actual Brayton cycle, Rankine cycle, compressive refrigeration unit, and absorption refrigeration unit. Letter grading.

134. Design and Operation of Thermal Hydraulic Power Systems. (4) Lecture, three hours; laboratory, three hours; outside study, six hours. Requisites: courses 133A, 133AL. Thermal hydraulic design, maintenance and operation of power systems, gas turbines, steam turbines, centrifugal refrigeration units, absorption refrigeration units, compressors, valves and piping systems, and instrumentation and control systems. Letter grading.

135. Fundamentals of Nuclear Science and Engineering. (4) Lecture, four hours; outside study, eight hours. Requisites: Chemistry 20A, Mathematics 33B. Review of nuclear physics, nuclear fission and fusion processes and mass defect, chain reactions, criticality, neutron diffusion and multiplication, heat transfer issues, and applications. Introduction to nuclear power plants for commercial electricity production, space power, spacecraft propulsion, nuclear fusion, and nuclear science for medical uses. Letter grading.

136. Energy and Environment. (4) Lecture, four hours; outside study, eight hours. Requisites: course 105D. Recommended: courses 131A, 133A. Global energy use and supply, electrical power generation, fossil fuel and nuclear power plants, renewable energy such as hydropower, biomass, geothermal, solar, wind, and ocean, fuel cells, transportation, energy conservation, air and water pollution, global warming. Letter grading.

CM140. Introduction to Biomechanics. (4) (Same as Biomedical Engineering CM140.) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 101, 102, 156A. Introduction to mechanical functions of human body; skeletal adaptations to optimize load transfer, mobility, and function. Dynamics and kinematics. Fluid mechanics applications to cardiovascular and respiratory systems. Laboratory simulations and tests. Concurrently scheduled with course CM240. Letter grading.


150B. Aerodynamics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 103, 150A. Advanced aspects of potential flow theory. Incompressible flow around thin airfoils (C, Cw) and wings (lift, induced drag). Gas dynamics: oblique shocks, Prandtl/Meyer expansion. Linearized subsonic and supersonic flow around thin airfoils and wings. Wave drag. Transonic flow. Letter grading.


150D. Fluid Dynamics of Biological Systems. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 103, 105A. Aerodynamics and bird flight; pulsatile flow in circulatory system; role of fluid dynamics in arterial diseases. Letter grading.

150P. Aircraft Propulsion Systems. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 103, 105A. Thermodynamic properties of gases, aircraft jet engine cycle analysis and component performance, component matching, advanced aircraft engine topics. Letter grading.

150R. Rocket Propulsion Systems. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 103, 105A, 105D. Rocket propulsion concepts, including chemical rockets (liquid, gas, and solid propellants), hybrid rocket engines, electric (ion, plasma) rockets, chemical lasers, and solar-powered vehicles. Current issues in launch vehicle technologies. Letter grading.
153A. Engineering Acoustics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Design and measurement of acoustical environments. Fundamental course in acoustics; propagation of sound; sources of sound; design of field measurements. Estimation of jet and blade noise with design aspects. Letter grading.

154A. Preliminary Design of Aircraft. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite: course 154S. Classical preliminary design of aircraft, including weight estimation, performance, stability, and control consideration. Term assignment consists of preliminary design of low-speed aircraft. Letter grading.


154S. Flight Mechanics, Stability, and Control of Aircraft. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 150A, 150B. Aircraft performance, flight mechanics, stability, and control; some basic ingredients needed for design of aircraft. Effects of airplane flexibility on stability derivatives. Letter grading.

155. Intermediate Dynamics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 102. Axioms of Newtonian mechanics, generalized coordinates, Lagrange equation, variational principles; central force motion; kinematics and dynamics of rigid bodies. Euler equations, motion of rotating bodies, oscillatory motion, normal coordinates, orthogonality relations. Letter grading.


157. Basic Mechanical Engineering Laboratory. (4) Laboratory, four hours; outside study, eight hours. Requisites: courses 101, 103, 105A, 105D, Electrical Engineering 100. Measurement of basic quantities and performance of basic experiments in heat transfer, fluid mechanics, structures, and thermodynamics. Primary sensors, transducers, recording equipment, signal processing, and data analysis. Letter grading.

157A. Fluid Mechanics and Aerodynamics Laboratory. (4) Laboratory, eight hours. Requisites: courses 150A, 150B, 157. Experimental illustration of fluid mechanics, aerodynamics, as well as hands-on experience with design of experimental programs and use of modern experimental tools and techniques in field. Letter grading.

157B. Basic Aerospace Engineering Laboratory. (4) Laboratory, eight hours; outside study, four hours. Requisites: courses 101, 102, 103, M105A, Electrical Engineering 100. Recommended: course 15. Measurements of basic physical quantities in fluid mechanics, thermodynamics, and structures. Operation of primary transducers, computer-aided data acquisition, signal processing, and data analysis. Performance of experiments to enhance understanding of basic physical principles and characteristics of structures/systems of relevance to aerospace engineering. Letter grading.

161A. Introduction to Aeronautics. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 102. Recommended: course 182A. Space environment of Earth, trajectories and orbits, step rockets and staging, two-body problem, orbital transfer and rendezvous, problem of three bodies, elementary perturbation theory, influence of Earth's oblateness. Letter grading.

161B. Introduction to Space Technology. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Recommended preparation: courses 102, 152, 157. Foundation for understanding of typical space missions, thermochromy of propellants, internal ballistics, regenerative cooling, liquid propellant feed systems, POGO instability, Electric propulsion. Multistage, orbit insertion, orbit station keeping, deployment dynamics. Satellite structures and materials, loads and vibrations, Thermal control of spacecraft. Letter grading.

161C. Spacecraft Design. (4) Lecture, four hours; outside study, eight hours. Requisite: course 161B. Coverage of preliminary design, by students, of small spacecraft carrying lightweight scientific payload with modest requirements for electric power, lifetime, and altitude stability. Students work in groups of three or four to design major aspects of one subsystem and for integration with whole. Letter grading.

161D. Space Technology Hardware Design. (4) Lecture, two hours; laboratory, three hours; outside study, six hours. Recommended prerequisite or corequisite: course 161B. Design, by students, of hardware with applications to space technology. Designs are then built by HSSEAS professional machine shop and analyzed. New project carried out each year. Letter grading.

162A. Introduction to Mechanisms and Mechanicale Systems. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 20, 101, Math 33A. Requisite: courses 94 or 184, 166A. Introduction to finite element method (FEM) and its matrix formulation of computer implementation of FEM concepts; practical use of FEM codes. Preprocessing and postprocessing techniques; graphics display capabilities; geometric and analysis modeling; interactive engineering systems; linear and computer-aided design. Recent trends in FEM technology; design optimization. Term projects using FEM computer codes. Letter grading.

162B. Mechanical Product Design. (4) Lecture, four hours; laboratory, four hours; outside study, six hours. Requisites: courses 94, 156A, 162A, 183, Electrical Engineering 110L. Lecture and laboratory (design) course involving modern design theory and methodology for development of mechanical products. Economics, marketing, manufacturability, quality, and patentability. Design considerations taught and applied to hands-on design project. Letter grading.

162C. Electromechanical System Design Laboratory. (4) Lecture, four hours; laboratory, eight hours; outside study, three hours. Requisite: course 162B. Laboratory and design course consisting of development, construction, and testing of complex mechanical and electromechanical systems. Assembled machine is instrumented and monitored for operational characteristics. Letter grading.

162M. Senior Mechanical Engineering Design. (4) Lecture, one hour; laboratory, six hours; outside study, five hours. Requisites: courses 131A, 133A, 162B, 169A, 171A. Must be taken in last two academic terms of students' programs. Analytical course of a large engineering system. Design factors include functionality, efficiency, economy, safety, reliability, aesthetics, and social impact. Final report of engineering specifications and drawings to be presented by design teams. Letter grading.

163A. Introduction to Computer-Controlled Machines. (4) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisite or corequisite: course 171A. Modeling of computer-controlled machines, including computer elements, mechanical elements, actuators, sensors, and overall electromechanical systems. Motion and command generation, servo-controller design, and computer/machine interfacing. Letter grading.

166A. Analysis of Flight Structures. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 101. Introduction to two-dimensional elasticity, stress-strain laws, yield and fatigue; bending of beams; torsion of beams; warping; torsion of thin-walled cross sections; shear flow, shear lag; buckling and bending torsion of thin-walled stiffened structures used in aerospace vehicles; elements of plate theory; buckling of columns. Letter grading.

166C. Design of Composite Structures. (4) Lecture, four hours; discussion, two hours; outside study, six hours. Requisite: course 156A or 166A. History of composites, stress-strain relations for composite materials, bending and extension of symmetric laminates, failure/tension, design examples and design studies, buckling of composite components, nonsymmetric laminates, micromechanics of composites. Letter grading.

168. Introduction to Finite Element Technology. (4) Lecture, four hours; laboratory, four hours; outside study, four hours. Requisites: courses 20, 101, Mathematical Analysis 33A. Recommended: courses 94 or 184, 166A. Introduction to finite element method (FEM) and its matrix formulation of computer implementation of FEM concepts; practical use of FEM codes. Preprocessing and postprocessing techniques; graphics display capabilities; geometric and analysis modeling; interactive engineering systems; linear and computer-aided design. Recent trends in FEM technology; design optimization. Term projects using FEM computer codes. Letter grading.


172. Control System Design Laboratory. (4) Laboratory, eight hours; outside study, four hours. Requisite: course 171A. Application of frequency domain design techniques for control of mechanical systems. Successful controller design requires students to formulate a performance specification problem, experimentally identify mechanical systems, and develop uncertainty descriptions for design models. Exploration of issues concerning model uncertainty and sensor/actuator placement. Students implement control designs on flexible structures, rate gyroscope, and inverted pendulum. Detailed reports required. Letter grading.
174. Probability and Its Applications to Risk, Quality, and Safety Control. (4) Lecture, four hours; discussion, two hours; outside study, seven hours. Introduction to probability theory; random variables, distributions, functions of random variables, models of failure of components, reliability, redundancy, complex systems, stress-strength models, fault tree analysis, statistical quality control, and by attributes, acceptance sampling. Letter grading.

CM180. Introduction to Micromachining and Microelectromechanical Systems (MEMS). (4) Formerly numbered Biomedical Engineering CM150 and Electrical Engineering CM150.) Lecture, four hours: discussion, one hour; outside study, seven hours. Requisites: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4A, 4F 191A.) Lecture, four hours: discussion, one hour; outside study, one hour. Requisites: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4A, 4L, 4B. Corequisites: course CM180. Hands-on introduction to micromachining technologies and microelectromechanical systems (MEMS) laboratory. Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students design microfabrication processes capable of achieving desired MEMS device. Concurrently scheduled with course CM280L. Letter grading.

CM180L. Introduction to Micromachining and Microelectromechanical Systems (MEMS) Laboratory. (2) (Formerly numbered M180L.) (Same as Biomedical Engineering CM150L and Electrical Engineering CM150L.) Lecture, four hours; laboratory, four hours; outside study, one hour. Requisites: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4A, 4L, 4B. Corequisites: course CM180. Hands-on introduction to micromachining technologies and microelectromechanical systems (MEMS) laboratory. Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students go through process of fabricating MEMS device. Concurrently scheduled with course CM280L. Letter grading.

181A. Complex Analysis and Integral Transforms. (4) (Formerly numbered CM150.) Lecture, four hours; outside study, eight hours. Requisite: course 182A, Complex variables, analytic functions, conformal mapping, contour integrals, singularities, residues, Cauchy integral formula, Laplace transform: properties, convolution, inversion; Fourier transform: properties, convolution, FFT, applications in dynamics, vibrations, structures, and heat conduction. Letter grading.


182C. Numerical Methods for Engineering Applications. (4) (Formerly numbered 192C.) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: courses 20, 182A. Recommended: Electrical Engineering 103. Basic topics from numerical analysis having wide application in solution of practical engineering problems, computer arithmetic, and errors. Solution of linear and nonlinear systems, Algebraic eigenvalue problem, least-square methods, numerical quadrature, and finite difference approximations. Numerical solution of initial and boundary value problems for ordinary and partial differential equations. Letter grading.


184. Introduction to Geometry Modeling. (4) Formerly numbered 194.) Laboratory, eight hours; outside study, eight hours. Requisites: courses 20, 94. Fundamentals in parametric curve and surface modeling, parametric spaces, bending functions, conics, splines and Bezier curve, coordinate transformations, algebraic and geometric form of surfaces, analytical properties of curve and surface, hands-on experience with CAD/CAM systems design and implementation. Letter grading.


C187L. Nanoscale Fabrication, Characterization, and Biodetection Laboratory. (2 to 4) Lecture, two hours; laboratory, two hours. Multidisciplinary course that introduces laboratory techniques of nanoscale fabrication, characterization, and biodetection. Basic physical, chemical, and biological principles related to these techniques with top-down and bottom-up (self-assemble) nanofabrication, nanochannelization (AEM, SEM, etc.), and optical and electrochemical biosensors. Students are encouraged to create their own ideas in self-designed experiments. Concurrently scheduled with course C287L. Letter grading.

188. Special Courses in Mechanical and Aerospace Engineering. (2 to 4) (Formerly numbered 198.) Lecture, two to four hours; outside study, four to eight hours. Special topics in mechanical and aerospace engineering for undergraduate students that are taught on experimental or temporary basis, such as those taught by resident and visiting faculty members. May be repeated for credit with topic or instructor change. P/NP or letter grading.

194. Research Group Seminars: Mechanical and Aerospace Engineering. (2 to 4) Seminar, two hours. Designed for undergraduate students who are part of research group. Discussion of research methods and current literature in field. Student presentation of projects in research specialty. May be repeated for credit. P/NP or letter grading.

199. Directed Research in Mechanical and Aerospace Engineering. (2 to 8) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. May be repeated for credit with school approval. Individual contract required; enrollment petitions available in Office of Academic and Student Affairs. Letter grading.

Graduate Courses


231B. Radiation Heat Transfer. (4) Lecture, four hours; outside study, eight hours. Requisite: course 105D. Radiative properties of materials and radiative energy transfer. Emphasis on fundamental concepts, including energy levels and electromagnetic waves as well as analytical methods for calculating radiative properties and radiation transfer in absorbing, emitting, and scattering media. Applications cover laser-material interactions in addition to traditional areas such as combustion and thermal insulation. Letter grading.


231G. Microscopic Energy Transport. (4) Lecture, four hours; outside study, eight hours. Requisite: course 105D. Heat carriers (photons, electrons, phonons, molecules) and their energy characteristics, statistical properties of heat carriers, scattering and propagation of heat carriers, Boltzmann transport equation, derivation of Boltzmann transport equations, deviation from classical laws at small scale. Letter grading.


237D. Fusion Engineering and Design. (4) Lecture, four hours; outside study, eight hours. Design and analysis of fusion reactors. Applications of tokamaks, magnetohydrodynamics and plasma-thermal dynamics. Letter grading.


237G. Special Topics in Transport Phenomena. (2 to 4) Lecture, two to four hours; outside study, four to eight hours. Designed for graduate mechanical and aerospace engineering students. Le- tures, discussions, student presentations, and projects in areas of current interest in transport pheno- mena. May be repeated for credit with top- ic change. S/U grading.

239F. Special Topics in Nuclear Engineering. (2 to 4) Lecture, two to four hours; outside study, four to eight hours. Designed for graduate mechanical and aerospace engineering students. Advanced and current study of one or more aspects of heat and mass transfer, such as turbulence, stability and transition, buoyancy effects, variational methods, and measure- ment techniques. May be repeated for credit with top- ic change. S/U grading.

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239H. Special Topics in Fusion Physics, Engineer-
ing, and Technology. (2 to 4) Seminar, two to four hours; outside study, eight hours. Designed for gra-
duate mechanical and aerospace engineering stu-
dents. Advanced treatment of subjects selected from research areas in fusion science and engineering, such as instabilities in burning plasmas, alternate fu-
cision-fusion hybrid systems, and fusion reactor safety. May be repeated for credit with topic change. S/U grading.

CM240. Introduction to Biomechanics. (4) Same as Biomedical Engineering CM240.) Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: courses 101, 102, 156A. Introduction to mechanical functions of human body; skeletal adap-
tations to optimize load transfer, mobility, and func-
tion. Dynamics and kinematics. Fluid mechanics appli-

250A. Foundations of Fluid Dynamics. (Lec-
ture, four hours; outside study, eight hours. Requisite: course 150A. Corequisite: course 182B. Develop-
ment and solution of the fundamental principles of fluid mechanics at graduate level, with emphasis on in-
compressible flow. Flow kinematics, basic equations, constitu

250B. Viscous and Turbulent Flows. (Lec-
ture, four hours; outside study, eight hours. Requisite: course 150A. Fundamental principles of fluid dynam-
ics applied to prediction of flow. Stability of flow motion discussed in order of advancing Reynolds number; wakes, boundary layers, instability, transi-
tion, and turbulent shear flows. Letter grading.

250C. Compressible Flows. (Lecture, four hours; outside study, eight hours. Requisites: courses 150A, 150B. Effects of compressibility in viscous and invis-
cid flows. Steady and unsteady inviscid subsonic and supersonic flows; method of characteristics; small disturbance theories (linearized and hypersonic); shock dynamics. Letter grading.

250D. Computational Aerodynamics. (Lec-
ture, eight hours. Requisites: courses 150A, 150B, 182C. Introduction to useful methods for computation of aerodynamic flow fields. Coverage of potential, Euler, and Navier/Stokes equations for subsonic to hypersonic

250E. Spectral Methods in Fluid Dynamics. (Lec-
ture, eight hours; outside study, eight hours. Requ-
sites: courses 182A, 182B, 182C, 250A, 250B. Intro-
duction to basic concepts and techniques of various spectral methods applied to solving partial differential
equations. Focus on techniques for solving unsteady three-dimensional Navier/Stokes equa-
tions. Topics include spectral representation of func-
tions, discrete Fourier transform, etc. Letter grading.

250F. Hypersonic and High-Temperature Gas Dy-
amics. (Lecture, four hours; outside study, eight hours. Recommended requisite: course 250C. Molec-
ular and chemical description of equilibrium and non-
equilibrium hypersonic and high-temperature gas
flows, chemical thermodynamics and statistical ther-
modynamics for calculation gas properties, equilibri-
um flows of real gases, vibrational and chemical rate processes, nonequilibrium flows of real gases, and 
computational fluid dynamics methods for nonequilib-
rium hypersonic flows. Letter grading.

250M. Introduction to Microfluids/Nanofluids. (Lec-
ture, four hours; outside study, eight hours. Requir-
site: course 150A or 156A or 166A. Fundamentals of micro-
fluids. No-slip and slip boundary conditions. Sediment-
ation and diffusion in liquids. Osmotic pressure and Donnan equilibrium in fluid mixtures. Fundamen-
tals of surface tension, spreading, and contact

252A. Stability of Fluid Motion. (Lecture, four hours; outside study, eight hours. Requisite: course 150A. Mechanisms by which laminar flows can be

252B. Turbulence. (Lecture, four hours; outside study, eight hours. Requisites: courses 250A, 250B. Characteristics of turbulence, conservation and transport equations, statistical description of turbulent

252C. Fluid Mechanics ofCombustion Systems. (Lecture, four hours; outside study, eight hours. Requisites: courses 150A, 150B. Recommended: course 250C. Review of fluid mechanics and chemi-
cal thermodynamics applied to reactive systems, lamin-

252D. Combustion Rate Processes. (Lecture, four hours; outside study, eight hours. Requisite: course 252C. Basic concepts in chemical kinetics: mechanisms, rate laws, distributed reactions and aver-
aging, semiempirical and ab initio potential surfaces, trajectory calculations, statistical reaction rate theo-
ries. Practical examples of large-scale chain mecha-
nisms from combustion chemistry of several elements, etc. Letter grading.)

253A. Advanced Engineering Acoustics. (Lec-
ture, four hours; outside study, eight hours. Advanced
studies in engineering acoustics, including three-di-
mensional wave propagation; propagation in bounded media; Ray acoustics; attenuation mechanisms in fluid

253B. Fundamentals of Aeroacoustics. (Lec-
ture, four hours; outside study, eight hours. Requisite: course 150A. Detailed discussion of plane waves, point sources. Nonlinearity, layered and moving me-
dia, multiple reflections. Inhomogeneous wave equa-
tion. Monopole, dipole, quadrupole source fields from scattering inhomogeneities and turbulence; Lighthill

254A. Special Topics in Aeroacoustics. (Lec-
ture, four hours; outside study, eight hours. Requi-
sites: courses 182A, 182B, 182C, 250A, 250B. Intro-
duction to basic concepts and techniques of various spectral methods applied to solving partial differential
equations. Focus on techniques for solving unsteady three-dimensional Navier/Stokes equa-
tions. Topics include spectral representation of func-
tions, discrete Fourier transform, etc. Letter grading.

254B. Nonlinear Elasticity. (4) Same as Civil En-
gineering M230B.) Lecture, four hours; outside study, eight hours. Requisite: course M256A. Kinematics of deformation, material and spatial coordinates, defor-
mation gradient tensor, nonlinear and linear strain tensors, strain displacement relations; balance laws, Cauchy and Piola stresses. Cauchy equations of mo-
tions of energy, irreversibility relations, elasticity, hyperelasticity, thermoelasticity; linearization of field equations; solution of selected problems. Letter grading.

254C. Plasticity. (4) Same as Civil Engineering M230C.) Lecture, four hours; outside study, eight hours. Requisites: courses M256A, M256B. Classical rate-independent plasticity theory, yield functions, flow rules and thermomechanical rate-de-
pendent viscoplasticity, Perzyna and Duvant/Lions types of viscoplasticity. Thermoplasticity and creep. Return mapping algorithms for plasticity and visco-

255A. Nanomechanics and Micromechanics. (Lecture, four hours; outside study, eight hours. Requir-
site: course M256A. Analytical and computational modeling methods to describe mechanics of materi-

255B. Nonlinear Elasticity. (4) Same as Civil En-
gineering M230B.) Lecture, four hours; outside study, eight hours. Requisite: course M256A. Kinematics of deformation, material and spatial coordinates, defor-
mation gradient tensor, nonlinear and linear strain tensors, strain displacement relations; balance laws, Cauchy and Piola stresses. Cauchy equations of mo-
tions of energy, irreversibility relations, elasticity, hyperelasticity, thermoelasticity; linearization of field equations; solution of selected problems. Letter grading.

255C. Physical Mechanics. (4) Same as Civil Engineering M230C.) Lecture, four hours; outside study, eight hours. Requisites: courses M256A, M256B. Classical rate-independent plasticity theory, yield functions, flow rules and thermomechanical rate-de-

256F. Analytical Fracture Mechanics. (Lecture,

256G. Dynamic Fracture Mechanics. (Lecture, four hours; outside study, eight hours. Requisite: course 156A or 166A. Materials 243A. Re-
view of modern fracture mechanics, elementary stress analyses; analytical and numerical methods for calculation of crack tip stress intensity factors; engi-
neering applications in stiffened structures, pressure vessels, etc., and shells of revolution. Letter grading.

257A. Elastodynamics. (4) Same as Earth and Space Sciences M224A.) Lecture, four hours; outside study, eight hours. Requisites: courses M256A,

257B. Elasticity. (4) Same as Earth and Space Sciences M224B.) Lecture, four hours; outside study, eight hours. Requisites: courses 150A, 150B. Equations of linear elasticity. Cauchy equa-
tions of motion, constitutive relations, boundary and initial conditions, principle of energy. Sources and waves in bounded isotropic, anisotropic, and dissip-

257C. Large Deformations. (4) Same as Earth and Space Sciences M224C.) Lecture, four hours; outside study, eight hours. Requisites: courses 150A, 150B. Large deformation analysis, constitutive relations and applications in research problems leading to term paper or theses. Letter grading.

258A. Nanomechanics and Micromechanics. (Lecture, four hours; outside study, eight hours. Requir-
site: course M256A. Analytical and computational modeling methods to describe mechanics of materi-

258B. Nonlinear Elasticity. (4) Same as Civil En-
gineering M230B.) Lecture, four hours; outside study, eight hours. Requisite: course M256A. Kinematics of deformation, material and spatial coordinates, defor-
mation gradient tensor, nonlinear and linear strain tensors, strain displacement relations; balance laws, Cauchy and Piola stresses. Cauchy equations of mo-
tions of energy, irreversibility relations, elasticity, hyperelasticity, thermoelasticity; linearization of field equations; solution of selected problems. Letter grading.

258C. Plasticity. (4) Same as Civil Engineering M230C.) Lecture, four hours; outside study, eight hours. Requisites: courses M256A, M256B. Classical rate-independent plasticity theory, yield functions, flow rules and thermomechanical rate-de-
pendent viscoplasticity, Perzyna and Duvant/Lions types of viscoplasticity. Thermoplasticity and creep. Return mapping algorithms for plasticity and visco-

259A. Seminar: Advanced Topics in Fluid Mechani-
c. (4) Seminar, four hours; outside study, eight hours. Advanced study of topics in fluid mechanics, with intensive student participation involving assign-
ments and research projects. Oral or term paper or oral presentation (possible help from guest lecturers). Letter grading.

259B. Seminar: Advanced Topics in Solid Me-
chanics. (4) Seminar, four hours; outside study, eight hours. Advanced study of topics in solid mechanics, with intensive student participation involving assign-
ments and research projects. Oral or term paper or oral presentation (possible help from guest lecturers). Letter grading.

260. Current Topics in Mechanical Engineering. (2 to 4) Seminar, two to four hours; outside study, four to eight hours. Designed for graduate mechanical and aerospace engineering students. Lectures, discus-
sions, and student presentations and projects in ar-
areas of current interest in mechanical engineering. May be repeated for credit. S/U grading.

261B. Computational Mechanics of Solids and Structures. (4) Lecture, four hours; outside study, eight hours. Requisite: course 261A. Variational formulation and computer implementation of linear elastic finite element method; theory of plasticity and elastoplasticity; fracture mechanics; homogenization techniques as they apply to active materials. Active systems design, inch-worm, and biomorph. Letter grading.

262A. Analytical Foundations of Motion Control Systems. (4) Lecture, four hours; outside study, eight hours. Recommended requisites: courses 163A, 294. Theory of motion control for modern computer-controlled machines; multi-axis computer-controlled machines; machine kinematics and dynamics; multiaxis motion coordination; coordinated motion with desired speed and acceleration; jerk analysis; motion command generation; motion control architectures; position and velocity feedback; interpolators; motion trajectory design and analysis; geometry-speed-sampling time relationships. Letter grading.

263B. Spacecraft Dynamics. (4) Lecture, four hours; outside study, eight hours. Requisite: course 255A. Recommended: course 255B. Modeling, dynamics, and stability of spacecraft; spinning and dual-spin spacecraft dynamics; spinup through resonance, spinning out resonances, environmental torque, and inertia. Nonlinear elements, space modeling and model reduction of flexible space structures. Letter grading.


263D. Advanced Robotics. (4) Lecture, four hours; outside study, eight hours. Recommended preparation: courses 155, 171A, 263C. Motion planning and control of articulated dynamic systems: nonlinear joint control, experiments in joint control and multiaxis coordination, multibody dynamics, trajectory planning, motion optimization, dynamic performance and manipulator design, kinematic redundancies, motion planning of manipulators in space, obstacle avoidance. Letter grading.


269D. Aeroelastic Effects in Structures. (4) Lecture, four hours; outside study, eight hours. Requisite: course M269A. Presentation of field of aeroelasticity from unified viewpoint applicable to flight structures, suspension bridges, buildings, and other structures. Derivation of aeroelastic operators and unsteady airloads from governing variational principles. Flow induced instability and response of structural systems. Letter grading.

M270A. Linear Dynamic Systems. (4) Same as Chemical Engineering M240A.) Lecture, four hours; outside Electrical Engineering M240A.) Lecture, four hours; outside study, eight hours. Requisite: course 171A or Electrical Engineering 141. State-space description of linear time-invariant (LTI) and time-varying (LTV) systems in continuous and discrete time. Linear algebra concepts such as eigenvalues and eigenvectors, singular values, Cayley-Hamilton theorem, Jordan form; solution of state equations; observability, controllability, reachability, realizability, and minimality. Stabilization design via state feedback and observers; separation principle. Connections with transfer function techniques. Letter grading.

270B. Linear Optimal Control. (4) Lecture, four hours; outside study, eight hours. Requisite: course M270A or Electrical Engineering M240A. Existence and uniqueness of solutions to linear quadratic (LQ) optimal control problems for continuous-time and discrete-time systems, finite-time and infinite-time problems; Hamiltonian systems and optimal control; algebraic Riccati equations; implications of controllability, stabilizability, observability, and detectability solutions. Letter grading.

M270C. Optimal Control. (4) Same as Chemical Engineering M280C and Electrical Engineering M240C.) Lecture, four hours; outside study, eight hours. Requisite: course 270B. Applications of variational methods, Pontryagin maximum principle, Hamilton-Jacobi-Bellman equation (dynamic programming) to optimal control of dynamic systems modeled by nonlinear ordinary differential equations. Letter grading.


271B. Stochastic Estimation. (4) Lecture, four hours; outside study, eight hours. Requisite: course 271A. Linear and nonlinear estimation theory, orthogonal projection lemma, Bayesian filtering theory, conditional mean and risk estimators. Letter grading.


271D. Seminar: Special Topics in Dynamic Systems Control. (4) Seminar, four hours; outside study, eight hours. Seminar on current research topics in dynamic systems modeling, control, and applications. Topics selected from process control, differential games, nonlinear estimation, adaptive filtering, industrial and aerospace applications, etc. Letter grading.


273A. Robust Control System Analysis and Design. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 171A, M270A. Graduate-level introduction to analysis and design of multivariable control systems, multivariable loop-shaping, performance requirements, model uncertainty representations, and robustness covered in detail from frequency-domain perspective. Structured singular value and its application to controller synthesis. Letter grading.

275A. System Identification. (4) Lecture, four hours; outside study, eight hours. Methods for identification of dynamical systems from input/output data, with emphasis on identification of discrete-time (digital) models of sampled-data systems. Coverage of conversion to continuous-time models. Models identified include transfer functions and state-space models. Discussion of applications in chemical and aerospace engineering, including identification of flexible structures, microelectromechanical systems (MEMS) devices, and acoustic ducts. Letter grading.


CM280A. Introduction to Micromachining and Microelectromechanical Systems (MEMS). (4) (Formerly numbered M280.) (Same as Biomedical Engineering CM250A and Electrical Engineering CM250A.) Lecture, four hours; discussion, one hour; outside study, seven hours. Requisites: Chemistry 204A, Physics 1A, 1B. Course prerequisite: course CM280L. Introduction to micromachining technologies and microelectromechanical systems (MEMS). Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students design microfabrication processes capable of achieving desired MEMS device. Concurrently scheduled with course CM180L. Letter grading.

CM280B. Microelectromechanical Systems (MEMS) Fabrication. (4) (Same as Biomedical Engineering M250B and Electrical Engineering M250B.) Lecture, three hours; discussion, one hour; outside study, eight hours. Enforced requisite: course CM180 or CM280A. Advanced discussion of micromachining processes used to construct MEMS. Coverage of many lithographic, deposition, and etching processes, as well as their combination in processes integration. Materials issues such as chemical resistance, corrosion, mechanical properties, and residual/intrinsic stress. Letter grading.
CM280L. Introduction to Micromanufacturing and Microelectromechanical Systems (MEMS) Laboratory. (2) (Repeatable 200L.) (Same as Biomedical Engineering CM250L and Electrical Engineering CM250L) Lecture, one hour; laboratory, four hours; outside study, one hour. Requisites: Chemistry 20A, 20L, Physics 1A, 1B, 1C, 4AL, 4BL. Corequisite: course CM280A. Hands-on introduction to micromachining technologies and microelectromechanical systems (MEMS) laboratory. Methods of micromachining and how these methods can be used to produce variety of MEMS, including microstructures, microsensors, and microactuators. Students go through process of fabricating MEMS device. Concurrently scheduled with course CM180L. Letter grading.

M258. Nanoscale Fabrication, Characterization, and Biodetection Laboratory. (2 to 4) Lecture, two hours; laboratory, two hours. Multidisciplinary course that introduces laboratory techniques of nanoscale fabrication, characterization, and biodetection. Basic physical, chemical, and biological principles related to these techniques, top-down and bottom-up (self-assembly) nanofabrication, nanocharacterization (AEM, SEM, etc.), and optical and electrochemical biosensors. Students encouraged to create their own ideas in self-designed experiments. Concurrently scheduled with course C187L. Letter grading.

M287. Nanoscience and Technology. (4) (Same as Electrical Engineering M257.) Lecture, four hours; outside study, eight hours. Introduction to fundamental physical principles, quantum mechanics, chemical bonding and nanostructures, top-down and bottom-up (self-assembly) nanofabrication; nanocharacterization (AEM, SEM, etc.), and optical and electrochemical biosensors. Students encouraged to create their own ideas in self-designed experiments. Concurrently scheduled with course C187L. Letter grading.

M289. Molecular Dynamics Simulation. (4) Lecture, four hours; outside study, eight hours. Emphasis on systems of engineering interest, especially microscale fluid mechanics, heat transfer, and solid mechanics problems. Letter grading.

M295C. Radio Frequency Identification Systems: Analysis, Design, and Applications. (4) Lecture, four hours; outside study, eight hours. Designed for graduate engineering students. Understanding of emerging discipline of radio frequency identification (RFID), including basics of RFID, how RFID systems function, and design and analysis of RFID systems, and applications to fields such as supply chain, manufacturing, retail, and homeland security. Letter grading.


M296B. Thermochemical Processing of Materials. (4) Lecture, four hours; outside study, eight hours. Requisites: courses 131A, 183. Thermodynamics, heat and mass transfer, principles of material processing: phase equilibria and transitions, transport mechanisms of heat and mass, moving interfaces and heat sources, natural convection, nucleation and growth of microstructure, etc. Applications with chemical vapor deposition, infiltration, etc. Letter grading.

M297. Composites Manufacturing. (4) Lecture, four hours; outside study, eight hours. Requisites: course 184. Morphology and properties of microstructures, fabrics, fiber preforms, elements of processing, autoclave/compression molding, filament winding, pultrusion, resin transfer molding, automation, material removal and assembly, metal and ceramic matrix composites, quality assurance. Letter grading.

M299A. Seminar: Systems, Dynamics, and Control Topics. (2) (Same as Chemical Engineering M297 and Electrical Engineering M248S.) Seminar, two hours; outside study, six hours. Limited to graduate engineering students. Presentations of research topics by leading academic researchers from fields of systems, dynamics, and control. Students who work in these fields present their papers and results. S/U grading.

M299B. Seminar: Engineering. (2 to 4) Seminar, to be arranged. Limited to graduate mechanical and aerospace engineering students. Petition for registration is required. May be repeated for credit. S/U grading.

M299C. Seminar: Engineering. (2 to 8) Tutorial, to be arranged. Limited to graduate mechanical and aerospace engineering students. Petition for registration is required. May be repeated for credit. S/U grading.
Medicine

David Geffen School of Medicine

UCLA
37-120 Center for the Health Sciences
Box 951736
Los Angeles, CA 90095-1736
(310) 825-6275
http://www.med.ucla.edu

Scope and Objectives

The principal goal of the Department of Medicine is to educate students in the expert diagnosis and compassionate management of human illness. Building on the biochemical, physiological, and behavioral foundations of the preclinical experience, students are taught information acquisition through history taking, physical examination, and laboratory evaluation; information synthesis through achieving a differential diagnosis and evaluative plan; and medical decision making for continued evaluation and therapy. Students are encouraged and guided in developing a caring physician/patient relationship.

Instruction in the department is provided in all four years of medical school, with the third and fourth years constituting a continuum of clinical experience. Students become integrated into a ward team and have significant ambulatory care experiences. They apply and extend their clinical skills, medical knowledge, and judgment in the care of patients assigned to them under the immediate supervision of house officers and attending staff.

The department offers a broad range of advanced clinical clerkships in general and subspecialty ambulatory and hospital-based internal medicine at all the major affiliated centers. For further details on the Department of Medicine and a listing of the courses offered, see http://www.med.ucla.edu.

Graduate Courses

M215. Interdepartmental Course: Tropical Medicine. (2) (Same as Pathology M215 and Pediatrics M215.) Lecture, two and one-half hours. Preparation: basic courses in microbiology and parasitology of infectious diseases in School of Medicine or Public Health. Study of current knowledge about diseases prevalent in tropical areas of the world. Major emphasis on infectious diseases, with coverage of problems in nutrition and exotenic nonfungal diseases. Syllabus supplements topics covered in classroom. S/U or letter grading.

M226. Interdisciplinary Response to Infectious Disease Emergencies: Medicine Perspective. (4) Lecture, three hours; discussion, one hour. Designed to instill in professional students ideas of common emergency health problems and coordinated response, with specific attention to bioterrorism. Examination of tools to help students prevent, detect, and intervene in infectious disease emergencies. Interdisciplinary sessions also attended by students in Schools of Dentistry, Nursing, and Public Health during weeks two through five. Letter grading.

M260A-M260B. Methodology in Clinical Research II, I. (4-4) (Same as Biostatistics M260A-M260B.) Lecture, four hours. Recommended preparation: M.D., Ph.D., or dental degree. Requisites: Biostatistics 170A, 264. Course M260A is requisite to M260B. Presentation of principles and practices of major disciplines underlying clinical research methodology, such as biostatistics, epidemiology, pharmacokinetics. S/U or letter grading.

M260C. Methodology in Clinical Research III. (4) (Same as Biostatistics M260C.) Discussion, four hours. Recommended preparation: M.D., Ph.D., or dental degree. Presentation of principles and practices of major disciplines underlying clinical research methodology, such as biostatistics, epidemiology, pharmacokinetics. S/U or letter grading.

M261. Ethics in Patient-Oriented Research. (2) (Same as Biostatistics M261.) Lecture, two hours; discussion, two hours. Discussion of current issues in responsible conduct of clinical research, including reporting of research, basis for authorship, issues in genetic research, principles and practice of research on humans, conflicts of interest, Institutional Review Board (IRE), and related topics. S/U or letter grading.

M263. Clinical Pharmacology. (2) (Same as Biomathematics M263 and Psychiatry M263.) Lecture, two hours. Preparation: completion of professional health sciences degree (M.D., D.D.S., D.N.Sc., or Ph.D.). Overview of principles of clinical pharmacology, especially as they relate to clinical and translational medicine. Case studies in pharmacology, such as targeting, gene therapy, and genomics. Letter grading.

M270C. Advanced Modeling Methodology for Dynamic Biomedical Systems. (4) (Same as Biomedical Engineering M296A and Computer Science M296A.) Lecture, four hours; outside study, eight hours. Requisite: course M270C or Biomathematics 220. Estimation methodology and model parameter estimation algorithms for fitting dynamic system models to biomedical data. Model discrimination methods. Theory and algorithms for designing optimal experiments for developing and quantifying models, with special focus on optimal sampling schedule design for kinetic models. Exploration of PC software for model building and optimal experiment design via applications in physiology and pharmacology. Letter grading.


Scope and Objectives
Microbiology at UCLA is a diverse science that includes bacteriology, virology, immunology, genetics, molecular biology, and the study of single cells. The science has its roots in the fundamental human needs of health, nutrition, and environmental control, and it provides opportunities for study in the basic biological fields of genetics and cellular and molecular biology.

Undergraduate students majoring in Microbiology, Immunology, and Molecular Genetics prepare for careers in biomedical research, medicine, dentistry, or other health professions, biotechnology and genetic engineering, industrial microbiology, agricultural or environmental sciences, public health, and law or bioethics, among others. The courses presented by the department lead to a Bachelor of Science degree and depend heavily on preparation in the biological sciences, chemistry, physics, and mathematics.

The graduate program emphasizes the areas of molecular genetics, cell biology, immunology, cell and virus structure and morphogene-
sis, animal virology, general bacteriology and physiology, host/parasite relationships, medical microbiology, microbial genetics, and recombinant DNA research. Students are prepared for creative research careers in all of these fields. The objective of the department is to provide breadth in microbiology, immunology, and molecular genetics at the undergraduate level and depth and training in independent study and research for graduate students.

Undergraduate Study
Microbiology, Immunology, and Molecular Genetics B.S.

Premicrobiology, Immunology, and Molecular Genetics Major

While students are completing the preparation courses for the major, they are classified as Premicrobiology, Immunology, and Molecular Genetics majors.

Preparation for the Major
Life Sciences Core Curriculum

Required: Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade of D or F in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

Transfer Students
Transfer applicants to the Microbiology, Immunology, and Molecular Genetics major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

Students intending to major in Microbiology, Immunology, and Molecular Genetics may seek counseling and petition to enter the major in the Student Affairs Office, 1602A Molecular Sciences.

The Major
Required: Chemistry and Biochemistry 153A, Microbiology, Immunology, and Molecular Genetics 101, 101L, 185A; two laboratory courses from Chemistry and Biochemistry 153L, Microbiology, Immunology, and Molecular Genetics 102L, C120, 198C, 199B; one course from Microbiology, Immunology, and Molecular Genetics 102, C106, C159; and at least six upper division elective courses (22 units minimum) selected from the departmental list (available in the Students Affairs Office and at http://www.mimg.ucla.edu). Sixteen of the 22 elective units must be departmental courses not already taken to fulfill a requirement.

All major courses must be taken for a letter grade of C– or better, with a minimum overall 2.0 grade-point average in the major.

Honors Program
Overall grade-point averages of 3.2 and 3.5 in the preparation for the major and major respectively are required to apply for departmental honors. In addition students must have junior standing and the sponsorship of a faculty adviser from the department. The core of the program consists of Microbiology, Immunology, and Molecular Genetics 189A, 189B, and 198C research, culminating in a thesis. If the thesis is accepted by the honors committee and students complete all major requirements with a GPA of at least 3.5, they are awarded the bachelor's degree with departmental honors. The department also offers an honors seminar course each Winter Quarter that is required for the honors program. For further information, contact the Student Affairs Office, 1602A Molecular Sciences.
Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdn.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Microbiology, Immunology, and Molecular Genetics offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Microbiology, Immunology, and Molecular Genetics.

Microbiology, Immunology, and Molecular Genetics
Lower Division Courses
6. Introduction to Microbiology. (4) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 101 or Life Sciences 2. Designed for nontechnical students; introduction to biology of microorganisms (bacteria, viruses, protozoa, algae, fungi), their significance as model systems for understanding fundamental cellular processes, and their role in human affairs. P/NP or letter grading.

7. Developments in Biotechnology. (4) Lecture, three hours; demonstration/laboratory, one hour. Recommended preparation: course 6 or Life Sciences 2. Not open for credit to students with credit for course 101 or Life Sciences 3. Survey of recent developments in biotechnology, with emphasis on use of single-celled organisms. Review of basic principles of microbiology as they apply to biotechnology and examination of wide variety of topics, including alternate energy sources, pollution, cleanup, genetic fingerprinting, genetic engineering, and agricultural and food microbiology. P/NP or letter grading.

12. Biological Threats to Society: Bioterrorism and Emerging Infections. (4) Lecture, four hours. Examination of biological threats to American society. Coverage of biological weapons going back to first attempts to use microbes or toxins as weapons, and of emerging infections. Introduction to basic biology to understand infectious disease. P/NP or letter grading.

Upper Division Courses
101L. Virology Laboratory. (2) Laboratory, four hours. Requisites: Life Sciences 3 and 4, with grades of C– or better. Corequisites: course 102 (or 102 with a grade of C– or better if previously taken). General laboratory techniques and theory in virology, including complementation, recombination, transduction, experiments in animal virology using tissue culture. Letter grading.


C107. Viral Pathogenesis. (2) Lecture, two hours; discussion, one hour three times per quarter. Requisite: course 185A. Strongly recommended: course 102, Chemistry 153B. Viral pathogens that infect mammals. Viral entry into and replication in host cells. Host response and host/virus interaction. Pathogenic manifestations exhibited during viral infections. Concurrently scheduled with course C207. Letter grading.

C120. Advanced Techniques in Microbiology. (4) Lecture, one hour; laboratory, six hours. Requisite: course 101L or 102L, with a grade of C or better. Introduction to current recombinant techniques. Experiments include PCR and other recombinant techniques. DNA binding recombinant protein is purified from Escherichia coli and its ability to bind to DNA studied using gel shift assay. Introduction to protein/protein interaction using yeast two-hybrid system and to tissue culture techniques and transcription and expression of genes for human light and heavy chain antibody. Concurrently scheduled with course C220. Letter grading.


C237A. Mouse Molecular Genetics. (2) (Same as Human Genetics CM122.) Lecture, two hours. Requisites: Life Sciences 3, 4. Emphasis on use of mouse genetic approach to studying fundamental biological questions. Topics include mouse genome and functional genomics, mutagenesis screening and cloning of disease genes, transgenics and its application in developmental biology, stem cell biology, neurobiology, and modeling human genetic disorders. Reading materials include original papers and reviews. Concurrently scheduled with course CM222. P/NP or letter grading.

C34. Ethics and Accountability in Biomedical Research. (2) Seminar, two hours. Designed for graduate students and undergraduates who have credit for Life Sciences or biological sciences 199 course. Responsibilities and ethical conduct of investigators in research, data management, mentorship, grant applications, and publications. Responsibilities to peers, sponsoring institutions, and society. Conflicts of interest, disclosure, animal subject welfare, human subject protection, and areas in which investigational goals and certain societal goals conflict. Concurrently scheduled with course C234. P/NP grading.

C156. Human Genetics. (4) (Same as Human Genetics CM156 and Molecular, Cell, and Developmental Biology CM156.) Lecture, three hours; discussion, two hours. Requisites: Life Sciences 3, 4. Strongly recommended: Molecular, Cell, and Developmental Biology 100 or C139 or M140. Application of genetic principles in human populations, with emphasis on cytogenetics, biochemical genetics, population genetics, and family studies. Lectures and readings in the literature, with focus on current questions in the fields of medical and human genetics and methodologies appropriate to answer such questions. Concurrently scheduled with course CM256. Letter grading.

C159. Advanced Molecular Genetics. (5) Lecture, three hours; discussion, two hours. Requisites: Chemistry 153A, Life Sciences 4. Integrated conceptualization of classical molecular genetics of microbes, with coverage of key papers from elucidation of genetics code to the present. Essential elements of experimental design, analysis of results, and scientific logic. Concurrently scheduled with course C259. Letter grading.

C168. Molecular Parasitology. (4) Lecture, three hours; discussion, one hour. Requisites: Life Sciences 3, 4. Survey of parasitic protozoa not only as parasites which interact with host, but also as model systems for analysis of basic biological phenomena such as gene regulation, molecular development, cell-cell interactions, and novel biochemical pathways. Concurrently scheduled with course C268. Letter grading.

C174. Advanced Topics in Molecular Parasitology. (2) Lecture, two hours. Requisites: course C168, Life Sciences 3, 4. Examination of recent advances in molecular biology of parasites and host/parasite relationship. Specific topics include parasite development, antigenic variation in trypanosomes, RNA editing, prospects for parasite vaccine and concurrent scheduling with course C274. Letter grading.

C176. Advanced Topics in Animal Virus/Host Interaction. (4) (Same as Molecular, Cell, and Developmental Biology CM176.) Lecture, four hours; discussion, one hour. Requisites: Life Sciences 3, 4. Recommended: course 102 or Chemistry 153B or Molecular, Cell, and Developmental Biology 144. Recent developments in fields of interaction of hosts with animal viruses. Emphasis on molecular and cellular approaches to understand host/virus interaction at level of entry, replication, assembly, and morphogenesis, as well as host defense and viral pathogenesis. Concurrently scheduled with course CM276. P/NP or letter grading.

C178. Molecular Genetics. (4) (Same as Biological Chemistry CM178, Human Genetics CM178, and Molecular, Cell, and Developmental Biology CM178.) Lecture, three hours; discussion, one hour (when scheduled). Requisite: Biological Chemistry CM153G or Chemistry CM153G. Molecular genetics of four systems: bacteria, yeast, protozoa, and mammals. Concurrently scheduled with course CM248. Letter grading.

185A. Immunology. (5) Lecture, three hours; discussion, nine minutes. Requisites: Life Sciences 3, 4. Recommended: requisites or corequisites: Chemistry 153A, 153L, Molecular, Cell, and Developmental Biology 100 or C139 or M140. Not open for credit to students with credit for course M261 or Molecular, Cell, and Developmental Biology C180. Introduction to experimental immunobiology and immunocommunity; cellular and molecular aspects of humoral and cellular immune reactions. Letter grading.
188. Special Courses in Undergraduate Research in Microbial Molecular Biology, Ecology, Diversity, and Evolution. Same as Bioluminescence. Three hours; laboratory, six hours. Requisite: course 101L with a grade of C or better. Limited to 12 students. Individual discovery-based research projects that expose students to microbiology, molecular biology, bioinformatics, microbiology, ecology, and evolution. Experiments include enrichment culture, PCR, DNA sequencing, BLAST searches, and phylogenetic analysis. Letter grading.

191H. Honors Research Seminars: Microbiology, Immunology, and Molecular Genetics. (2) Seminar, two hours. Requisite or corequisite: course 198A or 198B or 198C. Limited to senior microbiology, immunology, and molecular genetics honors program students. Discussion of current research literature, with focus on thesis topics/areas that students are working on as part of departmental honors requirements. One-hour presentation of student thesis research and current literature associated with it required. Letter grading.

193A. Journal Club Seminars: Microbiology, Immunology, and Molecular Genetics. (1) Formerly numbered 193.) Seminar, one hour. Limited to undergraduate students. Discussion of readings selected from current literature in microbiology, immunology, and molecular genetics field. P/NP grading.

193B. Journal Club Seminars: Microbiology, Immunology, and Molecular Genetics. (1) Seminar, one hour. Limited to undergraduate students. Discussion of readings selected from current literature in microbiology, immunology, and molecular genetics letter grading.

194A. Research Group Seminars: Microbiology, Immunology, and Molecular Genetics. (1) Formerly numbered 194.) Seminar, one hour. Designed for undergraduate students who are part of research group in department faculty laboratory. Discussion of research methods and current literature in field or of research of faculty members or students. May be repeated for credit. P/NP grading.

194B. Research Group Seminars: UC LEADS and NIH/MARC. (2) Seminar, two hours. Limited to students in UC LEADS and NIH/MARC programs. Analysis, review, and critique of current papers in biomedicinal sciences discipline, using skills necessary for effective oral communication and effective use of software such as PowerPoint for oral presentations. Letter grading.

197. Individual Studies in Microbiology, Immunology, and Molecular Genetics. (2 to 4) Tutorial, four hours. Limited to undergraduate students. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

198A-198B-198C. Honors Research in Microbiology, Immunology, and Molecular Genetics. (4-4-4) (Formerly numbered 199H.) Tutorial, 12 hours. Course 198A is requisite to 198B, which is requisite to 198C. Limited to junior/senior microbiology, immunology, and molecular genetics honors program students. Directed individual research for departmental honors; students must have faculty sponsor. Progress report must be submitted to faculty sponsor at end of each of first two terms, with honors thesis submitted at end of final term. Maximum of 4 units may be applied toward major, with balance applied toward B.S. fi nal term. Maximum of 4 units may be applied toward major/senior Microbiology, Immunology, and Molecular Genetics majors. Supervised individual research project under guidance of departmental faculty mentor. Course report of research must be filed with Student Affairs Office by end of term. Individual contract required. 199A. (Formerly numbered 199.) Requisite: Chemistry 153A. In Progress grading. 199B. Requisite: course 199A. Culminating paper or project required. Letter grading. 199C. Requisite: course 199B. Culminating paper or project project may be repeated for credit. P/NP or letter grading.

Graduate Courses


208. Molecular Biology of Animal Viruses. (4) (Formerly numbered M208). Lecture, three hours. Preparation: courses in general biochemistry and general microbiology, including virology. Recommended for advanced undergraduate students with a major in public health, biology, or microbiology and for graduate students with interest in any field of biology or chemistry. Overview of animal viruses, including virological structure, virus cell interaction, virus replication, and viral oncogenesis. Special emphasis on understanding the molecular mechanisms involved in control-regulation of replication, transcription, and translation of viral genome and its complex interaction with host. Letter grading.

C220. Advanced Techniques in Microbiology. (4) Lecture, one hour; laboratory, six hours. Requisite: course 101L or 102L, with a grade of C or better. Introduction to current recombinant techniques. Experiments include four or five recombinant techniques. DNA binding recombinant protein is purified from Escherichia coli and its ability to bind to DNA studied using gelshift assay. Introduction to protein-protein interaction using yeast two-hybrid system and to tissue culture techniques and transfection and expression of genes for human light and heavy chain antibody. Concurrently scheduled with course C120. Letter grading.


C224. Principles, Practices, and Policies in Biotechnology. (2) Lecture, three hours. Requisites: Chemistry 153A and 153B, or Life Sciences 3 and 4, with grades of B or better. Designed for graduate students in life and physical sciences majors and students in School of Law and Anderson Graduate School of Management may find course useful in career preparation. Presentation of technologies, regulatory issues, sponsoring institutions, and society conflicts of interest, disclosure, animal subject welfare, human subject protection, and areas in which investigational goals and certain societal values may conflict. Concurrently scheduled with course C133. S/U or letter grading.

C234. Ethics and Accountability in Biomedical Research. (2) Seminar, two hours. Designed for graduate students and undergraduates who have credit for life sciences or biomedical individual studies 199. Course. Responsibilities and ethical conduct of investigators in research, data management, mentorship, grant applications, and publications. Responsibilities to patients, sponsoring institutions, and society. Conflicts of interest, disclosure, animal subject welfare, human subject protection, and areas in which investigational goals and certain societal values may conflict. Concurrently scheduled with course C134. S/U grading.

M240. Cytokines and Reproductive Biology. (2) (Same as Molecular, Cell, and Developmental Biology M240.) Lecture, 90 minutes; discussion, one hour. Overview of cytokines and biology. Topics include cytokines and regulatory roles in biology, and their role in disease. May be repeated for credit. S/U or letter grading.

242. Seminar: Microbial Molecular Genetics. (2) Seminar, two hours. Student and instructor presentations and critical discussion of newly emerging concepts in prokaryotic and/or eukaryotic molecular genetics. Emphasis on nature of the gene and control of gene expression. May be repeated for credit. S/U or letter grading.

244. Research Ethics Seminar. (2) Seminar, two hours. Designed for students supported by UCLA Predoctoral Training Program in Genetic Mechanisms and required of all trainees in two of their three years of support. Examination of prominent cases of scientific fraud through analysis and formal discussion. Faculty and students from School of Law may be invited to participate. S/U grading.


250. Seminar: Microbial Metabolism. (2) Seminar, two hours. Discussion and student presentations of recent work in areas of genetic regulation and physiology of bacterial metabolism. S/U or letter grading.
The graduate major in this discipline is called Islamic Studies. For details, see the program by that name earlier in this section.

Undergraduate Study

Middle Eastern and North African Studies B.A.

Preparation for the Major

Required: The first-year course in Arabic, Armenian, Hebrew, Persian, or Turkish, or the equivalent level of proficiency as determined by admission into a second-year language course (other languages may be substituted by petition); History 9D; and three lower division courses (at least 12 units) with Middle Eastern or North African content selected from Anthropology 8, 9, Comparative Literature 1A, 1B, 1C, 1D, Economics 1, 2, Ethnomusicology 20B, 91L, 91N, Geography 3, History 20, 21, 22, Near Eastern Languages 50A, 50B, 50C, Political Science 20, 50, Sociology 1. Other courses may be substituted by petition, but only with advance approval.

To enter the major, students must be in good academic standing (minimum overall 2.0 grade-point average), have completed 45 units and the requirements for the Preparation for the Major, and attend a mandatory counseling session and file a petition with the academic counselor, 10357 Bunche Hall.

Transfer Students

Transfer applicants to the Middle Eastern and North African Studies major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one course in Middle Eastern and North African history and three additional courses with relevant content (eligibility of courses to be determined at the introductory counseling meeting).

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: At least 11 upper division courses as follows: (1) three courses at the intermediate or advanced level or the equivalent in the Middle Eastern language taken in lower division, or the equivalent level of proficiency as determined by a departmentally administered examination; (2) History 105A, 105B, 105C, and (3) five elective courses, including courses in three different departments and two courses in a single department, to be selected from Anthropology 176, Art History 104A, 104B, 104C, 105E, Economics 110, 111, 112, 120, Ethnomusicology 161L and 161N (both must be taken to equal one 4-unit course), French 121, 160, Geography 135, 187, History, 108A, 116A, 116B, 164B, 164C, 167A, upper division Near Eastern Languages and Cultures nonlanguage courses, Political Science 132A, M1328, 157, 165, Sociology 187.
Students may petition for the following preapproved courses to fulfill upper division elective requirements for the major: (1) any one special topics course with substantial Middle Eastern or North African content and focus on the period after 300 C.E. and (2) one relevant methodology course such as Political Science 170A, Psychology 142H, or Sociology 112. Other courses may be substituted by petition, but only with advance approval.

No more than 32 of the 44 units required for the major may be in one department, and at least 22 upper division units must be in departments that offer a major in the College of Letters and Science. No more than 20 units may be applied toward both this minor and a major or minor in another department or program. All courses must be completed with grades of C (2.0) or better.

Students are encouraged to gain overseas experience by study abroad through the Education Abroad Program in Egypt, Israel, or Turkey.

**Middle Eastern and North African Studies Minor**

The Middle Eastern and North African Studies minor allows students to select from a broad range of courses in various departments to develop professional and methodological skills with area expertise. The minor enables students with an interest in the region to add dimension to their programs.

To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed 45 units, and file a petition and seek counseling with the academic counselor, 10357 Bunche Hall.

**Required Lower Division Courses (8 units):** History 9D and one course selected from Anthropology 8, 9, Comparative Literature 1A, 1B, 1C, 1D, Economics 1, 2, Ethnomusicology 20B, 91L, 91N, Geography 3, History 20, 21, 22, Near Eastern Languages 50A, 50B, 50C, Political Science 20, 50, Sociology 1.


Other courses may be substituted by petition, but only with advance approval.

No more than 8 to 10 units (two courses) may be applied toward both this minor and a major or minor in another department or program.
first year in residence. The second year is spent in the laboratory and in elective courses selected to reflect each student’s interest, background, and requirements for the research undertaken. Numerous opportunities for interaction with other departments, institutes, and programs are provided through interdisciplinary coursework and many collaborative research activities. Although the department offers only graduate degrees, upper division undergraduate courses are offered with enrollment restrictions as indicated in the course descriptions.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.grad.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Molecular and Medical Pharmacology offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Molecular and Medical Pharmacology. The department also offers two M.D./Ph.D. programs concurrently with the School of Medicine. One is the Medical Scientist Training Program (MSTP) in which candidates are medical students that have been accepted into MSTP by the School of Medicine in order to qualify. The second is the Specialty Training and Advanced Research (STAR) Program in which candidates are post-M.D. housestaff (interns, residents, or fellows) who have been accepted into the STAR Program by its selection committee in order to qualify. The department, together with the Division of Laboratory Animal Medicine, offers Ph.D. or postdoctoral training combined with residency training for veterinarians (with D.V.M. or D.V.M./Ph.D. degrees) in the Veterinary Investigator in Scientific Training and Advancement (VISTA) program.

Note: There is no degree program in pharmacy at UCLA.

Molecular and Medical Pharmacology

Upper Division Courses

M110A. Drugs: Mechanisms, Uses, and Misuse. (4) (Same as Molecular Toxicology M110A.) Lecture, four hours (seven weeks); discussion, four hours (three weeks). Requisites: Life Sciences 2, 3. Course M110A is requisite to 110B. Introduction to pharmacology and toxicology for undergraduate students, emphasizing drug development and mechanisms of action of drugs and toxic agents. Letter grading.

110B. Drugs: Mechanisms, Uses, and Misuse. (4) Lecture, four hours (seven weeks); discussion, four hours (three weeks). Requisites: course M110A. Life Sciences 2, 3. Introduction to pharmacology for under-graduate students, emphasizing principles under-lying mechanism of action of drugs, their develop-ment, control, rational use, and misuse. Letter grad-ing.

199. Directed Research in Molecular and Medical Pharmacology. (2 to 8) Tutorial, three hours per week per unit. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. Special studies in pharmacology, including either reading assignments or laboratory work or both, desig-ned for proper training of students. Culuminating pa-per or project required. Individual contract required. P/NP or letter grading.

Graduate Courses

200. Introduction to Laboratory Research. (4 to 6) Laboratory, eight to 16 or 20 to hours. Individual projects in laboratory research for beginning graduate students. At end of each term students submit to their supervisor a report covering research performed. Pharmacology graduate students must take this course three times during their first two years in resi-dence. S/U or letter grading.

203. Medical Pharmacology. (2) Lecture, zero to two hours; discussion, zero to two hours. Requisites: courses 211A, 211B. Series of lectures and case pre-sentations designed to illustrate principles of pharma-cology in a clinical context, and solution of practical therapeutics by reference to pharmacokinetics, mechan-isms of action, and disposition of drugs. S/U or let-ter grading.

M205A. Introduction to Chemistry of Biology. (3) (Formerly numbered M205.) Lecture, three hours. Chemical biology teaching language and techniques of biology. Struct-ure of biological molecules, kinetics and thermody-namics of biological systems, catalysis and electron transfer, genomics, proteomics, and metabolomics. S/U or letter grading.

M205B. Issues on Chemistry/Biology Interface. (2) (Same as Chemistry M205B.) Seminar, one hour. Requisite: course M205A. Selected talks and papers presented by training faculty on solving problems and utilizing tools in chemistry and molecular biology on chemistry and biochemistry. S/U or letter grading.

M211A-211B. Principles of Pharmacology. (4-2) Lecture, three to eight hours; discussion, zero to nine hours. Presentation of role of biological imaging in modern biology, including imaging physics, instrumen-tation, image processing, and applications of imaging for a range of modalities. Limited to first year experience provid-ed through a series of imaging laboratories. Letter grading.


M255. Biological Catalysis. (4) (Same as Biological Chemistry M255, Chemistry CM255, and Molecular, Cell, and Developmental Biology CM252.) Requisites: Chemistry 110A, 153A, 153B, Life Sciences 3, Molec-ular, Cell, and Developmental Biology 100 or C139 or M140. Reaction mechanisms in molecular biology; experimental approaches for study of enzymes, in-cluding kinetics, isotopic labeling, stereochemistry, chemical modification, and spectroscopy; design of pharmacologically active agents and artificial en-zymes. Drug metabolism and interactions addressed on a mechanistic level. Letter grading.

M257. Introduction to Toxicology. (4) (Same as Pa-thology M257.) Requisite: course M241. Biochemical and systemic toxicology, basic mechanisms of toxicol-ogy, and interaction of toxic agents with specific organ systems. S/U or letter grading.

M258. Pathologic Changes in Toxicology. (4) (Same as Pathology M258.) Designed to give stu-dents experience in learning normal histology of tis-sues which are major targets of toxic and the range of pathologic changes that occur in these tissues (liver, bladder, lung, kidney, nervous system, and vascular system). S/U or letter grading.

M276. Advanced Topics in Animal Virus/Host Interactions. (4) (Same as Microbiology CM276 and Molecular, Cell, and Developmental Biology CM258.) Lecture, four hours; discussion, one hour. Recom-mended requisite: Chemistry 153B or Microbiology 102 or Molecular, Cell, and Developmental Biology 144. Recent developments in fields of interaction of hosts with animal viruses. Emphasis on molecular and cellular approaches to understand host/virus in-teraction at level of entry, replication, assembly, and morphogenesis, as well as host defense and viral pathogenesis. S/U or letter grading.

287. Business of Science: Exploring Entrepre-neurship. (2) Lecture, two hours. Limited to graduate students. Introduction to principles of business and entrepreneurship in technology sectors. Basic busi-ness skills and knowledge required to effectively per-form in commercial environment and within academic environment that is increasingly involved in industry partnerships. Exploration of entrepreneurship, partic-ularly formation and operation of new business ven-tures. Presentations by and questioning of successful technology entrepreneurs. Significant aspects of identifying and evaluating new venture opportunities, development of financing, legal considerations, and exit and entry strategies presented and examined through critical discussion. Development of new ven-ture feasibility analysis by students for product of their choice. S/U or letter grading.

237. Research Frontiers in Cellular and Molecular Pharmacology. (8) Lecture, 10 hours; laboratory, 30 hours total. Detailed examination of principles of pharmacology and mechanisms of drug action at organ-isational, tissue, cellular, and molecular levels, with emphasis on receptors, receptor/effector coupling, neurotransmitters, cardiovascular pharmacology, au-tonomic and central nervous system pharmacology. S/U or letter grading.

M241. Introduction to Chemical Pharmacology and Toxicology. (6) (Same as Molecular Toxicology M241.) Lecture, six hours; discussion, four hours. Designed for molecular and medical pharmacology students. Introduction to general principles of pharmacology. Role of chemical properties of drugs in their absorption, distribution, metabolism, excretion, and modes of action. S/U or letter grading.

M248. Introduction to Biological Imaging. (4) (Same as Biomedical Engineering M248 and Bio-medical Physics M248.) Lecture, three hours; labora-tory, one hour; outside study, seven hours. Explora-tion of role of biological imaging in modern biology and medicine, including imaging physics, instrumen-tation, image processing, and applications of imaging for a range of modalities. Limited to first year experience provid-ed through a series of imaging laboratories. Letter grading.


M255. Biological Catalysis. (4) (Same as Biological Chemistry M255, Chemistry CM255, and Molecular, Cell, and Developmental Biology CM252.) Requisites: Chemistry 110A, 153A, 153B, Life Sciences 3, Molec-ular, Cell, and Developmental Biology 100 or C139 or M140. Reaction mechanisms in molecular biology; experimental approaches for study of enzymes, in-cluding kinetics, isotopic labeling, stereochemistry, chemical modification, and spectroscopy; design of pharmacologically active agents and artificial en-zymes. Drug metabolism and interactions addressed on a mechanistic level. Letter grading.

M257. Introduction to Toxicology. (4) (Same as Pa-thology M257.) Requisite: course M241. Biochemical and systemic toxicology, basic mechanisms of toxicol-ogy, and interaction of toxic agents with specific organ systems. S/U or letter grading.

M258. Pathologic Changes in Toxicology. (4) (Same as Pathology M258.) Designed to give stu-dents experience in learning normal histology of tis-sues which are major targets of toxic and the range of pathologic changes that occur in these tissues (liver, bladder, lung, kidney, nervous system, and vascular system). S/U or letter grading.

M276. Advanced Topics in Animal Virus/Host Interactions. (4) (Same as Microbiology CM276 and Molecular, Cell, and Developmental Biology CM258.) Lecture, four hours; discussion, one hour. Recom-mended requisite: Chemistry 153B or Microbiology 102 or Molecular, Cell, and Developmental Biology 144. Recent developments in fields of interaction of hosts with animal viruses. Emphasis on molecular and cellular approaches to understand host/virus in-teraction at level of entry, replication, assembly, and morphogenesis, as well as host defense and viral pathogenesis. S/U or letter grading.

287. Business of Science: Exploring Entrepre-neurship. (2) Lecture, two hours. Limited to graduate students. Introduction to principles of business and entrepreneurship in technology sectors. Basic busi-ness skills and knowledge required to effectively per-form in commercial environment and within academic environment that is increasingly involved in industry partnerships. Exploration of entrepreneurship, partic-ularly formation and operation of new business ven-tures. Presentations by and questioning of successful technology entrepreneurs. Significant aspects of identifying and evaluating new venture opportunities, development of financing, legal considerations, and exit and entry strategies presented and examined through critical discussion. Development of new ven-ture feasibility analysis by students for product of their choice. S/U or letter grading.
288. Gene Therapy. (4) Lecture, three hours; discussion, one hour. Introduction to basic concepts of gene therapy, wherein treatment of human disease is based on transfer of genetic material into an individual. Discussion of molecular basis of disease, gene delivery vectors, and animal models. Letter grading.

291. Special Topics in Pharmacology. (2 to 4) Examination in depth of topics of current importance in pharmacology. Emphasis on recent contributions of special interest to advanced Ph.D. candidates and faculty. S/U or letter grading.

293. Nitric Oxide Chemistry, Biochemistry, and Physiology. (2 or 4) Lecture, two or four hours. Basic chemistry, biochemistry, and physiology of nitric oxide and related species, with emphasis on understanding novel mechanisms of nitrogen oxide function as both a physiological and pathophysiological agent/messenger. S/U or letter grading.

298. Seminar: Current Topics in Molecular and Medical Pharmacology. (2) Limited to pharmacology/ACCESS program, and interdepartmental Molecular Biology Ph.D. program students. Students conduct or participate in discussions on assigned topics. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.


**MOLECULAR BIOLOGY**

Interdepartmental Program
College of Letters and Science

UCLA
168 Boyer Hall
Box 951570
Los Angeles, CA 90095-1570
(310) 825-1018
fax: (310) 206-7286
http://www.mbi.ucla.edu

Sabeeha Merchant, Ph.D., Chair

Faculty Advisory Committee
Peter J. Bradley, Ph.D. (Microbiology, Immunology, and Molecular Genetics)
Michael F. Carey, Ph.D. (Biological Chemistry)
Guillaume F. Chanfreau, Ph.D. (Chemistry and Biochemistry)
Jau-Nian Chen, Ph.D. (Molecular, Cell, and Developmental Biology)
Christopher T. Denny, M.D. (Pediatrics)
Sabeeha Merchant, Ph.D. (Chemistry and Biochemistry)
Peter Tontonoz, M.D., Ph.D. (Pathology and Laboratory Medicine)
Geraldine A. Weinmaster, Ph.D. (Biological Chemistry)

Scope and Objectives

The Ph.D. in Molecular Biology is offered under the supervision of an interdepartmental committee. The Molecular Biology Institute serves this committee and the various departments concerned in support of faculty research and teaching associated with the Ph.D. program.

Staff members are from participating departments and from the Molecular Biology Institute. Areas for study include cell biology; developmental biology and neurobiology; nuclear acid biochemistry; gene regulation; immunobiology; microbiology/virology and pathogenesis; molecular evolution and paleobiology; oncogenes and signal transduction; plant molecular biology; protein and enzyme structure and function; genomics; bioinformatics; and structural biology.

Graduate Study

Official, specific degree requirements are detailed in *Program Requirements for UCLA Graduate Degrees*, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmcintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Molecular Biology Program offers the Doctor of Philosophy (Ph.D.) degree in Molecular Biology.

**MOLECULAR BIOLOGY**

Graduate Course

298. Current Topics in Molecular Biology. (2) Student presentation/seminar, two hours. Students present oral critiques and participate in discussions on assigned topics. S/U grading.

**MOLECULAR, CELL, AND DEVELOPMENTAL BIOLOGY**

College of Letters and Science

UCLA
2128 Life Sciences
Box 951606
Los Angeles, CA 90095-1606
(310) 825-7109, Undergraduate Office
fax: (310) 267-1880
e-mail: undergradmcb@lifesci.ucla.edu
(310) 794-4256, Graduate Office
e-mail: mcb@lifesci.ucla.edu
http://www.mcb.ucla.edu

Utpal Banerjee, Ph.D., Chair

Professors
Utpal Banerjee, Ph.D.
Robert B. Goldberg, Ph.D.
Volkert Hartenstein, Ph.D.
Ann M. Hirsch, Ph.D.
Luisa M. Iruela-Arispe, Ph.D.
M. A. Jacobs, Ph.D.
Steven E. Jacobson, Ph.D.
Harumi Kasamatsu, Ph.D.
James A. Lake, Ph.D.
Frank A. Laski, Ph.D.
Chentao Lin, Ph.D.
Shuo Lin, Ph.D.
Karen M. Lyons, Ph.D.

John R. Merriam, Ph.D.
Elaine M. Tobin, Ph.D.

Professors Emeriti
William R. Clark, Ph.D.
John H. Fessler, Ph.D.
Bernard O. Phinney
Winston A. Salser, Ph.D.
Fritiof S. Sjostrand, Ph.D.
Clara M. Szego, Ph.D.

Associate Professor
Paul H. O’Lague, Ph.D.

Assistant Professors
Jau-Nian Chen, Ph.D.
Sioux K. Christensen, Ph.D.
Amander T. Clark, Ph.D.
Andrew C. Diener, Ph.D.
William E. Lowry, Ph.D.
Hanna K.A. Mikkola, M.D., Ph.D.
Matteo Pellegrini, Ph.D.
Alvaro Sagasti, Ph.D.

Lecturers
Pei-Yun Lee, Ph.D.
Heather P. Tarleton, M.P.A.P., Ph.D.

Adjunct Professors
Lutz Birnbauer, Ph.D.
Kenneth A. Feldman, Ph.D.
Richard B. Flawell, Ph.D.

Adjunct Assistant Professor
Roger I. Punnell, Ph.D.

Scope and Objectives

The revolution in modern biology that began with the elucidation of the structure of DNA by Watson and Crick in the 1950s has had a profound effect not only on biological research, but on the way biology is taught as a subject. The field of biology spawned by this discovery, generally called molecular biology, has provided an entirely new framework within which to approach questions in cell and developmental biology. The specializations, both technical and conceptual, demanded by this field have led to the growth of molecular biology and its related disciplines into an essentially separate branch of scientific inquiry.

Students who complete the requirements for the Bachelor of Science degree in Molecular, Cell, and Developmental Biology are exceptionally well prepared to pursue careers in cellular and subcellular biological research, biomedical research, or medicine or allied health fields. The degree combines essential background studies in mathematics, chemistry, and physics with a general introduction to all of the biological subjects, as well as in-depth exposure to key topics in molecular, cell, and developmental biology. The Plant Technology B.S. degree is designed to prepare students for careers in biotechnology; students are trained in plant biology as well as in concepts and techniques in molecular biology. The Ph.D. degree provides opportunity for advanced concentrated study and requires independent and innovative research that ultimately results in publishable dissertation materials.
Undergraduate Study

Molecular, Cell, and Developmental Biology B.S.

The Bachelor of Science degree in Molecular, Cell, and Developmental Biology (MCDB) is designed especially for students who intend to go on to postgraduate work in biology or medicine and for students aiming for entry-level positions in biotechnology-related fields. Students are exposed to basic biological and molecular concepts underlying recent technical advances in molecular, cell, and developmental biology of animals and plants. Areas of emphasis include cell biology, immunology, molecular biology, plant biology, developmental biology, and neurobiology, among others.

Preparation for the Major

Life Sciences Core Curriculum

Required: Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving grades below C– in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

Transfer Students

Transfer applicants to the Molecular, Cell, and Developmental Biology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required Courses: Chemistry and Biochemistry 153A, 153L, Molecular, Cell, and Developmental Biology M140 or 165A, 104, 138 or C141, 144 or 165B. Credit for a maximum of two upper division developmental biology courses may be applied toward the major requirements — the first as a required course and the second as elective units. Due to content overlap, students with credit for both courses 165A and 165B cannot receive major credit for course M140.

Electives: At least 20 upper division elective units, of which at least 10 must be in courses offered by the department. Any upper division departmental course, except Molecular, Cell, and Developmental Biology 100, 190A, 190B, 190C, 192A, 192B, 193, 194A, 194B, or 199, is acceptable. The following courses outside the department may be taken to satisfy a maximum of 10 units in this category: Biological Chemistry CM153G, Biomathematics 160 or Biostatistics 100A or Statistics 100A, Chemistry and Biochemistry 153C, 156, C159A, C159B, C160A, Ecology and Evolutionary Biology 110, 121, 146, 162, Human Genetics C144, Life Sciences 100HA or 100HB or 100HC, Microbiology, Immunology, and Molecular Genetics 101, 102, C106, C159, C168, C174, 185A, Physiological Science C126, 166.

Laboratory: At least 4 units of upper division laboratory experience selected from Chemistry and Biochemistry 154, Ecology and Evolutionary Biology M158, 162, Life Sciences 100HA or 100HB or 100HC, Microbiology, Immunology, and Molecular Genetics 101 and 101L (both courses must be taken), 102 and 102L (both courses must be taken), Molecular, Cell, and Developmental Biology 120L, 155, 198A through 198D, 199, 199A through 199D, Physiological Science 166.

A maximum of 12 units of Molecular, Cell, and Developmental Biology 198A through 198D or 199A through 199D and no more than one course from 199 may be applied toward the major. Credit for 199 courses from other departments may not be applied except by petition.

Any single course may be applied toward only one category within the major (e.g., course C141 may be applied toward the required or elective category but not toward both).

Courses applied toward requirements for preparation for the major and the major must be taken for a letter grade. Majors must earn a C– or better in each preparation for the major course, and at least a 2.0 (C) overall average in all courses applied toward the major.

Plant Biotechnology B.S.

The Plant Biotechnology major is designed to prepare students for careers in biotechnology or for entrance into graduate school. Industries, particularly those that have traditionally dealt with agricultural products, are increasingly turning to biotechnology to improve the production as well as the nutritional value of food. These emerging industries are also developing products to lessen the dependence on nonrenewable resources and to restore soil and water quality. Students are trained in plant biology as well as in concepts and techniques in molecular biology. These skills should enable students who successfully complete the curriculum to find challenging careers in the diverse biotechnology arena, academics, industry, or government.

Preparation for the Major

Life Sciences Core Curriculum

Required: Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade of D or F in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

Transfer Students

Transfer applicants to the Plant Biotechnology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: A minimum of 10 courses as follows:

Group 1: Chemistry and Biochemistry C160A, Ecology and Evolutionary Biology 162, Molecular, Cell, and Developmental Biology 104, 120, C141 or C150, and 4 units of plant biology laboratory internship (Molecular, Cell, and Developmental Biology 198A and 198B, or 199, or 199A and 199B).

Group 2: Four additional courses selected from Chemical Engineering C115, C125, Chemistry and Biochemistry 110A, 156, Ecology and Evolutionary Biology 121 or Molecular, Cell, and Developmental Biology 144, Microbiology, Immunology, and Molecular Genetics 101 and 101L (counts as one course), 102 and 102L (counts as one course), C120, C133 (counts as a half course), and any courses in Group 1 not applied toward Group 1.

Courses applied toward requirements for preparation for the major and the major must be taken for a letter grade. Majors must earn a C– or better in each preparation for the major course, and at least a 2.0 (C) overall average in all courses applied toward the major.

Honors Program

Admission

The honors program provides exceptional Molecular, Cell, and Developmental Biology and Plant Biotechnology majors with the opportu-
nity to do research culminating in an honors thesis. Junior and senior majors who have completed all university-level coursework, including all preparation courses and requirements for the major with an overall grade-point average of 3.0 or better and a 3.5 GPA or better in the required major courses, may apply for admission to the honors program. Students must have the sponsorship of an approved faculty adviser.

For further information and application forms, students should consult the Student Affairs Office, 2128 Life Sciences, early in their educational planning. Completed applications should be submitted at least two weeks prior to the term in which students plan to begin the honors program.

Requirements

The core of the program consists of at least one approved undergraduate seminar course from Molecular, Cell, and Developmental Biology 191 and three research courses (12 units minimum) from 198A, 198B, and 198C, culminating in a thesis.

To qualify for graduation with honors, students must satisfactorily complete all requirements for the honors program and the major and obtain at least an overall 3.0 grade-point average and a 3.5 GPA or better in coursework required for the major. On recommendation by the faculty sponsor and with approval of the thesis by the departmental honors committee, students are awarded no honors, departmental honors, or highest departmental honors.

At the discretion of the departmental honors committee, students who have (1) a GPA of 3.6 or better, both overall and in the major and (2) demonstrated exceptional accomplishment on the research thesis are awarded highest departmental honors.

Computing Specialization

Majors in Molecular, Cell, and Developmental Biology and Plant Biotechnology may select a specialization in Computing by (1) satisfying all the requirements for a bachelor's degree in the major, (2) completing Program in Computing 10A, 10B, 10C, 30, and 60, and (3) completing one course from Computer Science CM186B or Ecology and Evolutionary Biology C159. A grade of C– or better is required in each course, with a combined grade-point average in the specialization of at least 2.0. Students must petition for admission to the program and are advised to do so after completing Program in Computing 10B (petitions should be filed in the Student Affairs Office). Students graduate with a bachelor's degree in their major and a specialization in Computing.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasia/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Molecular, Cell, and Developmental Biology offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Molecular, Cell, and Developmental Biology.

Molecular, Cell, and Developmental Biology

Lower Division Courses

30. Biology of Cancer. (5) Lecture, five and one-half hours; experiential service learning, 30 minutes. Introduction to molecular, cellular, and clinical aspects of cancer and consideration of sociological and psychological impacts of cancer on the individual and society. P/NP or letter grading.

40. AIDS and Other Sexually Transmitted Diseases. (5) Lecture, five and one-half hours; experiential service learning, 30 minutes. Introduction to interdisciplinary debate surrounding the personal and societal response to AIDS and other sexually transmitted diseases. P/NP or letter grading.

50. Stem Cell Biology, Politics, and Ethics: Teasing Apart Issues. (5) Lecture, three and one-half hours; discussion, 90 minutes. Developmental biology of various types of human stem cells. Important functional differences between embryonic, hematopoietic, and adult stem cells, as well as differences in their biomedical potentials. Discussion of history of debate surrounding embryos, as well as various social, ethical, political, and economic aspects of stem cell research. P/NP or letter grading.

60. Biomedical Ethics. (5) Lecture, three hours; discussion, one hour. Examination of importance of ethics in research and exploration of how and why bioethics is relevant to reproductive screening, policy formation, public regulation, and law. Provides foundation in traditional ethics, consideration of subcategories of bioethics, neuroethics, and Eugenics, and how to apply ethics to contemporary issues in research and technology. P/NP or letter grading.

Upper Division Courses

100. Introduction to Cell Biology. (5) Lecture, three hours; discussion, one hour. Enforced requisites: Life Sciences 3, 4. Enforced corequisite: Chemistry 153A. Not open for credit to Molecular, Cell, and Developmental Biology majors or to students with credit for course 150A or 165A. Analysis of cell organization, structure, and function at molecular level. Cell membranes and organelles, membrane transport, cellular signaling, cytokinetic role of cell movement, intracellular trafficking, cell energetics. Letter grading.

104. Cell and Molecular Biology Laboratory. (6) Lecture, 90 minutes; discussion, one hour; laboratory, eight hours. Requisites: Life Sciences 3, 4. Introduction to molecular methods in molecular biology. Topics include genetic transformation, purification, manipulation and analysis of DNA, RNA, and protein. Emphasis on computer sequence analysis and use of current literature. May not be repeated for credit. Letter grading.

120. Introduction to Plant Biology. (4) Lecture, three hours; discussion, two hours. Requisites: Life Sciences 3, 4. Introduction to plant biology, as well as to concepts and techniques in molecular biology and genetics. Letter grading.

120L. Introduction to Plant Biology Laboratory. (4) Laboratory, four hours. Enforced requisites: Life Sciences 3, 4. Enforced corequisite: course 120. Introduction to plant biology laboratory to give students hands-on experience doing experiments and making their own observations about plant biology. Letter grading.


139. Cell, Developmental, and Molecular Neuroscience. (6) Lecture, six hours. Fundamental topics concerning cellular, developmental, and molecular neurobiology, including intracellular signaling, cell-cell communication, neurogenesis and migration, synapse formation and elimination, programmed neuronal death, and neurotropic factors. Concurrently scheduled with course CM220. Letter grading.

142. Seminar: Topics in Developmental Biology. (2) Requirement: undergraduate seminar in another advanced seminar course in developmental biology, and concurrent enrollment in 139. Undergraduate seminar in topics in developmental biology. Reading and group discussions on current research. P/NP or letter grading.

143. Developmental Biology: Genetic Control of Organogenesis. (5) Lectures, three hours; discussion, one hour. Requisites: course 138, Life Sciences 3, 4. Cellular and molecular basis of animal embryology, with primary emphasis on vertebrate organ development; but including pertinent material from Drosophila and other invertebrate model organisms. Letter grading.

155. Molecular Genetic Methods. (4) Lectures, two hours; discussion, one hour. Preparation: completion of life sciences core curriculum. Introduction to techniques in chemical ecology and how natural compounds affect gene expression. Emphasis on role of natural compounds in plant/microbe, plant/plant, and plant/herbivore interactions; synopsis of principles of plant defense mechanisms and responses to microbial infections. Concurrently scheduled with course C250.

165A. Molecular Biology of Cells. (5) Formerly numbered 165. Lecture, three hours; discussion, one hour. Requisites: Chemistry 14D or 30B, Life Sciences 3. Molecular biology of cell structure and function, with an emphasis on current research in cell biology research. Exposure in discussions of recent important scientific articles that directly relate to information examined in lectures. Letter grading.

165B. Molecular Biology of Cell Nucleus. (5) Lectures, three hours; discussion, two hours. Requisites: course 165A, Chemistry 14D or 30B, Life Sciences 3. Combination of cellular and molecular biology of eukaryotic cell nucleus, with focus on structure, organization, replication, and repair of eukaryotic genome; eukaryotic gene expression, including transcription, translation, and transport; cell cycle and cancer. Study of advanced specialized topics to allow integrated approach to molecular cell biology. Material presented in context of experimental questions and answers to incorporate concept of scientific method and recent advances in cell biology research. Exposure in discussions to current literature that directly relates to information examined in lectures. Letter grading.

168. Stem Cell Biology. (5) Lecture, three hours; discussion, one hour. Enforced requisites: courses 138, 165A. Strongly recommended: courses 143, 165B (or Microbiology C132), State-of-art technology in development of embryonic and adult stem cells and how these pluripotent/multipotent cells can be used to treat congenital defects, diseases, or injury in humans. Review of current knowledge of human and mouse embryonic stem cells and how they develop into various tissue types. Discussion of adult stem cells in hematopoietic, nervous, and other organ systems to provide examples of tissue-regeneration and their impact in human disease. Examination of various model organisms as examples of how model organisms have helped to discover fundamental principles in stem cell biology; how advances in cell and molecular biology and tissue engineering can be applied to use of stem cells in regenerative medicine. Ethical and legal issues related to stem cell research. Letter grading.


171. Principles of Neurobiology. (4) Lecture, three hours; discussion, one hour. Enforced requisite: Life Sciences 3. Strongly recommended: course 150 or 160 or 165A. Not open for credit to students with credit for course M171A (or Neuroscience M101A, Physiological Science M180A, or Psychology M117A). Introduction of principles of neurobiology, including description of structure of neurons and nervous systems; ionic mechanisms responsible for generating membrane potentials, action potentials, and synaptic potentials; synaptic transmission, information transfer and coding in sensory pathways, and neural control of movement; development of and trophic interactions between cells of nervous system. Letter grading.

172. Genomics and Bioinformatics. (5) Lecture, three hours; discussion, one hour. Requisite: course 144 or 165B or Chemistry 153B or Microbiology C152. Genomics is study of complete repertoire of genes in human and yeast genomes and genetic approaches to study of function of individual genes, fundamental bioinformatics algorithms used to study relationship between nucleotide and protein sequences and reconstruction of their evolution, use of microarray technologies to measure changes in gene expression, analysis of microarray data including clustering and promoter analysis, proteomics topics including protein expression and interactions, epigenomic study of DNA methylation and chromatin modification, and systems biology, or computer approaches to handling of the vast amount of data to gain more complete understanding of cellular biology. Letter grading.

C174A-C174D. Advanced Topics in Cell and Molecular Biology (2 each) Lecture, two hours. Requisites: courses 100 or 139 or M140, 144, Life Sciences 4. Recent developments in fields of molecular, cell, and developmental biology. Concurrently scheduled with course C174B. P/NP or letter grading.

C174A. Molecular Evolution. (2) Lecture, two hours. Requisites: courses 100 or C139 or M140, 144, Life Sciences 4. Animal cell nucleus regulation of cell proliferation and cell connections of cell-cell and cell-matrix interactions, nuclear-cytoplasmic exchange, DNA replication and gene expression. Letter grading.

C174D. Molecular Biology of Cell Nucleus. (2) Lecture, two hours. Requisites: courses 100 or C139 or M140, 144, Life Sciences 4. Current developments in the field of molecular evolution. Constructing evolutionary trees at molecular level; functional testing of evolutionary hypotheses using sequencing data. Letter grading.


M175A. Cellular and Systems Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: Chemistry 144 or 30A (or equivalent), Life Sciences 2, Physics 1B or 18B or 6B or 6BB. Not open for credit to students with credit for Physiological Science 111A. For Physiological Science majors who plan on going to graduate school in neuroscience. Students expect to proceed to Physiological Science 111B. Cellular neurophysiology, membrane potential, action potentials, and synaptic transmission. Sensory systems and motor system; how assemblies of neurons process complex information and control movement. P/NP or letter grading.

M175B. Molecular and Developmental Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: course M175A (or Neuroscience M101A or Physiological Science M180A or Psychology M117A) or Physiological Science 111A or Psychology 115, Life Sciences 3. Molecular biology of nervous system; fundamental mechanisms of the nervous system; neuroanatomy and physiology; development of nervous system. Letter grading.

M175C. Behavioral and Cognitive Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisite: course M175A (or Neuroscience M101A or Physiological Science M180A or Psychology M117A) or Physiological Science 111A or Psychology 115. Neural mechanisms underlying motivation, learning, and cognition. P/NP or letter grading.
CM176. Advanced Topics in Animal Virus/Host Interaction. (4) (Same as Microbiology CM176.) Lecture, four hours; discussion, one hour; laboratory: Life Sciences 3, 4. Recommended: course 144 or Chemistry 153B or Microbiology 102. Recent developments in fields of interaction of hosts with animal viruses. Emphasis on molecular and cellular approaches to understanding how viruses interact at level of entry, replication, assembly, and morphogenesis, as well as host defense and viral pathogenesis. Concurrently scheduled with course CM256. P/NP or letter grading.


M181. Biological Bases of Psychiatric Disorders. (4) (Formerly numbered M191.) (Same as Neuroscience M130, Physiological Science M181, Psychiatry M181, and Psychology M117U.) Lecture, three hours. Prerequisite: course M175A (or Neuroscience M101A or Physiological Science M180A or Psychology M117A) or Physiological Science 111A or Psychology 115. Underlying brain systems involved in psychiatric disorders and neurological disorders, including schizophrenia, depression, bipolar disorder, obsessive-compulsive disorder. Provides basic understanding of brain dysfunctions that contribute to disorders and rationale for pharmacological treatments. P/NP or letter grading.

188. Research Topics in Molecular, Cell, and Developmental Biology. (1) Seminar, two hours. Limited to Molecular, Cell, and Developmental Biology majors who are concurrently enrolled in molecular, cell, and developmental biology research courses with departmental faculty members. Study and analysis of current topics in cell biology, cellular, and developmental biology. Discussion of current research and literature in research specialty of faculty member teaching course. May be repeated once for credit. Letter grading.

190A-190B-190C. Joint Research Colloquia. (1-1-1) Seminar, two hours. Corequisite: course 198A or 198B or 198C or 199A or 199B. Limited to juniors/seniors. Designed to bring together students undertaking research in any of the major fields in molecular, cell, and developmental biology. Emphasis on tissue formation. Original research presentations. Open to all interested students. Letter grading.

192B. Undergraduate Practicum: CityLab. (2) (Formerly numbered 193B.) Seminar, two hours. Limited to juniors/seniors in any life sciences major. CityLab training and supervised practicum for advanced undergraduate students. Students assist in preparation of materials and development of innovative programs under guidance of faculty members in small course settings. Consult Undergraduate Office for further information. May not be applied toward course requirements for Molecular, Cell, and Developmental Biology major. May be repeated once for credit. P/NP or letter grading.

192A. Undergraduate Practicum in Molecular, Cell, and Developmental Biology. (4) (Formerly numbered 193A.) Seminar, three hours. Limited to junior/senior Molecular, Cell, and Developmental Biology majors. Training, consultation, and supervised practicum for advanced undergraduate students. Students assist in preparation of materials and development of innovative programs under guidance of faculty members in small course settings. Consult Undergraduate Office for further information. May not be applied toward course requirements for Molecular, Cell, and Developmental Biology major. May be repeated once for credit. P/NP or letter grading.

192A-B. Directed Research in Molecular, Cell, and Developmental Biology (2 to 4 each) (Formerly numbered 190A-190B.) Tutorial, 12 hours. Prerequisites: courses 100 or C139 or 144, Life Sciences 4. Concurrently scheduled with course CM222A-C222D. Letter grading.

193. Journal Club Seminars: Molecular, Cell, and Developmental Biology. (1) Seminar, two hours. Corequisite: course 198A or 198B or 198C or 199A or 199B or 199C. Limited to juniors/seniors. Development of in-depth understanding of and ability to discuss current literature in field of students’ own research. P/NP grading.

194A. Research Group Seminars: Molecular, Cell, and Developmental Biology. (1) Seminar, two hours. Corequisite: course 198A or 198B or 198C or 199A or 199B or 199C. Limited to juniors/seniors. Involvement in laboratory’s weekly research group meeting to encourage student participation in research and to stimulate progress in specific research areas. Discussion of use of specific research methods and current literature in field or of research of faculty members. P/NP or letter grading.

194B. Research Group Seminars: Current Topics in Biomedical Sciences. (2) (Formerly numbered M194.) Seminar, two hours. Limited to juniors/seniors in research traineeships or those who have strong commitment to pursue graduate studies in molecular, biochemical, physiological, or biomedical fields. Weekly presentation and discussion of paper selected from current literature. May be repeated for credit. Letter grading.

198A-198D. Honors Research in Molecular, Cell, and Developmental Biology. (4 each) (Formerly numbered 190HA-190HD.) Tutorial, 16 hours. Corequisite: course 104. Limited to junior/senior Molecular, Cell, and Developmental Biology majors. Development and completion of comprehensive research project and honors thesis under direct supervision of approved faculty member to broaden and deepen students’ knowledge of some phase of molecular, cell, and developmental biology. Must be taken for at least three terms and for a total of at least 12 units. Individual contract required. Letter grading.

199. Special Studies Directed Research in Molecular, Cell, and Developmental Biology. (2 to 4) Tutorial, six to 12 hours. Preparation: submission of written proposal to department for approval by appropriate term deadline. Proposal to be developed in consultation with instructor, outlining research study to be undertaken. Requisites: courses 104, Life Sciences 3, 4. Limited to juniors/seniors. Department majors may enroll with sponsorship from department faculty members or preapproved outside faculty members. Other juniors/senior life sciences majors may enroll only with department faculty sponsors. Supervised individual research under guidance of faculty mentor. Studies to involve laboratory research, not literature surveys or library research. At end of term culminating paper describing progress of project and signed by student and instructor must be presented to department. Individual contract required. Letter grading.

199A-199D. Directed Research in Molecular, Cell, and Developmental Biology. (6) (Formerly numbered 190A-190D.) Tutorial, 12 hours. Prerequisites: courses 100 or C139 or 144, Life Sciences 4. Recent developments in fields of molecular, cell, and developmental biology. Must be taken for at least two terms and for a total of at least 8 units. Individual contract required. In Progress (199A) and letter (199B) grading. Students may elect to enroll in additional research through courses 199C and 199D (letter grading). Report on progress must be presented to department each term a 199A through 199D course is taken.

Graduate Courses


CM222A-C222D. Advanced Topics in Cell and Molecular Biology. (2 each) Lecture, two hours. Requisites: courses 100 or C139 or 144, Life Sciences 4. Recent developments in fields of molecular, cell, and developmental biology. Concurrently scheduled with courses C174A-C174D. Letter grading.

CM222A. Molecular Evolution. (2) Lecture, two hours. Requisites: courses 100 or C139 or M140, 144, Life Sciences 4. Recent developments in the field of molecular evolution. Constructing evolutionary trees at molecular level; formal testing of evolutionary hypotheses using sequencing data. Original research proposal required. Letter grading.

CM222B. Molecular Biology of Cell Nucleus. (2) Lecture, two hours. Requisites: courses 100 or C139 or M140, 144, Life Sciences 4. Current developments in the field of molecular evolution. Constructing evolutionary trees at molecular level; formal testing of evolutionary hypotheses using sequencing data. Original research proposal required. Letter grading.


224. Molecular Basis of Vascular Biology. (4) Lecture, four hours. Requisites: Life Sciences 3, 4, Developmental and molecular aspects of vascular biology. Presentation and discussion of key questions of vascular biology with mechanistic viewpoint. Major emphasis on experimental approaches and current research in field. Introduction to several model systems along with discussion of specific topic. Basic information provided as to how this knowledge is obtained in laboratory using variety of experimental approaches and specific systems. Letter grading.


M230B. Structural Molecular Biology. (4) (Same as Chemistry M230B.) Lecture, three hours; discussion, one hour. Requisites: Mathematics 3C, Physics 6C. Selected topics from principles of biological structure; structures of macromolecules and RNAs; structures of proteins, nucleic acids, and polysaccharides; harmonic analysis and Fourier transforms; principles of electron, neutron, and X-ray diffraction; optical and computer filtering; three-dimensional reconstruction. S/U or letter grading.

M230D. Structural Molecular Biology Laboratory. (2) (Same as Chemistry M230D.) Laboratory, 10 hours. Corequisite: course M230B. Methods in structural molecular biology, including experiments utilizing single crystal X-ray diffraction, low angle X-ray diffraction, electron diffraction, optical diffraction, optical filtering, three-dimensional reconstruction from electron micrographs, and model building. S/U or letter grading.

M234. Genetic Control of Development. (4) (Same as Biological Chemistry M234.) Topics at forefront of molecular developmental biology, including problems in oogenesis, regulation of gene expression, pattern formation, axis determination, nervous system development, cellular morphogenesis, and cell-cell and cell-matrix interactions. S/U or letter grading.

C239. Molecular Basis of Plant Differentiation and Development. (5) Lecture, three hours; discussion, one hour. Requisites: Life Sciences 1, 3, 4. In-depth study of basic processes of growth differentiation and development in plants and molecular mechanisms underlying these processes. Discussion of a variety of plant systems, with focus on developing critical understanding of current experimental basis of research in this field. Concurrently scheduled with course C141. Preparation of presentation of term paper, in addition to other coursework, required of graduate students. Letter grading.

M240. Cytokines and Reproductive Biology. (2) (Same as Microbiology M240.) Lecture, 90 minutes; discussion, one hour. Corequisite: course M230B. Enzymes: effects on cytokines and other immune system molecules in reproductive biology. S/U or letter grading.

242. Topics in Neurobiology. (4) Lecture, three hours. Requisites: course 171. Selected current problems in neurobiology discussed in depth, with emphasis on analysis of original papers. May be repeated for credit.


C250. Plant Chemical and Molecular Communication. (4) Lecture, three hours; discussion, one hour. Designed for graduate students. Introductory course in chemical ecology and how natural compounds affect gene expression. Emphasis on the molecular chemistry of plant cell communication and plant/ herbivore interactions; synopsis of principles of plant defense mechanisms and responses to microbial infections. Concurrently scheduled with course C150.

CM252. Biological Catalysis. (4) (Same as Biological Chemistry CM255, Chemistry CM255, and Pharmacology M255.) Requisites: course 100 or C139 or M140, Chemistry 110A, 135A, 136B, Life Sciences 3. Reaction mechanisms in molecular biology; experimental approaches for study of enzymes, including kinetics, isotopic labeling, stereochemistry, chemical modification, and design of pharmacologically active agents and artificial enzymes. Drug metabolism and interactions addressed on a mechanistic level. Concurrently scheduled with course CM160. Graduate students required to write research paper and present oral report on it. Letter grading.

254. Seminar: Plant Morphogenesis. (2) Seminar, two hours. S/U or letter grading.

255. RNA Editing. (4) Lecture, two hours; discussion, one hour. Preparation: knowledge of molecular biology and molecular genetics. Discussion of diverse set of novel RNA modification phenomena known as RNA editing. Topics include U insertion/deletion type of editing in trypanosome mitochondria, C to U substitution editing in apo B mRNA and plant mitochondria, C insertion editing in Physarum mitochondria, etc. Discussion of mechanism, function, and evolution of these phenomena. Letter grading.

CM256. Human Genetics. (4) (Same as Human Genetics CM256 and Microbiology CM256.) Lecture, three hours; discussion, two hours. Requisites: Life Sciences 3, 4. Study of human disorders including those due to C139 or M140. Application of genetic principles in human populations, with emphasis on cytogenetics, biochemical genetics, population genetics, and family studies. Lectures and readings in the literature, with focus on current questions in the fields of medical and human genetics and methodologies appropriate to answer such questions. Concurrently scheduled with course CM156. Open only to graduate students. Letter grading.

CM258. Advanced Topics in Animal Virus/Host Interaction. (4) (Same as Microbiology CM276 and Pharmacology M276.) Lecture, four hours; discussion, one hour. Requisites: course 144 or Chemistry 153B or Microbiology 102. Recent developments in fields of interaction of hosts with animal viruses. Emphasis on molecular and cellular approaches to understand host/virus interaction at level of entry, replication, assembly, and morphogenesis, as well as host defense and viral pathogenesis. Concurrently scheduled with course CM176. S/U or letter grading.

266A-266B-266C. Seminars: Development, Stem Cells, and Disease Mechanisms. (2-2-2) (Formerly numbered M266A-M266B-M266C.) Seminar, two hours. Enforced requisites: course 138 or 143, Life Sciences 3, 4. Enforced grade requirement. Advanced course based on research papers on fundamental cellular mechanisms governing development and disease. Disease results from genetically determined or acquired deficits in cell and molecular processes; analysis of these processes in context of normal development indicates ways of dealing with corresponding disease. S/U grading.

267A. Seminar: Cell Biology and Regenerative Medicine. (4) (Same as Pathology M272.) Lecture, two hours; discussion, two hours. Designed for graduate students. Presentation of current knowledge of embryonic and adult factors that regulate their growth and development. Major emphasis on how advances in cell and molecular biology and tissue engineering can be applied to use of stem cells in regenerative medicine. Bioethical and legal issues related to stem cell research. S/U or letter grading.


278. Seminar: Molecular Genetics of Development. (2) Designed for graduate students. Topics vary from year to year, with focus on establishment of position and pattern during embryogenesis by interaction of signal transduction systems and transcription factors. S/U or letter grading.


283. Seminar: Topics in Cell Biology. (2) Discussion of various topics on biology of eukaryotic cells. Topics vary from year to year and include bioenergetics, motility, organelle DNA, membrane structure and function, oncogenic transformation, nuclear organization, signal transduction, etc. Letter grading.

284. Seminar: Structural Macromolecules. (2) Seminar, one hour; discussion, three hours. Presentation and discussion of current topics in extracellular active structural macromolecules—their synthesis, structure, and roles in cell and developmental biology. Letter grading.

286. Seminar: Plant Development. (2) Seminar, one hour; discussion, two hours. Preparation: one plant physiology course and at least one advanced undergraduate or graduate plant development or biochemistry course. Seminar on specific topics in plant development. Content varies each term. S/U grading.

289. Current Topics in Plant Molecular Biology. (2) Discussion, one hour. Recent research developments in the field of plant molecular biology. Opportunities for graduate students to discuss individual research work. S/U grading.

292. Seminar: Molecular Evolution. (2) Discussion, three hours. Detailed analysis of current understanding of evolution of molecular sequences and structures.

295. Seminar: Molecular, Cell, and Developmental Biology. (2) Seminar, two hours. In-depth surveys of recent developments in molecular, cell, and developmental biology. Reading and presentation of primary research articles to learn to critically evaluate research papers and to organize and present seminars on specific research topics. S/U or letter grading.

296. Advanced Topics in Molecular, Cellular, and Developmental Biology. (2) Discussion, three hours. Advanced study and analysis of current topics in cell, molecular, and developmental biology. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

297. Advances in Molecular Analysis of Plant Development and Plant/Microbe Interactions. (2) Recent advances in plant molecular biology, with emphasis on control of gene expression both during plant development and in plant/microbe interactions. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Preparation for Teaching Molecular, Cell, and Developmental Biology in Higher Education. (2) Seminar, two hours. Designed for graduate students. Study of problems and methodologies in teaching molecular, cell, and developmental biology, including workshops, seminars, apprentice teaching, and peer observation. S/U grading.


597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 12) Tutorial, to be arranged. May not be applied toward M.A. or Ph.D. course requirements. S/U grading.


MOLECULAR, CELLULAR, AND INTEGRATIVE PHYSIOLOGY

Interdepartmental Program
College of Letters and Science and David Geffen School of Medicine

UCLA
2317 Life Sciences
Box 951606
Los Angeles, CA 90095-1606
(310) 825-3891
fax: (310) 206-9184
e-mail: inquiry@mcip.ucla.edu
http://www.mcip.ucla.edu

James G. Tidball, Ph.D., Chair

Faculty Advisory Committee
Mark A. Frye, Ph.D. (Physiological Science)
David L. Glanzman, Ph.D. (Neurobiology, Physiological Science)
Thomas J. O’Dell, Ph.D. (Physiology)
James G. Tidball, Ph.D. (Pathology and Laboratory Medicine, Physiological Science)
Yibin Wang, Ph.D. (Anesthesiology, Physiology)
Nancy L. Wayne, Ph.D. (Physiology)

Scope and Objectives

Physiology is the study of the functional processes that collectively constitute life. The studies usually employ quantitative analyses of normal life processes, of pathological defects in normal life processes, of model systems to clarify and test basic physiological principles, and of functional specializations of organisms that have evolved under the influence of differing selective forces. Thus, physiology contributes importantly to advances in knowledge both in the basic biological sciences and in biomedical sciences and provides an essential foundation for the practice of medicine.

The primary objective of the interdepartmental Molecular, Cellular, and Integrative Physiology Program is to train a new generation of physiologists who apply modern knowledge in molecular and cellular biology and systems physiology to important questions in organismic function. Students learn to conceptualize physiological questions across several levels of organization and to understand how research strategies incorporating each of the levels of analysis can be formulated. This approach to physiology education is responsive to the need for physiologists who can intellectually and technically span disciplines related to physiology that are typically separated.

Coursework consists of formal instruction in the most current information in molecular biology, cell biology, and the molecular and cellular foundations of physiology. In addition, students identify an area of emphasis in biophysics, cellular and molecular biology, or integrative/comparative physiology in which additional studies are pursued. The heart of the program, however, is the research that leads to the disserta-

596. Directed Individual Study or Research. (2 to 10) Tutorial, to be arranged. May be repeated for credit. S/U or letter grading.

597. Preparation for Ph.D. Qualifying Examinations. (2 to 10) Tutorial, to be arranged. May not be applied toward Ph.D. course requirements. May be repeated for credit. S/U grading.

599. Research for Ph.D. Dissertation. (2 to 10) Tutorial, to be arranged. May not be applied toward Ph.D. course requirements. May be repeated for credit. S/U grading.

Molecular Toxicology

Interdepartmental Program
School of Public Health

UCLA
56-070 Center for the Health Sciences
Box 951772
Los Angeles, CA 90095-1772
(310) 206-1619
fax: (310) 794-2106
e-mail: rgreenberg@ph.ucla.edu
http://www.pathnet.medsch.ucla.edu/educ/Mol%20Tox/index.htm

Oliver Hankinson, Ph.D., Chair

Faculty Advisory Committee
Michael D. Collins, Ph.D. (Environmental Health Sciences)
Curtis D. Eckhardt, Ph.D. (Environmental Health Sciences)
Jon M. Fukuto, Ph.D. (Molecular and Medical Pharmacology)
Oliver Hankinson, Ph.D. (Pathology and Laboratory Medicine)
Wendie A. Robbins, R.N., Ph.D., F.A.A.N. (Environmental Health Sciences, Nursing)
Robert H. Schiestl, Ph.D. (Pathology and Laboratory Medicine)

Scope and Objectives

Faculty from a variety of departments and schools at UCLA, including Biological Chemistry, Chemistry and Biochemistry, Environmental Health Sciences, Epidemiology, Medicine, Molecular and Medical Pharmacology, and Pathology and Laboratory Medicine, have joined forces to create an interdisciplinary Ph.D. program in Molecular Toxicology, which is administered through the School of Public Health.

Specialties within the program include, but are not limited to, neurotoxicology, immunotoxicology, reproductive and developmental toxicology, genetic toxicology, toxicokinetics and metabolism, genetics and molecular biology, carcinogenesis, and environmental toxicology. There is a particular emphasis on mechanisms of toxicity, since it is now widely accepted that understanding mechanisms will provide the means for accurately determining risk.

New chemicals have been the basis for most of the technological developments during the past century, and there is no question that society has reaped enormous benefits from the creation and growth of the chemical industry. However, major health and environmental
problems have also been the legacy of the synthesis of new chemical species. The discipline of toxicology, which seeks to characterize and elucidate the mechanisms of the problems related to exposure of chemical agents, has also developed from a purely descriptive to a mechanistic science whose objective is to understand the basis of toxic action, predict the toxicity of new chemical entities, and protect organisms from them. Toxicology has used the basic disciplines of chemistry, biochemistry, and cell biology to advance understanding of toxicological phenomena, and the growth of the sophistication of toxicology has paralleled the increase in knowledge derived from the basic chemical and biological sciences.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Molecular Toxicology Program offers the Doctor of Philosophy (Ph.D.) degree in Molecular Toxicology.

Molecular Toxicology

Upper Division Courses

M110A. Drugs: Mechanisms, Uses, and Misuse. (4) (Same as Pharmacology M110A) Lecture, four hours (seven weeks); discussion, four hours (three weeks). Requisite: Life Sciences 2, 3. Introduction to pharmacology and toxicology for undergraduate students, emphasizing drug development and mechanisms of action of drugs and toxic agents. Letter grading.

197. Individual Studies in Molecular Toxicology. (2 to 4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Graduate Courses

211A-211B-211C. Molecular Toxicology Seminars. (1-1-1) Seminar, one hour twice per month. Seminar series which alternately features outside speakers and members of UCLA molecular toxicology community (students, postdoctoral fellows, and faculty) and deals with topics relevant to molecular toxicology. In Progress (211A, 211B) and S/U (211C) grading.

M241. Introduction to Chemical Pharmacology and Toxicology. (6) (Same as Pharmacology M241.) Lecture, six hours. Preparation: organic and biological chemistry. Designed for molecular and medical pharmacology students. Introduction to general principles of pharmacology. Role of chemical properties of drugs in their distribution, metabolism, excretion, and modes of action. S/U or letter grading.

M242. Toxicodynamics. (4) (Same as Environmental Health Sciences M242.) Lecture, two hours; discussion, two hours. Requisite: Environmental Health Sciences 240. Examination of biochemical, cellular, and molecular mechanisms by which chemicals induce toxicity in wide spectrum of organ systems and in number of pathological conditions. Letter grading.

M245. Laboratory in Toxicological Methods. (2) (Same as Environmental Health Sciences M245 and Pharmacology M234C) Lecture, one hour; laboratory, four to five hours. Survey of experimental techniques used in study of toxic substances. Experiments conducted within known toxic to demonstrate its effects at molecular, cellular, and tissue levels. Presentation of principles of techniques and methods of data analysis at discussion session prior to laboratory. Letter grading.

296A-296G. Research Topics in Molecular Toxicology. (2 each) Research group meeting, two hours. Advanced study and analysis of current topics in molecular toxicology. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296A. Chemical Toxicology.

296B. Malignant Carcinogenesis.

296C. Teratogenesis.

296D. Molecular Topics in Boron Biology.

296E. Germ Cell Cytogenetic/Genetic Biomarkers.

296F. Genetic Toxicology.

296G. Laboratory Analysis.

596. Directed Individual Study or Research. (2 to 12) Tutorial, to be arranged. Individual guided studies under direct faculty supervision. May not be applied toward degree course requirements. May be repeated for credit. S/U or letter grading.

597. Preparation for Ph.D. Qualifying Examinations. (2 to 12) Tutorial, four hours. May not be applied toward degree course requirements. May be repeated for credit. S/U or letter grading.

598. Ph.D. Dissertation Research. (8 to 12) Tutorial, to be arranged. May not be applied toward degree course requirements. May be repeated for credit. S/U or letter grading.

MOVING IMAGE ARCHIVE STUDIES

Interdepartmental Program
Graduate School of Education and Information Studies and School of Theater, Film, and Television

UCLA
103G East Melnitz Building
Box 951622
Los Angeles, CA 90095-1622
(310) 205-4966
fax: (310) 825-3383
email: miasinfo@ucla.edu
http://www.mias.ucla.edu

Steven Ricci, Ph.D., Director
Leah A. Lievrouw, Ph.D., Chair
Faculty Advisory Committee
Jean-François Blanchette, Ph.D. (Information Studies)
Leah A. Lievrouw, Ph.D. (Information Studies)
Stephen D. Mamber, Ph.D. (Film, Television, and Digital Media)
Rob Stone

Scope and Objectives

The Moving Image Archive Studies M.A. is an interdepartmental degree program hosted by the Information Studies Department, Film, Television, and Digital Media Department, and UCLA Film and Television Archive. The program is an intensive, specialized two-year course of study consisting of graduate seminars, directed studies, and an extensive internship program, as well as special topic screenings, guest lectures, and technical demonstrations.

The goal of the program is not merely training, but a broad education grounded in historical, critical, and theoretical study. The subject matter encompasses the aesthetics and history of film and television, the cultural responsibilities of selection and curatorship, access and programming for the public, collection management, cataloging and documentation, and technical aspects of preservation and restoration. Graduate seminars, directed studies, and internships are taught by a unique combination of UCLA faculty members, academic scholars, top-level preservationists, technical experts, and other archive specialists, supplemented by guest lecturers from outside the University.

The program recognizes that traditional models of archival work have been redefined in recent years to emphasize moving image preservation as an ongoing process of activities along a continuum that includes curatorship, laboratory preservation, storage management, cataloging, and access. The inseparability of preservation from access, for example, is now well established both within modern archival practice and scholarly research, as is the promise of new digital technologies for both preservation and documentation purposes. As such, the program encourages familiarity with all these closely related archival functions and provides opportunities for specialization within them. The general orientation of the program also recognizes the realities of a field that includes both large, national-level archives with a specialized staff as well as one- or two-person operations with local and regional mandates. It recognizes, for example, that the contemporary archival field is challenged by issues across the entire range of possible moving image collections from classical, feature-length, and commercial narrative fiction films to experimental, alternative format, independent, and/or personal productions.

A key goal is to link theory with practice. The program embraces hands-on activities in the UCLA Film and Television Archive and internships in the Los Angeles area at other archives, libraries, studios, and laboratories. The program also utilizes the superb facilities at the Film and Television Archive, the Film, Television, and Digital Media Department, and the Information Studies Department.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/
gasa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree
The Moving Image Archive Studies Program offers the Master of Arts (M.A.) degree in Moving Image Archive Studies.

Moving Image Archive Studies

Graduate Courses

200. Moving Image Archiving: History, Philosophy, Practice. (6) Seminar, four hours; film screenings, two hours. Introduction to historical development of moving image archives. Critical analysis of archival policies regarding collection development, access, exhibition, cataloging, preservation, and restoration. Introduction to principal models and methodologies of moving image archive practices from 1938 establishment of International Federation of Film Archives to the present, addressing practices such as collection development of film, regional, national, and non-mainstream materials (small gauge formats, independent and amateur productions, new media); changing role of technology in preservation and restoration; ethics of moving image restoration; cataloging standards and methodology systems; classical and alternative models of archive administration and funding; cultural impact of public programming; research and publication supported by moving image archives; access, education, and archival productions. S/U or letter grading.

210. Moving Image Preservation and Restoration. (6) Seminar, four hours. Critical analysis of distinct models for archival preservation and restoration of moving image media. Examination and evaluation of current preservation standards for storage and duplication. Discussion of critical preservation problems such as nitrate deterioration, color fading, vinegar syndrome, and irreversible forms. Exploration of case studies of specific restoration projects through critical before and after studies, with focus on crucial ethical issues embedded within each technical and aesthetic decision facing restorers. Of special interest is question of whether it is possible and appropriate to speak of particular schools and/or philosophies of restoration. Range of key issues addressed, such as identification of original versus subsequent and multiple versions and theoretical and practical distinctions between different types of restoration. S/U or letter grading.

220. Archaeology of Media. (4) Seminar, four hours. History of moving image technologies. Examination of relationship between technological evolution and forms of moving image expression. Lectures combined with extensive presentations of full range of analog, video, and digital image types to train students to develop discerning eye required for professionals working in 21st-century moving image archive. In addition to study of specific technical developments such as new gauges, formats, color processes, aspect ratios, films stocks, and projection systems, exploration of larger economic and industrial forces behind them. Study of aesthetic consequences of specific production and exhibition innovations by examining different types of images, genres, and narratives that accompany and influence passage of new technologies. S/U or letter grading.

230. Moving Image Cataloging. (6) Seminar, four hours; laboratory, two hours. Introduction to methodologies and standards specific to moving image cataloging. Discussion and debate of continued application of Library of Congress subject headings and genres to cataloged moving image materials. Exposure to variety of indexing languages used today within online environments and practical training in application of cataloging principles to motion pictures and television programs. Survey of general theories and alternative documentation practices at work within field as well as specific cataloging rules established by FIAF for local and national moving image archives. Discussion of important issues of public access, exploring various methods and protocols for making collection-related information available through secondary and nonsystematic channels such as study guides, collection profiles, Websites, stand-alone databases, and exhibition catalogs. Letter grading.

240. Collection Development. (4) Seminar, four hours. Analysis of collection development policies for moving image archives and their relationship to archival practices from cataloging to preservation and access. Day-to-day operation of archives involves complex set of interrelated activities, including collection identification and selection; conservation and storage; budget planning and grant writing, staff training, and supervision; and donations, deposit agreements, and application of copyright law. Exploration of these essential tasks and their implications for archives through case studies of moving image archives with distinct collection types, ranging from 35mm narrative to small-format video and digital media. S/U or letter grading.

250. Access to Moving Image Collections. (4) Seminar, four hours. Survey and analysis of policies and procedures used to provide access to moving image collections. Identification and exploration, through lecture and discussion, of three distinct modes of public access: traditional public access, public exhibition, and proactive access. S/U or letter grading.

498. Individual Directed Studies: Practicum in Moving Image Archiving. (2 to 8) Tutorial, 12 hours. Hands-on experience at entry professional level in area of subject not offered as regular courses. S/U or letter grading.

596. Directed Individual Study or Research. (2 to 8) Tutorial, four hours. Study or research in area of subject not offered as regular courses. S/U or letter grading.

Music
School of the Arts and Architecture

UCLA
2539 Schoenberg Music Building
Box 951616
Los Angeles, CA 90095-1616
(310) 825-4761
fax: (310) 206-4738
http://www.music.ucla.edu

Ian Krouse, D.M.A., Chair

Professors
Roger Bourland, Ph.D.
Kenneth E. Burrell, B.A.
Paul S. Chihara, Ph.D.
Vladimir Chernov, M.M.
Juliana K. Gondek, M.M.
Gary G. Gray, M.M.
Gordon Henderson, M.M.E.
Ian Krouse, D.M.A.
D. Thomas Lee, D.M.A.
Jens H. Lindemann, M.M.
Antonio Lyys
Vitaly Margulis, M.M.

Donald Neuen, M.A.
Walter Ponce, D.M.A.
Robert S. Winter, Ph.D. (Presidental Professor of Music and Interactive Arts)

Professors Emeriti
Elaine R. Barkin, Ph.D.
Paul E. Des Marais, M.A.
Maurice Gerow, Ph.D.
Frederick F. Hammond, Ph.D.
Thomas F. Harmon, Ph.D.
Henri Lazarof, M.F.A.
Paul V. Reale, Ph.D.
Jon Robertson, D.M.A.
Roy E. Travis, M.A.

Associate Professors
Frank Heuser, Ph.D.
David S. Leftowitz, Ph.D.

Assistant Professors
Michael E. Dean, M.M.
Vicki R. Lind, Ph.D.

Senior Lecturer S.O.E.
Sheridon W. Stokes

Senior Lecturers Emeriti
John L. Hall, M.M.
Maureen D. Hooper, Ed.D.
Bess Karp, M.A.

Lecturers
Gloria Cheng, M.F.A., M.M.
Johathan Davis, D.M.A.
Rakefet R. Hak, M.M.
Margaret Lysy
Lou Anne Neill, M.A.
Mitchell T. Patlants, M.M.
Neal H. Stubberg, M.A.

Adjunct Professors
Christopher Hanulik, B.M.
Douglas H. Masek, D.M.A.

Adjunct Associate Professors
William C. Booth, M.M.
Christoph Bull, D.M.A.
Mark C. Carlson, Ph.D.
Charles A. Coker, M.M.

Adjunct Assistant Professors
Judith I. Hansen, B.A.
Jennifer Judkins, Ph.D.
Brian O’Connor, B.M.
Jennifer L. Snow, D.M.A.
Peter F. Yates, D.M.A.

Visiting Professor
Charles I. Fox

Scope and Objectives

Students interested in a concentration in music history and literature should consider the majors in Music History and Musicology offered through the College of Letters and Science; those interested in a concentration in world music should consider the major in Ethnomusicology offered through the School of the Arts and Architecture.

The four-year Bachelor of Arts curriculum in Music is a classically oriented, balanced program of practical, theoretical, and historical studies, with related performance and academic studies in non-Western music. The major, designed for students who want to combine fine musicianship with academic excellence, is based on a core curriculum of theory, history, analysis, and individual and group performance. Given in the context of a liberal education, this provides a foundation for an aca-
demic or professional career and affords valuable cultural background. At the graduate level, specialized studies leading to the degrees of Master of Arts and Doctor of Philosophy are offered in composition; specialized studies leading to the degrees of Master of Music and Doctor of Musical Arts are offered in all classical solo instruments, voice, and conducting.

**Undergraduate Study**

**Music B.A.**

**Admission**

All applicants for admission and change of major are required to pass an audition in their principal performing medium.

**Preparation for the Major**

Required (for all concentrations except music education): Music 20A, 20B, 20C, with grades of C or better; 12 units from courses 60A through 65; two years (12 units) of performance organizations (courses C90A through 90N); Music History 26A, 26B, 26C. Students taking string, woodwind, brass, or percussion lessons must select from Music C90E, 90F, C90G, 90M (Fall Quarter only), or 90N; students taking vocal lessons must select from C90A, 90D, or 90L; students taking keyboard or guitar lessons may choose from C90A through 90N. Students must participate in a minimum of two different organizations over the course of their stay at UCLA. In addition, they are required to take one college year — or at least one course at level three — of French, German, Italian, or Spanish, which may be used to fulfill the school language requirement.

**Music Education**: Music 20A, 20B, 20C, with grades of C or better; 12 units from courses 60A through 65; three years (18 units) of performance organizations (courses C90A through C90G and 90M Fall Quarter only); Music History 26A, 26B, 26C. Ethnomusicology 20A or 20B or 20C. In addition, students are required to take one college year — or at least one course at level three — of French, German, Italian, or Spanish, which may be used to fulfill the school language requirement.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, [http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm](http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm). In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Music offers the Master of Music (M.M.) degree, Doctor of Musical Arts (D.M.A.) degree, and Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Music.

**Music**

**Lower Division Courses**

1A-1B. Fundamentals of Music. (4-4) Lecture, three hours; discussion, two hours. Designed for non-music majors. P/NP or letter grading. 1A. Introduction to elements of music: pitch and rhythm symbols, meter and time signatures, notation, scales, intervals, and chord structure. 1B. Requisite: course 1A. Diatonic harmony; four-part writing, including inversions, seventh, secondary dominants, and modulation; organization of melody and accompaniment; simple analysis; sight-singing and ear training.


4A-4B/4C. Basic Musicianship. (2-2-2) Laboratory, three hours. Class instruction in elementary ear training and keyboard skills.

5. Beginning Voice Class. (2) Studio, four hours; outside practice and preparation, two hours. Not open to voice majors. Correct singing techniques, including vocal mechanism, posture, breathing, musical warm-ups, optimal vocal production, diction, and performance delivery to be put into practice in classroom study, vocal exercises, and performances. Final recital with piano accompaniment required. May be repeated for maximum of 12 units with a grade of C in each course. Letter grading.

7. Understanding Movie Music. (4) Lecture, four hours; outside study, eight hours. Musical experience helpful, but not required. Brief historical survey of film music, with strong emphasis on recent developments: Japanese animation, advertising, and MTV, as well as computer tools and digital scoring methods. Designed to inspire and inform those interested in movie music. Offered in summer only. P/NP or letter grading.

8G. Graduate Piano Sight-Reading. (2) Limited to graduate students. Designed to help entering graduate students remedy entrance deficiencies, to be cleared by examination. May be repeated. S/U grading.

10. Computer-Assisted Sight-Singing Laboratory. (2) Lecture, two hours; laboratory, one hour. Requisite: course 1A. Individualized, self-instructional approach for development of sight-singing skills through use of a music computer, keyboard instrument, and linear program learning.

15. Art of Listening. (5) Lecture, three hours; discussion, one hour; outside study, 11 hours. Acquisition of listening skills through direct interaction with live performance, performers, and composers. Relation of listening to theoretical, analytical, historical, and cultural frameworks. Music as aesthetic experience and cultural practice. P/NP or letter grading.


20A. Music Theory I. (4) Lecture, two hours; discussion, six hours. Preparation; passing score on departmental examination. Theory: species counterpoint through fifth species; description of triads and inversions. Theory: interval recognition; fixed-do solfège of diatonic melodies; one-part dictation of diatonic melodies; two-part dictation of small-compass, note-against-note melodies; simple rhythmic dictation; use of treble, alto, and bass treble.

20B. Music Theory II. (4) Lecture, four hours; discussion, four hours. Requisite: course 20A with a grade of C or better. Theory: diatonic harmony through secondary dominants and diminished sevenths; modulations to dominant and relative keys; writing of four-part chorales; style composition in baroque dance forms; introduction to figured bass notation; Musicianship: harmonic dictation, including secondary dominants and diminished sevenths, but not modulations; more advanced two-part dictation; chromatic one-part dictation; more advanced sight-singing; keyboard (three-part open score in homophonic textures, introduction to tenor clef).

20C. Music Theory III. (4) Lecture, four hours; discussion, four hours. Requisite: course 20B with a grade of C or better. Theory: chromatic harmony including development of tonality, 1800 to 1850; appropriate analysis and style composition. Musicianship: advanced sight-singing; two-part contrapuntal dictation; keyboard harmony (harmonic sequences in major and minor keys); reading in open score of four-homophonic parts in four clefs.

**Composition**: A minimum of 41 upper division units, including Music 104A or 104B, 106A, 106B, 116, 123A, 123B, 123C, 124A or 124B or 124C, and at least 8 elective units selected from courses 104A or 104B (if not already taken), 117, 118A, 118B, additional terms of 123A, 123B, 123C, 124A or 124B if not already taken), 197, Ethnomusicology 117, C136A, C136B, 146, C156A, 156B, 157, 158A, 158B, 158C, 160, 170, 181. A senior recital, to include at least 30 minutes of original music, is also required (exclusions by petition only).

**Music Education**: A minimum of 37 upper division units, including Music 100A, 100B, 100C, 110, 111A, 111B, 114A, 114B, 114C, 114D and 114F or 119, 114E, 114G through 114I, 116, 117 or 118A, and three courses from 160A through 165. A senior recital is required.

**Performance**: Twelve units in performance instruction from Music 160A through 165 (including junior and senior recital requirements); 4 units of chamber ensembles (Music C175); 4 units of elective courses from 106B, 116, 117, 118A, 118B, 197, Music History 130, 135A, 135B, 135C, 191A through 191G, Ethnomusicology M108A, 108B, 120A, 120B, 121, 127; and one upper division elective course in music. During each term in which students take private lessons, they must participate in a performance organization for a letter grade. Students taking string, woodwind, brass, or percussion lessons must select from Music C90E, 90F, C90G, 90M (Fall Quarter only), or 90N; students taking vocal lessons must select from C90A, 90D, or 90L; students taking keyboard or guitar lessons may choose from C90A through 90N.

**Theory**: Six courses selected in consultation with a faculty adviser.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, [http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm](http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm). In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Music offers the Master of Music (M.M.) degree, Doctor of Musical Arts (D.M.A.) degree, and Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Music.

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Additional notes about the content of the document include:

- The document covers requirements for undergraduate and graduate programs in music at UCLA.
- It outlines courses, requirements, and degrees offered, including specific courses from 1A to 160B, and various levels of music education and performance.
- There are references to computer-assisted sight-singing laboratories, understanding movie music, and graduate study in music theory.
- The document emphasizes the importance of private lessons and participation in performance organizations for music majors.
- It highlights the requirement of a senior recital, including for theory, performance, and composition.
- There is a focus on the integration of theory, composition, and performance study, with an emphasis on practical and analytical skills.
- The document also touches on the cultural and historical context of music, with references to Hollywood musicals and American dreams.
- It provides a comprehensive overview of the music education program at UCLA, from preparation to advanced study, including both music education and performance majors.

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*Note: This description is based on the text content and does not include any visual elements or formatting.*
60A-65. Undergraduate Instruction in Performance. (2 each) Studio, one hour. Limited to Music majors in all areas and junior/senior majors in performance specialization. Individual instruction. Students must perform in one practicum during academic year. Grades are assigned by applied instructor in Fall and Winter Quarters and by jury examination in Spring Quarter. May be repeated for credit. P/NP or letter grading. 60A. Vi- olin; 60B. Viola; 60C. Cello; 60D. String Bass; 60E. Harp; 60F. Classical Guitar; 60G. Viola da gamba; 60H. Lute; 61A. Flute; 61B. Oboe; 61C. Clarinet; 61D. Bassoon; 61E. Saxophone; 62A. Trumpet; 62B. French Horn; 62C. Trombone; 62D. Tuba; 63. Percus- sion, 64A. Piano; 64B. Organ; 64C. Harpsichord; 65. Voice.

80A. Beginning Keyboard. (4) Laboratory, five hours; preparation/practice, seven hours. Simple key- board skills together with basic aspects of music theory and its practical application to keyboard: sight- reading, tonality, chords, scales, cadences, simple compositions, and improvisations. Offered in summer only. P/NP or letter grading.

80F. Beginning Guitar Class. (4) Laboratory, five hours; preparation/practice, seven hours. Introduction to guitar techniques, accompanying, and arranging for the instrument; coverage of note reading and tab- uration. Offered in summer only. P/NP or letter grading.

C90A. UCLA Chamber Choir. (2) Activity, four hours. Prepa- ration: audition. Selection of ensemble of 50 to 60 voices performing choral music appropriate for a con- cert choral concert, with emphasis on music after 1700. May be repeated for credit without limitation. May be concurrently scheduled with course C480. P/NP or letter grading.

90B. Collegiate Chorus. (2) Nonaudition mixed cho- rus of 50 to 150 voices performing medium- and con- cert-length choral works from baroque to the present. Collegiate Chorus performs only as part of “Choral Union,” a large chorus made up of all of the choral en-semles. May be repeated for credit without limitation. P/NP or letter grading.

90C. Chamber Singers. (2) Activity, three hours. Preparation: audition. Select mixed ensemble of 16 to 20 voices performing chamber choral music of all pe- riods, with emphasis on Renaissance and baroque music. May be repeated for credit without limitation. P/NP or letter grading.

90D. Opera Workshop. (2) Activity, six hours. Prepa- ration: audition. Rehearsal and performance of scenes and complete operas, as well as repertoire, stage movement, and foreign language diction and coach- ing. May be repeated for credit without limitation. P/NP or letter grading.

C90E. Symphony Orchestra. (2) Activity, four hours. Preparation: audition. Group performance of sym- phonic literature, as well as orchestral accompani- ment for operatic and major choral works. May be re- peated for credit without limitation. May be concur- rently scheduled with course C481. P/NP or letter grading.


90L. Music Theater Workshop. (2) Activity, six hours. Preparation: audition. Rehearsal and perfor- mance of scenes and complete musical theater pro- ductions. Includes production repertoire and stage movement coaching. May be repeated for credit without limitation. P/NP or letter grading.

90M. Marching and Varsity Bands. (2) Activity, four hours. Preparation: audition. Group performance of special band arrangements for football and basketball games as well as special events. May be repeated for credit without limitation. P/NP or letter grading.

90N. Jazz Ensemble. (2) Activity, three hours. Prepara- tion: audition. Group performance of jazz and pop- ular music in ensembles of 20 to 30 instruments. May be repeated for credit without limitation. P/NP or letter grading.

90P. Alexander Technique. (2) Activity, two hours; outside preparation and practice, four hours. Limited to 12 students. In-depth exploration of the principles of Alex- ander technique. Study of musician’s postural attitude at the instrument. Designed to help instrumentalists and vocalists prevent injuries and perform- ance anxiety. May be repeated with consent of instructor. P/NP grading.

90Q. Piano/Keyboard Accompanying. (2) Activity, four hours; outside study, two hours. Collaboration with large ensembles, instrumentalists, and/or vocal- ists in role of accompanists. Performance includes, but is not limited to, lessons, rehearsals, special stu- dium performance projects, master classes, concerts, auditions, juries, and recitals. May be repeated for credit without limitation. P/NP or letter grading.

90R. Guitar Accompanying. (2) Activity, four hours; outside study, two hours. Collaboration with instru- mentalists and/or vocalists in role of accompanists. Performance includes, but is not limited to, lessons, rehearsals, special studio performance projects, mas- ter classes, concerts, auditions, juries, and recitals. May be repeated for credit without limitation. P/NP or letter grading.

90S. Harp Accompanying. (2) Activity, four hours; outside study, two hours. Collaboration with instru- mentalists and/or vocalists in role of accompanists. Performance includes, but is not limited to, lessons, rehearsals, special studio performance projects, mas- ter classes, concerts, auditions, juries, and recitals. May be repeated for credit without limitation. P/NP or letter grading.

Upper Division Courses


110. Introduction to Conducting. (2) Lecture, three hours. May be repeated once for credit. Letter grading. 114A-114I. Study of Instrumental and Vocal Tech- niques. (1 each) Formerly numbered 114A-114J. Study of instrumental and vocal techniques. May be repeated with consent of instructor. P/NP or letter grading.

118A-118B. Advanced Study and Conducting of Choral and Instrumental Literature. (2-2) Lecture, one hour; laboratory, two hours; outside study, four hours. Requisite: course 114J. Critical study of conducting and choral repertoire. May be repeated with consent of instructor. P/NP or letter grading.

119. Vocal Techniques for Music Education. (2) Lecture, two hours; outside study, four hours. Requ- isite: course 114J. Critical study of teaching voice, including anatomy of singing instrument, bio- mechanics of singing, diagnosis and correction of faults, health and care of voice, and instrumental tech- niques. Letter grading.

120A. Music Theory IV. (4) Lecture, four hours; dis- cussion, four hours. Preparation: passing score on departmental first-year examination. Requisite: course 20C with a grade of C (2.0) or better. Theory: baroque counterpoint including choral prelude; two- part invention; modulations of a three-part invention; canonics; principles of inversion, canons, and fugues. Musicianship: sight- singing of extended chromatic melodies; advanced harmonic modulation (diatonic and chromatic); keyboard harmonization of modulating melodies; elementary score reading.
120B. Music Theory V. (4) Lecture; four hours; dis- cussion; four hours. Requisite: course 120A with a grade of C (2.0) or better. Theory: advanced chromatic harmony including development of harmony from 1850; analytical projects; style composition. Musi- cianship: advanced score reading; advanced har- monic dictation; preparation for departmental exami- nation.

120C. Music Theory VI. (4) Lecture; four hours; dis- cussion; two hours; listening; two hours. Requisite: course 120B with a grade of C (2.0) or better. 20th- century harmonic language, including nonfunctional harmony; polytonality; free atonality; serialism; and minimalism.

121. Special Topics in 20th-Century Music. (4) Lecture, three hours. Requisites: courses 20A, 20B, 20C, 120A, 120B, 120C. Techniques of tonal coherence studied through analysis and compositional exercises in styles of given periods. May be repeated once for credit. May be concurrently scheduled with course C222.

123A-123B-123C. Composition. (4-4-4) Lecture; three hours. Requisites: courses 20A, 20B, 20C, 120A, 120B, 120C. Techniques of tonal coherence studied through analysis and compositional exercises in styles of given periods. May be repeated once for credit. May be concurrently scheduled with course C222.

123A-123B - 123C. Composition. (4-4-4) Lecture, three hours. Requisites: courses 20A, 20B, 20C, 120A, 120B, 120C. Course 123A is requisite to 123B, which is requisite to 123C. Designed for composition students. Vocal and instrumental composition in the smaller forms, including style composition and 20th- century techniques. Each course may be repeated once for credit, but first year must be taken in se- quence.

124A. Scoring for Symphony Orchestra. (4) Dis- cussion, three hours. Requisites: courses 106B, 120C (accelerated section), 123C. Practical applications in scor- ing for large wind ensembles. Preparation and pro- duction of score and parts. May include percussion. At least one reading by UCLA Philharmonic Orchestra scheduled. Letter grading.

124B. Scoring for Wind Ensemble. (4) Discussion, three hours. Requisites: courses 106B, 120C (accel- erated section), 123C. Practical applications in scor- ing for large wind ensembles. Preparation and pro- duction of score and parts. May include percussion. At least one reading by UCLA Wind Ensemble sched- uled. Letter grading.

124C. Scoring and Arranging for Choral Ensem- ble. (4) Discussion, three hours. Requisites: courses 106B, 120C (accelerated section), 123C. Practical applications in scoring and arranging for choral ensembles, including a capella as well as chorus with instru- ments. Preparation and production of score and parts. At least one reading by UCLA Chorale or other choral group scheduled. Letter grading.

M131. Development of Latin Jazz. (4) Same as Ethnomusicology M131.) Lecture; four hours; discus- sion, one hour. Survey of historical and stylistic devel- opment of musical style referred to today as “Latin jazz.” P/NP or letter grading.

138A-138B-138C. Historical Survey of Music The- aters. (4-4-4) Lecture, four hours; discussion; one hour. Historical survey of major works from music thea- ter, tracing development of the art form from its Eu- ropean beginning to the American music theater of today. P/NP or letter grading. 135A. Early Forms to 1900; 135B. 1900 to 1945; 135C. 1945 to 1875.

160A-165. Undergraduate Instruction in Perfor- mance for the Performance Specialist. (2 each) Studio, one hour. Limited to junior/senior Music ma- jors who have been accepted by audition, for perfor- mance specialization. Individual instruction. Students must perform in noon concert once during their junior year and must present full recital in their senior year. Graded by applied instructor in Fall and Winter Quarters and by jury examination in Spring Quarter. May be repeated for credit. P/NP or letter grading: 160A. Violin; 160B. Viola; 160C. Celli; 160D. String Bass; 160E. Harp; 160F. Classical Gui- tar; 160G. Viola da gamba; 160K. Lute; 161A. Flute; 161B. Oboe; 161C. Clarinet; 161D. Bassoon; 161E. Saxophone; 162A. Trumpet; 162B. French Horn; 162C. Trombone; 162D. Tuba; 163. Percussion. 164A. Piano; 164B. Organ; 164C. Harpsichord; 165. Voice.

C167. Selected Topics in Keyboard Literature. (4) Lecture, three hours. Requisite: course 164A or 164B or 164C. In-depth study of selected topics in keyboard literature, concentrating on problems of per- formance through analysis, historical and compara- tive studies, and actual performances by participants. May be concurrently scheduled with course C267.

174. Vocal Diction. (2) (Formerly numbered 174A- 174B-174C.) Lecture, two hours; outside study, four hours. Designed for Music majors. Sounds of lan- guage as well as technique. Use of Interna- tional Phonetic Alphabet, translation of art song texts, and application to student’s current vocal repertoire. Background in each language encouraged. P/NP or letter grading.

C175. Chamber Ensembles. (2) Preparation: audi- tion. Students must be at advanced level of their instru- ment to participate. Applied study of performance prac- tices of literature appropriate to the ensemble. Stu- dents may enroll in two sections per term; total of 12 units may be applied toward degree requirements. May be concurrently scheduled with course C485. P/NP or letter grading.

C176. Electronic Music Composition. (4) Lecture, three hours; laboratory, three hours. Preparation: ad- vanced experience and accomplishment in serious com- position (art music), two years of music theory. Designed for graduate students. Limited enrollment. Exercises in electroacoustic orchestration, meta-pitch composition, notation software (Sibelius), sequencing and film scoring software (Logic), text collages (Pro- Tools), and final project. May be concurrently sched- uled with course C176. S/U or letter grading.


251C-251D. Seminars: Special Topics in Composi- tion and Theory. (4-4) Seminar, three hours. Inten- sive exploration of specialized aspects of composi- tion. May be repeated for credit. 251C. Specific Styles; 251D. Compositional Analysis.

252A-252B-252C. Seminars: Composition. (6-6-6) Seminar, three hours. Requisites: courses 106B, 120C. Course 252A is requisite to 252B, which is req- uested to 252C. Courses may be taken out of se- quence only with consent of instructor. May be re- peated for credit.

253. Seminar: Special Topics in Composition and Theory. (4) (Formerly numbered 251B.) Seminar, three hours. Complex exploration of specialized as- pects of composition. May be repeated for credit. S/U or letter grading.

254. Advanced Music Analysis: Pre-Tonal Music. (4) Seminar, three hours. Designed to provide gradu- ate composition students with in-depth exposure to complex and rich works of late Middle Ages through dawn of baroque era. Exploration of analytical tech- niques and methods not commonly used in analysis of works of tonal and post-tonal periods, and ap- proaches to musical structures used by composers before modern tonal harmonic syntax had fully devel- oped. Letter grading.


260A. Seminar: Composition for Motion Pictures and Television. (6) Seminar, three hours; laboratory, three hours. Preparation: experience in composing for commercial movies. Difference between television and sound motion picture and television music and discussion of surrealistic effect when they merge as in TV show, drama sequences, or montages. Study of three principal areas of filmmaking production — production music; scoring; and post-production. Examples from classic movies and discussion of their scores. Composition of actual cues for instrumentals coordinatd to picture to be term project. Separate cues involve dialogue, melodrama, comedy, chase, memory montage, and tension. Letter grading.

260B. Seminar: Composition for Motion Pictures and Television. (4) Seminar, three hours; outside study, nine hours. Limited to graduate performance students. Investigation of primary source readings in performance practices as related to period; analytical reports and practical applications in class demonstrations. May be repeated for credit. Letter grading.


265A-266B. Seminars: Music of the 20th Century. (4) Seminar, three hours. Designed for graduate music students. Discussion and analysis of major works of the 20th century, with emphasis on study of groups of works written at the same time in history. 265A. 1900 to 1925; 266A. 1925 to 1950. 265B. 1925 to 1950. 265C. 1950 to the Present.

C267. Selected Topics in Keyboard Literature. (4) Lecture, three hours. Corequisite: course 464A or 464B or 464C. In-depth study of selected topics in keyboard literature, concentrating on problems of performance through analysis, historical and comparative studies, and actual performances by participants. May be concurrently scheduled with course C167.

270A-270G. Seminars: Music Education. (6 each) Seminar, three hours. May be repeated for credit. 270A. Early childhood education; 270B. General Topics. 270C. Principles of Music Education; 270D. Tests and Measurements; 270E. Choral Literature; 270F. Instrumental Literature; 270G. General Topics.

271. Music and Electronic Technology. (4) Lecture, four hours; laboratory, one hour. Designed for graduate music performance students. Survey of music and its place in developing electronic world of the arts, including training in arranging and multimedia production.

290. Composition Forum. (2) Seminar, two hours. Weekly forum to present professional composers of range of mediums, including large ensemble vocal and/or instrumental works, chamber music, electronic music, and film/television, as guest lecturers. Letter grading.

313A-331B-3331C. Orff Schulwerk Training Courses. (4-4-4) Lecture, ten hours; discussion, five hours; laboratory, 15 hours. Requirement: course 330. Course 331A is requisite to 331B, which is requisite to 331C. In-depth courses in teaching of Orff Schulwerk approach to music instruction for children. Students who successfully complete each course are eligible for certification at the elementary through the American Orff Schulwerk Association. Offered in summer only. S/U or letter grading. 3331A. Level I (Beginners); 3331B. Level II (Intermediate); 3331C. Level III (Advanced).

3341. Conducting for High School and College Band/Wind Ensemble Teachers. (2) Lecture, 25 hours. Comprehensive view of current trends in band/wind ensemble programs, including nonverbal communication, conducting, and rehearsal techniques. Study of new and recently published literature and discussions of administration of a band/wind ensemble program. May be repeated for credit without limitation. Offered in summer only. S/U or letter grading.

342. Contemporary Marching Band. (1) Lecture, 12 hours. Innovative approaches to marching band programs for high school and college teachers, including creative approaches to drill and drill design and use of microcomputers. May be repeated for credit without limitation. Offered in summer only. S/U or letter grading.

350. Effective and Creative String Teaching. (2) Lecture, 24 hours. Comprehensive course for teachers of string classes and string orchestras at elementary, junior high, and high school levels. Topics include development of instructional techniques for violin, viola, cello, and bass; critical examination of contemporary pedagogical materials; and reading sessions of recently published music for string orchestra. May be repeated for credit without limitation. Offered in summer only. S/U or letter grading.

343L. Effective and Creative String Teaching Laboratory. (1) Laboratory, 12 hours. Exploration of string orchestra, ensemble, and chamber music literature appropriate for elementary, junior high, and high schools. Examination of this literature in reading and discussion sessions. May be repeated for credit without limitation. Offered in summer only. S/U or letter grading.

345. Symposium on Art of Choral Music. (2) Lecture, 25 hours. Symposium for college, high school, and junior high school choral directors on development of practical techniques for solving real challenges in choral conducting. Topics include innovative choral methods, choral conducting, vocal pedagogy, voice classification, and survey of standard and current choral literature. Offered in summer only. S/U or letter grading.

350A. Introduction to Computer-Assisted Instruction of Music. (2) Lecture, three hours; laboratory, two hours. Introduction to instructional uses of computers in music classroom, with emphasis on practical information necessary for intelligently purchasing and implementing microcomputers in schools. Courseware to be experienced and reviewed, jargon defined and illustrated, and practical hands-on experience obtained. May be repeated for credit without limitation. Offered in summer only. S/U or letter grading.

350B. Exploration of MIDI Computer Resources: Keyboards and Synthesizers. (2) Lecture, two hours; laboratory, three hours. Creative use of MIDI-based synthesizers under computer control. Exploration of available hardware resources allied with various software sequencing packages. Use of software for computer-based music printing. Hands-on experience. May be repeated for credit without limitation. Offered in summer only. S/U or letter grading.

371. Marching Band in Secondary Education. (2) Study of contemporary marching band as a component of the music curriculum. Emphasis includes current approaches, practices, and problems associated with the marching band, as well as historical perspective. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty members responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

401. New Music Forum. (2) Tutorial-laboratory. Preparation: one year of graduate study in music at UCLA. Interactive course in preparation and performance of a premiere work especially composed for a graduate performer or performers by a graduate composer at UCLA.


469. Instrumental Pedagogy. (4) Lecture, three hours; outside study and preparation, nine hours. Preparation: advanced performance on a musical instrument. Designed for graduate music students. Study of art of teaching a musical instrument, including discussions of philosophy of teaching, learning process itself, and teaching of musical interpretation. Individualized study of various considerations, such as physical/technical aspects and pedagogical repertoire peculiar to teaching student’s primary instrument. Letter grading.

470. Opera Studio for Graduate Students. (4) Laboratory, six hours. Designed for graduate students. Performance techniques and repertoire for graduate students in operatic study. Letter grading.

471. Vocal Pedagogy. (4) Lecture, three hours; discussion, one hour. Preparation: advanced proficiency in voice. Designed for graduate music students. Study of teaching techniques for voice, including thorough investigation of the vocal mechanism and its use, plus study of noted teachers of the past and present. Further emphasis on practical teaching experience in class.

472. Master Class in Opera. (6) Studio, three hours; outside study, 15 hours. Limited to graduate performance students. Intensive study and preparation of opera literature. May be repeated for credit. S/U or letter grading.

475. Master Class in Conducting. (6) Studio, three hours; outside study, 15 hours. Limited to graduate performance students. Intensive study and preparation of musical literature in specialized field of conducting. May be repeated for credit. S/U or letter grading.

480. UCLA Chorale. (2) Activity, four hours. Preparation: audition. Designed for M.M. and D.M.A. students. Select mixed ensemble of 50 to 60 voices performing choral music appropriate for a concert chorale ensemble, with emphasis on music after 1700. May be repeated for credit without limitation. May be concurrently scheduled with course C90A.

481. Symphony Orchestra. (2) Activity, four hours. Preparation: audition. Graded performance of symphonic literature, as well as orchestral accompaniment for operatic and major choral works. May be repeated for credit without limitation. May be concurrently scheduled with course C90E. S/U or letter grading.

482. Wind Ensemble. (2) Activity, four hours. Preparation: audition. Designed for M.M. and D.M.A. students. Graded performance literature for wind ensemble. May be repeated for credit without limitation. May be concurrently scheduled with course C90G.
495. Introductory Practicum for Teaching Apprentices in Music. (2) Eight weekly two-hour seminar sessions, plus intensive training session during Fall Quarter registration week. Preparation: appointment as teaching apprentice in Music Department. Required of all new teaching apprentices. Special course dealing with problems and practices of teaching music at college level. May not be applied toward degree requirements. S/U grading.

496. Technology Seminar. (2) Seminar, two hours; laboratory, one hour; outside study, three hours. Introduction to departmental and campuswide technology resources, exploration of applications of technology in education, and development of means of using technology to assess and document teaching competence. S/U grading.


564A. Directed Individual Studies in Orchestra and Composition. (2, 4, or 6) Tutorial, to be arranged. Only 4 units may be applied toward M.A. or M.M. degree requirements. May be repeated for credit. S/U or letter grading.

566C. Directed Individual Studies in Music Education. (2, 4, or 6) Tutorial, to be arranged. Only 4 units may be applied toward M.A. or M.M. degree requirements. May be repeated for credit. S/U or letter grading.

569C. Directed Individual Studies in Performance Practices. (2 to 12) Tutorial, to be arranged. Only 4 units may be applied toward M.A. or M.M. degree requirements. May be repeated for credit. S/U or letter grading.

577. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examinations. (2 or 4) Tutorial, to be arranged. S/U grading.

580. Guidance of M.A. Thesis. (4, 8, or 12) Tutorial, to be arranged. Only 4 units may be applied toward degree requirements. May be repeated for credit. S/U or letter grading.


596A. Directed Individual Studies in Orchestration and Composition. (2, 4, or 6) Tutorial, to be arranged. Only 4 units may be applied toward M.A. or M.M. degree requirements. May be repeated for credit. S/U or letter grading.

596B. Directed Individual Studies in Performance. (2 to 12) Tutorial, to be arranged. Only 4 units may be applied toward M.A. or M.M. degree requirements. May be repeated for credit. S/U or letter grading.

596C. Directed Individual Studies in Music Education. (2, 4, or 6) Tutorial, to be arranged. Only 4 units may be applied toward M.A. or M.M. degree requirements. May be repeated for credit. S/U or letter grading.

596D. Directed Individual Studies in Performance Practices. (2 to 12) Tutorial, to be arranged. Only 4 units may be applied toward M.A. or M.M. degree requirements. May be repeated for credit. S/U or letter grading.

597. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examinations. (2 or 4) Tutorial, to be arranged. S/U grading.

598. Guidance of M.A. Thesis. (4, 8, or 12) Tutorial, to be arranged. Only 4 units may be applied toward degree requirements. May be repeated for credit. S/U grading.

599. Guidance of Ph.D. or D.M.A. Dissertation. (4, 8, or 12) Tutorial, to be arranged. May be repeated for credit. S/U grading.

Professors
Raymond L. Knapp, Ph.D., Chair
Timothy D. Taylor, Ph.D., Vice Chair

Music History B.A.

Admission
The Music History program assumes that students have some musical background before entering UCLA. Although auditions are not required, prospective majors should be sufficiently competent on an instrument or in voice to participate in a performance group, as required by the program.

Preparation for the Major
Required: Music 20A, 20B, 20C, Music History 26A, 26B, 26C, 88, and 6 units (three terms) of performance organizations selected from Ethnomusicology 91A through 91Z, Music C90A through 90M, or Music History 28A through 28C. Enrollment in Music 20A requires either a minimum score on the Music Theory Placement Examination administered by the Music Department or successful completion of Music 3 (or a comparable year-long college-level music theory sequence). Students with limited musicianship skills may find it useful to enroll in Music 4A, 4B, 4C concurrently with Music 20A, 20B, 20C. Transfer applicants may petition to waive courses 20A, 20B, 20C if they have completed equivalent work prior to enrolling at UCLA.

Transfer Students
Transfer applicants to the Music History major with 90 or more units must complete the following courses prior to admission to UCLA: one year of music theory and one year of music history and analysis. Experience in music performance is strongly recommended. Transfer students are required to take Music History 26A, 26B, 26C at UCLA but are exempt from course 88.

Refer to the UCLA Transfer Admission Guide at [website].

Undergraduate Study

Music History B.A. Admission

The Music History program assumes that students have some musical background before entering UCLA. Although auditions are not required, prospective majors should be sufficiently competent on an instrument or in voice to participate in a performance group, as required by the program.

Preparation for the Major
Required: Music 20A, 20B, 20C, Music History 26A, 26B, 26C, 28C, and 6 units (three terms) of performance organizations selected from Ethnomusicology 91A through 91Z, Music C90A through 90M, or Music History 28A through 28C. Enrollment in Music 20A requires either a minimum score on the Music Theory Placement Examination administered by the Music Department or successful completion of Music 3 (or a comparable year-long college-level music theory sequence). Students with limited musicianship skills may find it useful to enroll in Music 4A, 4B, 4C concurrently with Music 20A, 20B, 20C. Transfer applicants may petition to waive courses 20A, 20B, 20C if they have completed equivalent work prior to enrolling at UCLA.

Transfer Students
Transfer applicants to the Music History major with 90 or more units must complete the following courses prior to admission to UCLA: one year of music theory and one year of music history and analysis. Experience in music performance is strongly recommended. Transfer students are required to take Music History 26A, 26B, 26C at UCLA but are exempt from course 88.

Refer to the UCLA Transfer Admission Guide at [website].
overall GPA of 3.0 or better, and (3) complete at least one quarter of Music History 198 with a grade of A– or better on the resulting thesis.

To qualify for graduation with departmental highest honors, students must (1) complete all requirements for the major, (2) have a cumulative GPA of 3.9 or better in upper division courses in the department and an overall GPA of 3.65 or better, and (3) complete at least one quarter of Music History 198 with a grade of A– or better on the resulting thesis.

### Music History Minor

The Music History minor provides undergraduates with an overview of music history and the study of music. Students may select from a wide variety of undergraduate courses that range through the history of European and American music.

To enter the minor, students must have an overall grade-point average of 2.0 or better and file a petition with the department in 2443 Schoenemberg Music Building. For further information, contact the department at (310) 206-5187.

#### Required Lower Division Courses (10 units): Two courses with grades of C or better.

- **Schoenemberg Music Building.** For further information, contact the department at (310) 206-5187.

- **Required Upper Division Courses (18 to 22 units): Music History 193A, 193B, one course from 160 through 185 (6 units), and two additional 4- to 6-unit upper division courses.

All minor courses must be taken for a letter grade (courses offered only on a P/NP grading basis are acceptable), with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

### Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnnet.ucla.edu/gasla/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

### Graduate Degrees

The Department of Musicology offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Musicology.

### Music History

#### Lower Division Courses


2. **Introduction to Classical Music.** (5) Lecture, four hours; discussion, one hour. Survey of music of Western classical tradition, with emphasis on historical context, musical meanings, and creation of the tradition itself. P/NP or letter grading.

3. **History of Rock and Roll.** (5) Lecture, four hours; discussion, one hour. Survey of music of African American experience as mediated through groove-based music. P/NP or letter grading.

4. **The Beatles.** (5) Lecture, four hours. Examination of life and music of the Beatles within social and historical context of the 1960s. P/NP or letter grading.

5. **History of Rock and Roll.** (5) Lecture, four hours; discussion, one hour. Analysis of forms, practices, and meanings of rock and roll music, broadly conceived, from its origin to the present. Emphasis on how this music has reflect ed and influenced changes in sexual, racial, and class identities and attitudes. Letter grading.

6. **Film and Music.** (5) Lecture, four hours; discussion, one hour; film viewing, two hours. History of music and cinema, particularly ways music is used to communicate, three hours. Preparation: ability to read music. Letter grading.

7. **His tory of Electronic Dance Music.** (5) Lecture, four hours. Survey of groove-based electrified dance music from its origins in 1960s’ pop and soul to present, covering disco, house, techno, ambient, rave, and jungle. Emphasis on interaction of technology, musical structures, psychoactive drugs, and club cultures to induce “altered states” of musical consciousness; profound shift of political and spiritual transformation; electronic dance music as new “art” music. P/NP or letter grading.

8. **American Popular Song.** (4) Formerly numbered 131. (5) Lecture, four hours. American popular music before advent of rock and roll in 1950s, with special emphasis on song tradition of Tin Pan Alley. P/NP or letter grading.


10. **Music Now.** (4) Lecture, four hours. Guided interactive tour of contemporary musical landscape. Current events in historical perspective, with special attention to questions of culture, taste, and value hierarchies. Discussion and evaluation of representative works and practices from avant-garde, mainstream, world, and popular genres. Letter grading.

12W. **Writing about Music.** (5) Lecture, four hours; laboratory, one hour. Enforced requisite: English Composition 3 or 3H. Emphasis on learning specific skills, incorporating technical description, historical contextualization, subjective reaction, and certain stylistic conventions necessary in writing about music. Satisfies Writing II requirement. Letter grading.

26A-26B-26C. **History and Analysis of Music I.** (5-5-5) Lecture, four hours; laboratory, one hour; P/NP or letter grading. Course 26A is enforced requisite to 26B, which is enforced requisite to 26C. Students must receive a grade of C– or better to proceed to next course in sequence. History and analysis of music from ancient world to 1815, with emphasis on analysis of representative works of each style period. Materials selected illustrate history of style and changing techniques of composition. Letter grading.


60. **American Musical.** (5) Formerly numbered 45. (5) Lecture, four hours; discussion, 90 minutes. Survey of American musical in the 20th century, beginning with its roots in operetta, vaudeville, and Gilbert and Sullivan, and focusing on its connections to politics, technology, film, opera, and popular spheres. Letter grading.

62. **Medieval.** (5) Formerly numbered 132. (5) Lecture, four hours; discussion, one hour. Designed for students who do not read music. Life, works, and mythol ogy of Wolfgang Amadeus Mozart, in context of both his age and our own. P/NP or letter grading.

63. **Bach.** (5) Formerly numbered 133. (5) Lecture, four hours; discussion, one hour. Designed for undergraduate students. Life and works of Johann Sebastian Bach. P/NP or letter grading.

64. **Motown and Soul: African American Popular Music of 1960s.** (5) Lecture, four hours; discussion, one hour. Survey of developments in post-World War II African American popular music, with special attention to musical achievements of Motown Records, Stax, and other rhythm and blues, funk, and soul music centers of production. Relations between musical expressions and cultural issues of 1960s, including Civil Rights Movement, counterculture, black nationalism, capitalism, and separatism, and larger dimensions of African American experience as mediated through groove-based music. P/NP or letter grading.

65. **Blues in American Music.** (5) Formerly numbered 22. (5) Lecture, four hours. History of blues, both as specific genre and as range of techniques and approaches that have been at center of American music and culture, from 19th-century roots to present. Exploration of commonly accepted blues mainstream exemplified by figures like Bessie Smith, Robert Johnson, and B.B. King, but also central role blues has played in jazz, folk, country, gospel, rock, soul, and rap. While following evolution of music through 20th century, examination of how blues has served as metaphor for African American culture as it permeates American traditions. P/NP or letter grading.

66. **Gettin’ Medieval.** (5) Lecture, four hours; discussion, one hour. Exploration of idea of medievalism in music and culture from Wagner to video games. Music covered includes liturgical and sacred music, opera, Gregorian chant, early music revival, folk songs, progressive rock, and Goth. Letter grading.

70. **Beethoven.** (5) Formerly numbered 34. (5) Lecture, four hours. Designed for undergraduate students. Life and works of Ludwig van Beethoven. P/NP or letter grading.

72. **Sacred Music.** (5) Formerly numbered 139. (5) Lecture, four hours; discussion, one hour. Study of forms and liturgies of Western church music. P/NP or letter grading.

75. **History of Jazz.** (5) Formerly numbered 150. (5) Lecture, four hours; discussion, one hour. History and analysis of variety of jazz styles, from late 19th-centu ry forerunners to the present, with emphasis on social meanings of musical practices. Letter grading.

88. **Sophomore Seminars: Music History.** (2) Sem inar, two hours. Designed for sophomore Music History majors or students interested in pursuing Music History major. Introduction to music history as an academic discipline, with particular emphasis on musicology at UCLA. Study of music and its history and consideration of theoretical issues central to musicology as it is practiced today, including gender, sexuality, music and politics, race, popular music studies, and jazz studies. Letter grading.

### Upper Division Courses

126A-126B-126C. **History and Analysis of Music II.** (5-5-5) Lecture, four hours; laboratory, one hour. Required of Music History majors or students interested in pursuing Music History major. Introduction to music history as a academic discipline, with particular emphasis on musicology at UCLA. Study of music and its history and consideration of theoretical issues central to musicology as it is practiced today, including gender, sexuality, music and politics, race, popular music studies, and jazz studies. Letter grading.

130. **Music of the U.S. (4).** Lecture, four hours. Survey of music of the U.S. from Colonial times to the present. P/NP or letter grading.

135A-135B-135C. **History of Opera.** (5-5-5) Lecture, four hours; discussion, one hour. Required of Music History majors or students interested in pursuing Music History major. Letter grading.


M136. **Music and Gender.** (Same as Women’s Studies M136) Lecture, four hours; discussion, one hour. Analysis of gender ideologies in several musical cultures; representations of gender, the body, and sexuality by both male and female musicians; contributions of women to Western art and popular music; methods in feminist and gay/lesbian theory and criticism. Letter grading.
M137. Gay and Lesbian Perspectives in Pop Mu-
sic. (5) (Same as Lesbian, Gay, Bisexual, and Trans-
gender Studies M137.) Two hours. Survey of four
hours, four discussions, one hour. Survey of English-language popular music in the 20th century, with an emphasis on gay, lesbian, bisexual, and transgender music. Designated as proseminars for undergraduate students. Letter grading.

140. Music, Media, and Consumer Society. (4)
Lecture, four hours. Consideration of the impact of re-
cording technologies (gramophone, tape recorder, Walkman, sampler), broadcast media (radio, television, MTV, Internet), and global capitalism (record labels, advertising, Muzak) on the way we consume and are consumed by music. How music functions and malfunctions on records, under movies, behind ads, and in semiotic fabric of everyday life. Letter grading.

149. The Symphony. (4) (Formerly numbered 149A-
149B.) Lecture, four hours. Designed for undergradu-
ate students. Survey of symphonic literature from Haydn through the 20th century. Letter grading.

160. Selected Topics in American Musical. (6)
Seminar, 90 minutes. Enforced corequisite: attendance, but not enrollment, in course 60 lecture. Ex-
ploration of connections and disconnects between American musical stage and American film mus-
cials. Letter grading.

162. Selected Topics in Music of Mozart. (6) Semi-
nar, two hours. Preparation: ability to read music and engage in critical and formal analysis. Enforced corequisite: attendance, but not enrollment, in course 62 lecture. Limited to Music History majors and minors. Intensive discussion of selected pieces by Mozart and of certain topics important to fuller un-
derstanding of his contributions to musical culture of Enlightenment, as well as contemporary culture. Letter grading.

163. Bach: Study of Selected Works. (5) Seminar, two hours. Enforced corequisite: attendance, but not enrollment, in course 63 lecture. Limited to Music His-
tory majors and minors. Examination of Bach's music in greater depth. Letter grading.

164. Selected Topics in African American Popular Music of 1960s. (6) Seminar, two hours. Enforced corequisite: attendance, but not enrollment, in course 64 lecture. Intensive discussion of developments in post-World War II African American popular music, with special attention to musical achievements of Mo-
town Records, Stax, and other rhythm and blues, funk, and soul music centers of production. Relation-
ships between musical forms and cultural issues of 1960s, including civil rights movement, countercul-
ture, black nationalism, capitalism, and separatism, and larger dimensions of African American experi-
exence as mediated through groove-based music. Letter grading.

170. Beethoven: Study of Selected Works. (5)
Seminar, 90 minutes. Corequisite: attendance, but not enrollment, in course 70 lecture. Designed to meet needs of students who read music and wish to exam-
ine Beethoven's music in greater depth. Letter grading.

188. Topics in Music History. (4) Lecture, three hours; laboratory, one hour. Variable topics selected from several outstanding composers in Western music. Consult Schedule of Classes for topics to be offered. Letter grading.

190. Research Colloquium in Music History. (1)
Seminar, one hour. Designed for senior Music History majors. Designed to bring together students under-
taking supervised tutorial research in seminar setting with one or more faculty members to share their work with their peers, as well as act as interlocutors for oth-
er course members. Students expected to present their work and to discuss and help critique work of others at similar stage of development. P/NP grading.

191A-191G. Variable Topics in History of Music. (4
each) (Formerly numbered 127A-127G.) Seminar, three hours. Requisites: courses 26A, 26B, 26C. De-
signated as proseminars for undergraduate students in preparation for graduate work. Special aspects of mu-
sic of each period studied in depth. Reading, discus-
sion, and supervised research required. P/NP or letter grading. 191A. Middle Ages; 191B. Renaiss-
ance; 191C. Baroque; 191D. Classic; 191E. Roman-
tic; 191F. 20th Century; 191G. Other Topics.

193A. Music History Journal Club Seminars for Minors. (2) Seminar, two hours. Limited to junior/se-
nior Music History minors. Overview of music history as academic discipline to introduce students to read-
ings and lectures on current topics in field. Study of music and its history under a number of guises, includ-
ing historical study of music, addressing both re-
search methodologies and historical narratives. Theo-
retical issues central to musicology as it is practiced at UCLA and elsewhere, including gender and sexu-
ality, music and politics, race, popular music studies, and jazz studies. P/NP grading.

193B. Music History Performance Seminars for Minors. (2) Seminar, two hours. Limited to senior Mu-
sic History minors. Overview of how music historians engage with issues of musical performance. Consid-
eration of how historical concerns, theoretical issues, and methodologies can inform music as practice, es-
specially as it is performed, recorded, listened to, danced to, and otherwise "consumed." P/NP grading.

193C. Music History Journal Club Seminars for Majors. (2) Seminar, two hours. Limited to junior/se-
nior Music History majors. Overview of music history as academic discipline to introduce students to read-
nings and lectures on current topics in field. Study of music and its history under a number of guises, includ-
ing historical study of music, addressing both re-
search methodologies and historical narratives. Theo-
retical issues central to musicology as it is practiced at UCLA and elsewhere, including gender and sexu-
ality, music and politics, race, popular music studies, and jazz studies. P/NP grading.

193D. Music History Performance/Analysis Semi-
nars for Majors. (2) Seminar, two hours. Limited to senior Music History majors. Overview of how music historians engage with issues of musical performance. Consid-
eration of how historical concerns, theoretical issues, and methodologies can inform music as prac-
tice, especially as it is performed, recorded, listened to, danced to, and otherwise "consumed." P/NP grad-
ing.

197. Individual Studies in Music History. (2 to 4)
Tutorial, two hours. Limited to juniors/seniors. Indi-
vidual intensive study with scheduled meetings to be ar-
ranged between faculty member and student. As-
signed reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

198. Honors Research in Music History. (2 to 4)
(Formerly numbered 195.) Tutorial, two hours. Prepa-
rcombining completion of minimum of four upper division music history courses with departmental grade-point average of 3.5 or better and overall GPA of 3.0. Limit-
ed to junior/senior Music History majors. One- to two-
term independent research study project under su-
 pervision of appropriate faculty member, culminating in department honors thesis of approximately 25 pag-
es. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Music History. (2 to 4) Tutorial, two hours. Preparation: 3.0 grade-point average. Limited to juniors/seniors. Su-
pervised individual research under guidance of facul-
ty mentor. Culuminating paper or project required. May be repeated for a maximum of 6 units. Individual con-
tract required. P/NP or letter grading.

Musicology

Graduate Courses


200B. Historiography and Cultural Theory. (6) Seminar, three hours. Designed for graduate musicology, ethnomusicology, and music students. Critical examination of principles and procedures that inform historical study of music, with emphasis on impact of recent cultural theory. Letter grading.

200C. Analysis and Criticism. (6) Seminar, three hours. Designed for graduate musicology, ethnomu-
sicology, and music students. Introduction to recent de-
velopments in field of musicology, with focus on prob-
lems of how music operates as cultural practice and how musical meanings can most effectively be ana-
yzed and written about. Letter grading.

201. Repertory and Analysis. (2) Seminar, two hours. Requisite or corequisite: course 200A. Explo-
ration of defined repertory through readings and analy-
sis. Specific topics vary. May be repeated for credit. S/U grading.

202. Journal Club. (2) Seminar, two hours. Requisite or corequisite: course 200A. Exploration of issues in musicology through readings and discussions of cur-
rent literature. Specific topics vary. May be repeated for credit. S/U grading.

210. Medieval Notation. (6) Seminar, three hours. Vocal and instrumental notation; paleography of peri-
od. S/U or letter grading.

211. Renaissance Notation. (6) Seminar, three hours. Vocal and instrumental notation; paleography of period. S/U or letter grading.

220. Divine Love in 17th-Century Music. (4) Semi-
nar, three hours. Designed for graduate students. During 17th-century Counter-Reformation, many art-
ists drew on concepts of divine love and mystical ec-
tasy to instill personal devotion among religious practitioners. Examination of often profoundly erotic music composed for spiritual purposes within this cul-
tural context. Letter grading.

221. Nationalism in Music. (4) Seminar, three hours. Designed for graduate students. Investigation of music nationalism in 19th-century Europe, begin-
ning with its roots in political nationalism and German Romanticism. Reconsideration of its traditional place-
ment as peripheral late-19th-century phenomenon and exploration of its pervasive influence throughout the period. Letter grading.

222. Music of Guillaume Dufay. (4) Seminar, three hours. Designed for graduate musicology students. Through study of Dufay's life and music, students be-
come familiar with those scholarly methods specific to-
ally pertinent for study of early music in general and Dufay's music in particular and extend their analysis and interpretation of Dufay's music and 15th-century musical culture. Letter grading.

223. Cuban Vanguardism. (4) Seminar, three hours. Designed for graduate musicology students. Explora-
tion of Cuban racial and national politics and ideology as they intersect with musical vanguardism in Cuba between 1910 and 1940. Afro-cubanismo and mod-
ernism within Cuba, with specific concentration on composers Alejandro Garcia Caturla and Amadeo Roldan. Cuban practitioners in 1920s struggled with national identity which they sought to solidify or repre-
sent in their music by drawing on "folk" traditions con-
sisting of mix of European, African, and indigenous influences. Exploration of theoretical debates, select-
ed traditions of Afro-cuban dance and music, popular music in Cuba, vanguard scores, and Afro-cubanismo movement in literature. Letter grading.
224. Wagner’s Parsifal. (4) Seminar, three hours. Examination of Wagner’s place in intellectual and spiritual worlds of that culture through detailed consideration of Wagner’s final work, Parsifal. Problematic with respect to musical language, genre designation, and dramatic action, Parsifal exemplifies and establishes concepts and modes of feeling that remain crucial to 20th-century culture as well. Exploration of these issues through close reading of musical text as well as examination of astoundingly rich body of commentary surrounding the work and lighter grading.

225. Experimental Music. (4) Seminar, three hours. Designed for graduate students. Exploration of wide range of post-1960 musical styles characterized as experimental, both in cultivated and vernacular traditions. Composers may include Cage, Young, Reich, Riley, Adams, Andriessen, Byrars, Eno, Nancarrow, Velvet Underground, Negativland, Sonic Youth. Letter grading.

240. Topics in Jazz. (4) Seminar, three hours. Designed for graduate students. Seminar in jazz history, with focus on major figure (e.g., Louis Armstrong, Duke Ellington) or issue (e.g., cultural hierarchy, jazz outside the U.S.). Intensive research on important topic in jazz studies. Letter grading.

250A-250B. Seminars: History of Music Theory. (6-9) Seminar, three hours. Requisite: course 200A. Course 250A is not requisite to 250B. 250A. Investigation of principal theoretical writings concerning music from antiquity through Rameau. 250B. Investigation of principal theoretical writings concerning music from Rameau to the present.


261A-261F. Performance Practices. (4 each) Seminar, three hours. Designed for graduate students. Investigation of primary source readings in performance practices related to period; analytical reports and practical applications in class demonstrations. May be repeated for credit. Letter grading. 261A. Medieval; 261B. Renaissance; 261C. Baroque; 261D. Classical; 261E. Romantic; 261F. Contemporary.

262. Contemporary Popular Music Studies. (4) Seminar, three hours. Designed for graduate students. Critical exploration of methodologies of interdisciplinary field of popular music studies. Analysis of how music, lyrics, and visual images produce meanings within contexts shaped by mass mediation, capital, and political realities of gender, class, and race.


264. Seminar: Topics in Musicology. (6) Seminar, three hours. Designed for graduate students. Specific topics vary from term to term. May be repeated for credit.

266. Research Topics in Musicology. (2 to 4) Seminar, two to four hours. Preparation: consultation with instructor. Designed for musicology graduate students. Advanced study and analysis of current topics in musicology. Discussion of current research and literature in research specialty of faculty member teaching course. May be repeated for credit. S/U grading.

268. Seminar: Research Methods. (2) Seminar, two hours. Limited to second-year musicology graduate students and students with master’s degrees. Development of advanced knowledge and bibliographic control in three historically separate areas of musicological specialization. May be repeated for credit. S/U grading.


375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Introductory Practicum for Teaching Apprentices in Musicology. (2) Eight weekly two-hour seminars, plus intensive training session during Fall Quarter registration week. Preparation: appointment as teaching apprentice in Music or Musicology Department. Required of all new teaching apprentices. Special course dealing with problems and practices of teaching music at college level. May not be applied toward degree requirements. S/U grading.

596. Directed Individual Studies in Musicology. (2, 4, or 6) Tutorial, to be arranged. Limited to graduate students. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examinations. (4 or 6) Preparation: completion of all M.A. or Ph.D. course and language requirements. Limited to graduate students. S/U grading.


NEAR EASTERN LANGUAGES AND CULTURES

College of Letters and Science

UCLA

378 Humanities Building
Box 951511
Los Angeles, CA 90095-1511

(310) 825-4165
fax: (310) 206-6456
http://www.nelc.ucla.edu

William M. Schniedewind, Ph.D. Chair

Professors

Elizabeth F. Carter, Ph.D.
Michael D. Cooperson, Ph.D.
S. Peter Cowart, Ph.D. (Narekatsi Professor of Armenian Studies)
Robert K. Englund, Ph.D.
Lev Haikak, Ph.D.
Ismael K. Poonawala, Ph.D.
Yona Sabar, Ph.D.

William M. Schniedewind, Ph.D. (Kershaw Professor of Ancient Eastern Mediterranean Studies)
Sasan E. Styanov, Ph.D.
Hossein Ziai, Ph.D.

Professors Emeriti

Amin Banani, Ph.D.
Arnold J. Band, Ph.D.
Andreas E. Bodroglieti, Ph.D.
Giorgio Bucellati, Ph.D.
Herbert A. Davidson, Ph.D.
Thomas Penchoen, Ph.D.
Hanns-Peter Schmidt, Ph.D.

Associate Professors

Carol A. Bakhos, Ph.D.
Willemina Z. Wendrich, Ph.D.

Assistant Professors

Aaron A. Burke, Ph.D.
Jacco Dieleman, Ph.D.
M. Rahim Shayegan, Ph.D. (Musa Sabi Professor of Iranian Studies)

Lecturers

Nancy Ezer, Ph.D.
Michael Fishbein, Ph.D.
Latten E. Hagigi, M.A.
Anahid Keshishian, Ph.D.

Adjunct Assistant Professor

David G. Hirsch, M.A.

Scope and Objectives

The mission of the Near Eastern Languages and Cultures Department is the discovery, interpretation, dissemination, and preservation of human values created over a period of five or more thousand years in an area that was the cradle of all civilization.

The department offers instruction in the major modern and ancient languages of the Near East: Akkadian, ancient Egyptian, Arabic, Armenian, Berber, Coptic, Hebrew, Persian, and Turkic. To meet increasing demands for a knowledge of this area and its past and present, it treats each language in a wide perspective — as a means of communication, as a vehicle of a cultural heritage, as a research tool for the area, and as an object of research itself.

Undergraduate majors may be taken in Ancient Near Eastern Civilizations, Arabic, Hebrew, Iranian Studies, and Jewish Studies. Master’s and Ph.D. programs are offered in Ancient Near Eastern civilizations, Arabic, Armenian, Hebrew, Iranian, Semitics, and Turkic.

Courses in the department prepare students for careers in government, foreign trade, teaching abroad, journalism abroad, archaeology, and further academic work involving the area.

Undergraduate Study

The department offers the Bachelor of Arts degree in five fields: (1) Ancient Near Eastern Civilizations, (2) Arabic, (3) Hebrew, (4) Iranian Studies, and (5) Jewish Studies. In each of these fields students must meet the requisite and take the courses prescribed. Their adviser assists in selecting a plan of study developed around their interests.

Students may combine their major with one in another department (double major) to enhance their educational opportunities. Due to the
number of additional courses required, they are advised to consider this option early in their academic career and in consultation with program advisers in both majors.

Ancient Near Eastern Civilizations B.A.

There are four options for a major in Ancient Near Eastern Civilizations: (1) Mesopotamia, (2) Egypt, (3) Near Eastern archaeology and cultures, and (4) biblical studies.

Preparation for the Major

Requisite for all options: Near Eastern Languages 50A; requisites for options 1, 2, and 3: German 1, 2, 3 (French 1, 2, 3 may be substituted); requisites for option 4: Hebrew 1A, 1B, 1C. Majors in all four fields are encouraged to continue their language study beyond the requisite levels.

Transfer Students

Transfer applicants to the Ancient Near Eastern Civilizations major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one civilization course for all options, one year of German or French for the options in Mesopotamia, Egypt, and Near Eastern archaeology and cultures, and one year of Hebrew for the biblical studies option.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Majors in all four options are required to take 14 upper division courses selected in consultation with the program adviser.


Majors selecting option 4 (biblical studies) are required to take 14 courses as follows: four language courses (Hebrew 102A, 102B, 102C, 120) and three history and literature courses (Jewish Studies M150A, M182A, English 108B). The remaining seven courses are to be selected from Ancient Near East M103A, M103B, M104, 130, 150A, 150B, 160, 161, 162, 163, 164A, 164B, 164C, 165, 170, English 108A, 108C, Greek 130, Hebrew 125, 126, 135, History 186A, 186B, 186C, Jewish Studies 150B, 170, Latin 120, Semitics 130.

Study Abroad

Students are encouraged to spend time abroad either to (1) study with an education abroad program or (2) work on a UCLA-affiliated archaeological excavation in the broader Middle East. For information on studying abroad, contact the Education Abroad Program, B300 Murphy Hall, (310) 825-4995; for UCLA-affiliated excavations, contact the departmental student affairs officer at (310) 825-4165.

Arabic B.A.

Preparation for the Major

Required: Arabic 1A, 1B, 1C.

Transfer Students

Transfer applicants to the Arabic major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of Hebrew.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Fourteen courses, including Hebrew 102A, 102B, 102C, 103A, 103B, 103C; one term of Hebrew 120 or 125; and one term of Hebrew C140. The remaining six courses may be selected from Hebrew 111A, 111B, 111C, 130, 135, C140, 160, 170, 180A, 180B, 199, Jewish Studies M150A, 150B, 175, M182A, M182B, Semitics 110, 115, 130, 140A, 140B. No more than two of the 14 courses may be credited through a proficiency test administered by the department. A maximum of two Hebrew 197 or 199 courses (8 units total) may be applied toward the major.

Iranian Studies B.A.

Students majoring in Iranian Studies may combine the major with specialization in other fields to enhance their career opportunities. Due to the number of additional courses required, they are advised to consider this option early in their academic career.

Preparation for the Major

Required: Iranian 1A, 1B, 1C, or equivalent.

Transfer Students

Transfer applicants to the Iranian Studies major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of Persian.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

ministered by the department. A maximum of two Iranian 197 or 199 courses (8 units total) may be applied toward the major.

**Jewish Studies B.A.**

Students must select one of five tracks: (1) Jewish history, (2) Jewish religions, (3) Jewish literature and culture, (4) American Jewish literature and culture, or (5) Israeli studies.

**Preparation for the Major**

Required: Jewish Studies 10.

**Transfer Students**

Transfer applicants to the Jewish Studies major with 90 or more units must complete the following introductory course prior to admission to UCLA: one social, cultural, and religious institutions of Judaism course.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

Majors in all five tracks are required to take 14 upper division courses selected in consultation with the program adviser, including seven required core courses, five courses within the selected track, and two electives to be chosen from Hebrew, Jewish studies, or any courses listed under any track.

Core requirements include Jewish Studies M184A (or History M184A); one year of upper division Hebrew (either Hebrew 102A, 102B, and 102C, or Hebrew 103A, 103B, and 103C); two terms of the Jewish history sequence selected from Jewish Studies M182A, M182B, M182C, M184B; and one course on the Hebrew Bible selected from English 108A, Hebrew 120, or Jewish Studies M150A, 150B.

A third year of Hebrew or one year of Yiddish or another Jewish language is strongly recommended but not required.

Students are encouraged to take a research tutorial within Jewish Studies 197 or 199. A maximum of two 197 or 199 courses (8 units total) may be applied toward the major.

A course may be applied toward only one category within the major (i.e., core requirement, track requirement, or electives). No more than 20 units may be applied toward both the Jewish Studies major and a major or minor in another department or program.

For the Jewish history track, students are required to complete the remaining two courses from Jewish Studies M182A, M182B, M182C, M184B and three courses from the following list, in addition to the core courses for the major: Ancient Near East 162, History M182D, 183A, 183B, 186A, 191A, 197, Jewish Studies 140A, 140B, 170, M182D, M182E, M182F, M184D, 197, 199.

For the Jewish religion track, students are required to complete Jewish Studies 150B and four of the following courses, in addition to the core courses for the major: Ancient Near East 162, English 108A, 108C, 199, Hebrew 120, 125, 130, History 186A, Jewish Studies 130, 135, M150A, M151A, 155, 170, M182A, M182B, M187, 197, 199.

For the Jewish literature and culture track, students are required to complete Hebrew 103A, 103B, 103C, and two of the following courses, in addition to the core courses for the major: English 103, 108A, 108C, 182C, German 112, Hebrew 111A, 111B, 111C, 120, 125, 130, C140, Iranian 131, Jewish Studies 135, 143, M150A, 150B, M151A, 151B, 155, 170, 175, 177, M187, 197, 199.

For the American Jewish studies track, students are required to complete Sociology 159 and four of the following courses, in addition to the core courses for the major: English 103, 182C, 199, History 197, Jewish Studies 135, 140A, 140B, M151A, 177, M182F, M184C, 199, Yiddish 101A, 101B, 101C, 102A, 102B, 104.

For the Israeli studies track, students are required to complete Hebrew 103A, 103B, 103C, and two of the following courses, in addition to the core courses for the major: Hebrew 111A, 111B, 111C, C140, History 183B, 197, Jewish Studies 142, 151B, 175, M182B, M184D, 197, 199, Political Science 121A, 132A, M132B, 139, 164, 199.

**Study in Israel**

Students are encouraged to spend up to one year in Israel either to (1) study with an education abroad program or (2) study at an Israeli university. For information on studying in Israel, contact the Education Abroad Program, B300 Murphy Hall, (310) 825-4889.

**Arabic and Islamic Studies Minor**

The Arabic and Islamic Studies minor is designed for students who wish to augment their major program with a group of related courses that provide a systematic introduction to the study of Arabic language and literature and Islam.

To enter the minor, students must have an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Armenian Studies Minor**

The Armenian Studies minor is designed for students who wish to augment their major program with a group of courses that provide a systematic introduction to the study of Armenian culture.

To enter the minor, students must have an overall grade-point average of 2.0 or better, have completed Armenian 101A, 101B, 101C, or the equivalent as determined by the department, and file a petition in 378 Humanities Building, (310) 825-4165.

**Required Upper Division Courses (28 units):**

Seven courses from the Armenian section of the department; 199 courses may not be applied. At least one course from each of the three disciplines of language, literature, and history must be selected. Eligible language courses begin in the fourth quarter of study (i.e., course 102A for Western Armenian, course 105A for Eastern Armenian). With approval of the undergraduate adviser, two of the seven courses may be taken outside the department. Ordinarily, the following courses may be applied: History 107A through 107E, 200S, 201S, 211A, 211B, 212, Indo-European Studies M150.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Hebrew and Jewish Studies Minor**

To enter the Hebrew and Jewish Studies minor, students must have an overall grade-point average of 2.0 or better, have completed Hebrew 1A, 1B, 1C, or the equivalent as determined by the department, and file a petition in 378 Humanities Building, (310) 825-4165.

**Required Upper Division Courses (28 units):**

Seven courses from the Hebrew or Jewish studies section of the department; 199 courses may not be applied. With approval of the undergraduate adviser and based on course content, two of the seven courses may be taken outside the department.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Near Eastern Languages and Cultures Minor**

The Near Eastern Languages and Cultures minor is designed for students who wish to augment their major program in the College of Letters and Science with a group of related courses from various linguistic, literary, archaeo-
ological, and historical disciplines of the Near East, from ancient Egypt, Mesopotamia, and biblical studies to the modern Arabic, Armenian, Jewish, and Turkish world.

To enter the minor, students must have an overall grade-point average of 2.0 or better and file a petition in 378 Humanities Building, (310) 825-4165.

Required Upper Division Courses (28 units): Seven courses selected in consultation with an academic adviser from any of the courses offered by the department; 199 courses may not be applied. With approval of the undergraduate adviser, two of the seven courses may be taken outside the department, provided the content of the courses bears a direct relation to the culture of the Near East.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Near Eastern Languages and Cultures offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Near Eastern Languages and Cultures.

Ancient Near East

( Akkadian, Aramaic, Phoenician, and Ugaritic are listed under Semitics.)

Lower Division Course

10W. Jerusalem: The Holy City. (6) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H. Survey of religious, political, and cultural history of Jerusalem over three millennia as symbolic focus of three faiths: Judaism, Christianity, and Islam. Transformation of sacred space as reflected by literary and archaeological evidence through examination of testimony of artifacts, architecture, and iconography in relation to written word. Study of creation of mythic Jerusalem through event and experience. Satisfies Writing II requirement. Letter grading.

Upper Division Courses

M101A. Egyptian Art and Archaeology. (4) (Formerly numbered Near Eastern Languages M101A.) (Same as Art History M101A.) Lecture, three hours. Study of architecture, sculpture, painting, and minor arts during Predynastic period and Old Kingdom. P/NP or letter grading.

M103A-M103B. Ancient Egyptian Civilization. (4) (Formerly numbered M104A-M104B.) (Same as History M103A-M103B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Political and cultural institutions of ancient Egypt and ideas on which they were based. P/NP or letter grading. M103A. Chronological discussion of Predynastic, Old and Middle Kingdom. M103B. New Kingdom and Late period until 332 B.C.

M104. History of Ancient Mesopotamia and Syria. (4) (Formerly numbered M105.) (Same as History M104.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Political and cultural development of "Fertile Crescent," including Palestine, from Late Urak to neo-Babylonian period. Letter grading.

M110A-M110B-M110C. Iranian Civilization. (4-4-4) (Same as History M110A-M110B-M110C) Lecture, three hours; discussion, one hour (when scheduled). History of ancient Iran from rise of Elam to end of Sasanian dynasty—Elamite civilization and Mede, Achaemenid, Arsacid, and Sasanian Empires. Emphasis on ancient Iran, but may be offered for early Islamic period. P/NP or letter grading.

120A-120B-120C. Elementary Ancient Egyptian. (5-5-5) Lecture, five hours. Course 120A is requisite to 120B, which is requisite to 120C. P/NP or letter grading. 120A. Introduction to hieroglyphic script and phonology and morphology of Middle Egyptian. Basic rules of Middle Egyptian syntax, with focus on nomi- nal, adjectival, and adverbial sentences. 120B. Verbal system and syntax of verbal sentences of Middle Egyptian. 120C. Reading of authentic Egyptian texts to deepen knowledge of Egyptian grammar and to acquire familiarity with aims and methods of philology, study of ancient texts.

121A-121B-121C. Intermediate Ancient Egyptian. (5-5-5) Lecture, three hours. Requisite: course 120C. Course 121A is requisite to 121B, which is requisite to 121C. Readings in ancient Egyptian literature. P/NP or letter grading.

123A-123B. Coptic. (5-5) Lecture, three hours. Course 123A is requisite to 123B. Introduction to Coptic grammar and reading of Coptic texts. P/NP or letter grading.

124. Middle Egyptian Technical Literature. (4) Lecture, three hours. Requisite: course 121C. Reading of Middle Egyptian technical literature in hieroglyphic transcription. Medical, veterinary, mathematical, and astronomical texts included. P/NP or letter grading.

130. Ancient Egyptian Religion. (5) Lecture, three hours; discussion, one hour. Introductory survey of various ancient Egyptian religious beliefs and practic-es, their origin, and development. Discussions of reli-giopolitical institutions such as divine kingship and pi-ous foundations. P/NP or letter grading.

140A-140B-140C. Elementary Sumerian. (4-4-4) Lecture, three hours. Requisites: Semitics 140A, 140B. Elementary grammar and reading of royal inscriptions, letters, and administrative texts from the Ur III period. P/NP or letter grading.


150A-150B-150C. Survey of Ancient Near Eastern Literatures in English. (4-4-4) Lecture, three hours. Each course may be taken independently but not for credit. P/NP or letter grading. 150A. Mesopotamia; 150B. Egypt; 150C. Syria and Palestine, Asia Minor, Persia.


162. Archaeology and Religion of Israel. (4) Lecture, three hours. Survey of archaeology of Palestine from Bronze Age to destruction of Jerusalem in A.D. 70, with emphasis on religious development of an-cient Israel. P/NP or letter grading.

163. Archaeology of Iran. (4) Lecture, three hours. Designed to introduce students to Iranian archaeology from prehistoric through Achaemenid times. P/NP or letter grading.

164A. Sumerians. (4) Lecture, three hours. Survey of main archaeological periods in Mesopotamia, with special emphasis on historic periods and with reference to neighboring cultural areas. P/NP or letter grading.

164B. Assyrians. (4) Lecture, three hours. Survey of main archaeological periods in Mesopotamia, with special emphasis on historic periods and with reference to neighboring cultural areas. P/NP or letter grading.

164C. Babylonians. (4) Lecture, three hours. Survey of main archaeological periods in Mesopotamia, with special emphasis on historic periods and with reference to neighboring cultural areas. P/NP or letter grading.

165. Egyptian Archaeology. (4) Seminar, three hours. Requisite: one course from M103A, M103B, M130, or Near Eastern Languages 50A. Opportunity to research aspects of topics in ancient Egyptian archaeology. Topics vary each year. May be repeated for credit. P/NP or letter grading.


185D. Religions of Ancient Near East. (4) (Formerly numbered M185D) (Same as History M185D) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Main polytheistic systems of ancient Near East, with emphasis on Mesopotamia and Syria and with reference to reli-gion of ancientIsrael: varying concepts of divinity, hierarchies of gods, prayer and cult, magics, wisdom, and moral conduct. P/NP or letter grading.

197. Individual Studies in Ancient Near East. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Indivi-dual intensive study, with scheduled meetings to be arranged between faculty member and student. As-signed reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Ancient Near East. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culmi-nating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses

M201. Archaeological Research Design. (4) (Same as Archaeology M201C.) Seminar, three hours. Requ-isites: Archaeology M201A, M201B. How to design archaeological projects in preparation for M.A. thesis or Ph.D. phase. Students do exploratory research to select subject, then write research design that could form basis for extensive paper, grant application, or oral examination. Students work closely with faculty members and report weekly on their progress. Prepa-ra-tion of at least two oral progress-report presenta-tions, one on theoretical framework and one on practi-cal aspects of project. Focus on preparatory research design that incorporates theoretical and practical aspects of research and formulates bridging arguments required. P/NP or letter grading.

210. Late Egyptian. (4) Lecture, three hours. Requi-sites: courses 121A, 121B, 121C. Late Egyptian grammar and reading of both hieroglyphic and hierat-ic texts. May be repeated for credit. P/NP or letter grading.
596. Directed Individual Study. (2 to 8) Seminar, three hours. May be repeated for credit. S/U or letter grading.


221A-221B. Demotic. (4-4) Lecture, three hours. Requisite: course 121C. Introduction to Demotic grammar and orthography. Reading of texts from various genres. S/U or letter grading.

230. Seminar: Ancient Syria/Palestine. (4) Seminar, three hours. Examination of selected topics on political, social, and intellectual history of ancient Israel. Exploration of how historical, social, and political contexts shaped and influenced interpretation and use of biblical texts. May be repeated for credit. S/U or letter grading.

240A-240B-240C. Seminars: Sumerian Language and Literature. (4-4-4) Seminar, two hours. Readings of texts from various Sumerian periods and literary genres; selected problems in linguistic or stylistic analysis and literary history. S/U or letter grading.

M250. Seminar: Ancient Mesopotamia. (4) Same as History 250. Seminar, three hours. Selected topics on political, social, and intellectual history of ancient Mesopotamia. May be repeated for credit. S/U or letter grading.

250X. Seminar: Ancient Mesopotamia. (1) Seminar, three hours. Selected topics on political, social, and intellectual history of ancient Mesopotamia. Course for students who participate regularly in class meetings but without the homework required in course M250. May be repeated for credit. S/U or letter grading.

260. Seminar: Ancient Near Eastern Archaeology. (2 to 4) Seminar, two hours. May be repeated for credit. S/U or letter grading.

261. Practical Field Archaeology. (2 to 8) Fieldwork, two hours. Participation in archaeological excavations or other archaeological research in the Near East under staff supervision. May be repeated for credit. S/U or letter grading.

262. Seminar: Object Archaeology. (4) Seminar, two hours; laboratory, one hour. Selected topics in analysis and interpretation of Near Eastern archaeological finds in museum collections. Students work with objects in the N. C. Caroline Collection of Los Angeles County Museum of Art. S/U or letter grading.


M265. Depositional History and Stratigraphic Analysis. (4) (Same as Archaeology M265.) Lecture, two hours. Theoretical understanding of depositional processes (“laws”) which lead to site formation and of stratigraphic procedures to be used in recovery of embedded cultural materials. Study of issues covered in the literature, with specific test cases from actual excavations and site reports. Coverage of theoretical implications of such disciplines as surveying and pedology with the help of specialists. S/U or letter grading.


596. Directed Individual Study. (2 to 8) Tutorial, to be arranged. May be repeated for credit. S/U or letter grading.


Arabic

Lower Division Courses

1A-1B-1C. Elementary Standard Arabic. (5-5-5) Lecture, three hours. Course 1A is required, equivalent to 1B, which is enrolled requisite to 1C. Introduction to formal Arabic (modern standard Arabic), including listening, speaking, reading, and writing. P/NP or letter grading.

Upper Division Courses

102A-102B-102C. Intermediate Standard Arabic. (5-5-5) Lecture, six hours. Requisite: course 1C. Course 102A is required to 102B, which is required to 102C. Intermediate formal Arabic, including listening, speaking, reading, and writing. P/NP or letter grading.

103A-103B-103C. Advanced Arabic. (4-4-4) Lecture, four hours. Requisites: courses 102A, 102B, 102C. Advanced formal Arabic, including grammar, composition, and readings from classical and modern texts. Letter grading.

111A-111B-111C. Elementary Spoken Egyptian Arabic. (4-4-4) Lecture, three hours. Knowledge of Arabic required. Not suitable for heritage speakers. Introduction to Egyptian colloquial Arabic. P/NP or letter grading.

115. Summer Intensive Elementary Egyptian Arabic. (4) Lecture, three hours. Introduction to spoken Arabic dialect of Egypt which is language used by Egyptians in conversation and media and is not usually written. Training in listening and speaking. P/NP or letter grading.

116A-112B-112C. Advanced Spoken Egyptian Arabic. (4-4-4) Lecture, three hours. Study of Egyptian colloquial Arabic for heritage speakers or students who have completed courses 1A, 1B, 1C. P/NP or letter grading.

120. Islamic Texts. (4) Lecture, four hours. Requisite: course 103C. Readings from Qur’an, Tafsir, Hadith, Fiqh. May be repeated for credit. Letter grading.

130. Classical Arabic Texts. (4) Lecture, four hours. Requisite: course 103C. Readings from medieval literary texts, with grammatical and syntactical analysis. May be repeated for credit. Letter grading.

140. Modern Arabic Literature. (4) Lecture, four hours. Requisite: course 103C. Conducted in Arabic. Readings in selected texts representing important trends in Arabic literature of the 19th and 20th centuries. May be repeated for credit. Letter grading.

142. Arabic Media. (4) Lecture, four hours. Requisite: course 103C. Development of facility with language of Arabic press and broadcasting. Activities include monitoring current materials via Internet; transcribing, translating, and summarizing; writing original reports in Arabic; and oral presentations and discussions. May be repeated for credit. P/NP or letter grading.

150. Classical Arabic Literature in English. (4) Lecture, three hours. Readings in English; knowledge of Arabic not required. Culture of Arabic-speaking peoples through their literature. Texts range from pre-Islamic to early modern, along with works in history and anthropology, to place these writings in social context. P/NP or letter grading.

151. Modern Arabic Literature in English. (4) Lecture, three hours. Readings of selected texts covering basic literary trends from middle of the 19th century to the present. Letter grading.


181. Translating Arabic. (4) Seminar, three hours. Preparation: advanced proficiency in English and Arabic (at least three years of Arabic instruction or equivalent). Open to both native and nonnative speakers of English and Arabic. Training of students in methodology of translation from Arabic into English, with focus on producing accurate and readable English translations of Arabic literary and scientific texts. Close reading and written translation of Arabic texts, with review of linguistic and cultural difficulties that arise. Course of translation may include classical Arabic literature (religion, historiography), modern writing (literature, media), and spoken Arabic (television, radio), based on student interest. Letter grading.

Graduate Courses

220. Seminar: Islamic Texts. (4) Seminar, three hours. Doctrines and hermeneutics of various schools of thought in Islam, with selected readings from major works. May be repeated for a maximum of 24 units. S/U or letter grading.

M231. Texts in Judeo-Arabic. (4) (Same as Hebrew M231.) Lecture, four hours. Requisite: course 102C, Hebrew 102C. Reading of Judeo-Arabic texts by Maimonides (medieval religion, medicine, philosophy) and more recent texts in Judeo-Arabic dialects of Iraq and Egypt, all with comments on connections from norms of classical Arabic. S/U or letter grading.

240. Seminar: Arab Historians and Geographers. (4) Seminar, three hours. Selected readings from works of major historians, geographers, and travelers. May be repeated for a maximum of 24 units. S/U or letter grading.

250. Seminar: Classical Arabic Literature. (4) Seminar, two hours. Selected topics from classical Arabic prose and poetry. May be repeated for a maximum of 24 units. S/U or letter grading.

Armenian

Upper Division Courses

101A-101B-101C. Elementary Modern Western Armenian. (5-5-5) Lecture, five hours. Course 101A is requisite to 101B, which is requisite to 101C. Armenian grammar, conversation, and exercises. P/NP or letter grading.

102A-102B-102C. Intermediate Modern Western Armenian. (5-5-5) Lecture, five hours. Requisite: course 101C. Course 102A is requisite to 102B, which is requisite to 102C. Reading of selected texts, composition, and conversation. P/NP or letter grading.

103A-103B-103C. Advanced Modern Western Armenian. (4-4-4) Lecture, four hours. Requisite: course 102C. Designed for students with speaking fluency and reading abilities in Armenian. Exploration of advanced Western Armenian in following areas of competence: accuracy and proficiency. Use of language to engage literary themes and cultural issues of historical and contemporary significance for Armenian speakers. P/NP or letter grading.

104A-104B-104C. Elementary Modern Eastern Armenian. (5-5-5) Lecture, five hours. Course 104A is requisite to 104B, which is requisite to 104C. Designed for students with little or no previous knowledge of Eastern Armenian, official idiom of Republic of Armenia. Introduction to basics of grammar and conversation. P/NP or letter grading.

105A-105B-105C. Intermediate Modern Eastern Armenian. (5-5-5) Lecture, five hours. Requisite: course 104C. Course 105A is requisite to 105B, which is requisite to 105C. Continuing introduction to Armenian grammar, with greater attention to readings from short stories and simple newspaper articles and film viewing on video. Emphasis on improving students' self-expression in the idiom, both orally and in written form. P/NP or letter grading.

106A-106B-106C. Advanced Modern Eastern Armenian. (4-4-4) Lecture, four hours. Requisite: course 105C. Discussion of contemporary Armenian social and cultural issues through readings from critical essays, editorials, short stories, and poems written since World War II and film showings. Emphasis on enhancing students' self-expression orally and in written form. Letter grading.

110. History of Armenian Language. (4) Lecture, three hours. Requisite: course 101C or 104C. Exploration of history of Armenian language as reflected in literature created in Armenian throughout written period (5th through 20th centuries). Use of top-down approach beginning with modern state of Armenian language in its two standard versions (Western and Eastern), then retracing of historical development through formation of New Armenian (17th century), Middle Armenian (17th through 12th centuries), and earliest attested versions, Old Armenian (11th through 5th centuries). Discussion of attempts at reconstructing major features of Armenian phonology and morphology in preliterary period. P/NP or letter grading.

130. Armenian Civilization under Bagratid Dynas- ty, 884 to 1064. (4) Lecture, four hours. Interdisciplinary investigation of interface between sociopolitical and economic factors in creation of works of art (literature, art, architecture, etc.) and social function of these works performed in this important period of Armenian history. Letter grading.

131. Armenian Civilization in Cilician Period, 1080 to 1375. (4) Lecture, four hours. Interdisciplinary investigation of rise and fall of unique form of Armenian political establishment and examination of degree to which its social structure and cultural and aesthetic norms were impacted by those of the West (Byzantium, Western Europe) and East (Crusader states, Seljuqs, Mamluks, Mongols). Letter grading.

150A-150B. Survey of Armenian Literature in En- glish. (4-4) Lecture, three hours. Knowledge of Arme- nian not required. Each course may be taken inde- pendently for credit. P/NP or letter grading.

1C151. Armenian Literature and Canon Formation. (4) Lecture, four hours. Discussion of fundamental themes and genres around which Armenian literary tradition evolved and modalities by which this has been transformed in course of last two centuries as result of exposure to European thought and expres- sive forms. Concurrently scheduled with course C251. P/NP or letter grading.

1C152. Modern Armenian Drama as Vehicle for So- cial Critique. (4) Lecture, four hours. Readings of se- lected plays from 1668 to 1992 from three main genres of tragedy, comedy, and serious drama and features of an important playwright, with focus on their role as commentators on contemporary mores and as agents for social reform. Concurrently scheduled with course C252. Letter grading.

1C153. Art, Politics, and Nationalism in Modern Ar- menian Literature. (4) Lecture, four hours. Examina- tion of role of literature in modern Armenian society in service to cause or cause related to Armenian play- wrights, with focus on their role as commentators on contemporary mores and as agents for social reform. Concurrently scheduled with course C253. P/NP or letter grading.

1C155. Issues in Armenian American Literature and Culture. (4) Lecture, four hours. Preparation: reading knowledge of modern Eastern and Western Armenian. Theoretically informed exploration of some of most salient questions related to Armenian Ameri- can community as reflected in its literature and other cultural artifacts in interaction with its pluralistic Amer- ican ambience. Concurrently scheduled with course C255. Letter grading.

1C160A-160B. Armenian Literature of the 19th and 20th Centuries. (4-4) Lecture, three hours. Requi- sites: courses 102A, 102B, 102C. Reading of texts and discussion of various genres of modern Arme- nian literature with notice of changing style of Armenian cultural renaissance. P/NP or letter grading.

1C166. Armenian Film and Culture. (5) Lecture, six hours. Requisite: course 101C or 104C. Overview of development of Armenian cinematography from first talkie to the present, with focus on work of most sem- inal directors from Armenian Republic, as well as vari- ous voices from worldwide diaspora. Concurrently scheduled with course C266. P/NP or letter grading.

170. Armenian Poetry, 1880 to 1930. (4) Lecture, three hours. Requisite: course 101C or 104C. Examina- tion of process behind creation of range and variety of poetic expression that developed in new literary for- mats and genres of what became standard modern Eastern and Western Armenian language in second half of the 19th century. Special attention to crafting of central practitioners' individual voice, with particular consideration to poetics and aesthetics, continuity and innovation under impact of modernism, and em- ployment of poetic structure as medium for expres- sion of deeper philosophical values. All texts read in original language. P/NP or letter grading.

171. Variable Topics in Armenian Studies. (4) Lec- ture, three hours. Examination of major issues in Arme- nian studies. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or let- ter grading.

M172. Armenian Painting of the 17th to 20th Cen- turies. (4) Same as Art History M172) Lecture, three hours. Overview of development of modern Arme- nian painting out of its matrix in the 17th and 18th centuries. P/NP or letter grading.

M173. Medieval Armenian Miniature Painting. (4) (Same as Art History M173) Lecture, three hours. Examination of cultural and historical impact of Arme- nian miniature paintings.

197. Individual Studies in Armenian. (2 to 4) Tuto- rial, one hour. Limited to juniors/seniors. Individual in- tensive study, with scheduled meetings to be ar- ranged between faculty member and student. As- signed reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Arme- nian. (2 to 4) Tutorial, one hour. Limited to juniors/se- niors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses


230A-230B-230C. Elementary Classical Armenian. (4-4-4) Lecture, three hours. Course 230A is requisite to 230B, which is requisite to 230C. Introduction to grammar of the classical literary language (5th to mid-19th century) and guided readings in narrative prose texts. Letter grading.


232A-232B-232C. Advanced Classical Armenian. (4-4-4) Lecture, three hours. Requisite: course 231A or 231B or 231C. In-depth reading and linguistic anal- ysis of texts related to the Philhellene School of the 6th to 8th century and related works up to the 19th century. Each course may be taken independently for credit. Letter grading.

250A-250B. Seminars: Armenian Literature. (4-4) Seminar, three hours. Requisites: three hours. Readings of various periods of Armenian literature. May be repeated for credit. S/U or letter grading.

C251. Armenian Literature and Canon Formation. (4) Lecture, four hours. Discussion of fundamental themes and genres around which Armenian literary tradition evolved and modalities by which this has been transformed in course of last two centuries as result of exposure to European thought and expres- sive forms. Concurrently scheduled with course C251. S/U or letter grading.

C252. Modern Armenian Drama as Vehicle for So- cial Critique. (4) Lecture, four hours. Readings of se- lect plays from 1668 to 1992 from three main genres of tragedy, comedy, and serious drama and featuring works by most significant Armenian play- wrights, with focus on their role as commentators on contemporary mores and as agents for social reform. Concurrently scheduled with course C152. Letter grading.

C253. Art, Politics, and Nationalism in Modern Ar- menian Literature. (4) Lecture, four hours. Examina- tion of role of literature in modern Armenian society in service to cause or causes, as propaganda for vari- ous ideologies, as art for art's sake, etc. Exploration of contrasting aesthetics implicit in these differing in- terpretations. Concurrently scheduled with course C253. P/NP or letter grading.

596. Directed Individual Study. (2 to 8) Tutorial, to be arranged. May be repeated for credit. S/U or letter grading.


## Berber
### Upper Division Courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>101A-101B-101C</td>
<td>Elementary Berber</td>
<td>4-4-4</td>
<td>Lecture, three hours; laboratory, two hours. Development of oral proficiency and analysis of basic grammatical structure. P/NP or letter grading.</td>
</tr>
<tr>
<td>130</td>
<td>The Berbers</td>
<td>4</td>
<td>Lecture, four hours. Examination of main features of Berber societies and cultures, with particular attention to social structures and institutions on one hand, and to customs, values, and beliefs on other. Presentation of broad framework within which study of particular aspects of Berber cultures may be pursued. P/NP or letter grading.</td>
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## Hebrew
### Lower Division Courses

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1A-1B-1C</td>
<td>Elementary Hebrew</td>
<td>5-5-5</td>
<td>Lecture, five hours; laboratory, one hour. Course 1A is enforced requisite to 1B, which is enforced requisite to 1C. Introduction to modern Hebrew, including listening, speaking, reading, and writing. P/NP or letter grading.</td>
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### Upper Division Courses

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<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
<th>Description</th>
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<tbody>
<tr>
<td>102A-102B-102C</td>
<td>Intermediate Hebrew</td>
<td>5-5-5</td>
<td>Lecture, five hours. Require: course 1C. Course 102A is requisite to 102B, which is requisite to 102C. Amplification of grammar; reading of texts from modern and medieval literatures. P/NP or letter grading.</td>
</tr>
<tr>
<td>103A-103B-103C</td>
<td>Advanced Hebrew</td>
<td>4-4-4</td>
<td>Lecture, three hours. Requires: courses 102A, 102B, 102C. Introduction to modern Hebrew literary texts.</td>
</tr>
<tr>
<td>110A-110B-110C</td>
<td>Intermediate Biblical Hebrew</td>
<td>3-3-3</td>
<td>Lecture, one hour; laboratory, one hour. Course 111A is requisite to 111B, which is requisite to 111C. Vocabulary used in daily life, different speech acts in both formal and informal contexts, and various Israeli sociocultural issues using different kinds of media, such as video, Internet, and newspapers. P/NP or letter grading.</td>
</tr>
</tbody>
</table>
169. Civilization of Pre-Islamic Iran. (4) Survey of Iranian culture from the beginning through Sasanian period.

170. Religion in Ancient Iran. (4) History of religion in Iran from the beginning to the Mohammadan conquest; Indo-Iranian background, Zoroastrianism, Manichaeanism, Mazdaism.


181FL. Special Studies: Readings in Iranian. (2) (Formerly numbered 198FL). Seminar, two hours. Requisite: course 102C. Students must be concurrently enrolled in an affiliated main course. May be repeated for credit. P/NP or letter grading.

197. Variable Topics in Iranian Studies. (4) Seminar, two hours. Consult Schedule of Classes for topics to be offered in specific term. May be repeated for credit. P/NP or letter grading.

212. Comparative Study of Six Major Persian Poets. (4) Lecture, two hours; discussion, one hour. Preparation: knowledge of Persian. Lectures in Persian, readings in English and Persian. Comparative study of six major Persian poets from the 10th to 14th century who shaped the sense of Persian identity and delineated chief distinguishing characteristics of Persian thought and culture. P/NP or letter grading.

120. Comparative Study of Six Major Persian Poets. (4) Lecture, two hours; discussion, one hour. Preparation: knowledge of Persian. Lectures in Persian, readings in English and Persian. Comparative study of six major Persian poets from the 10th to 14th century who shaped the sense of Persian identity and delineated chief distinguishing characteristics of Persian thought and culture. P/NP or letter grading.

131. Introduction to Judeo-Persian: Language and Culture. (4) Lecture, three hours. Preparation: knowledge of Persian equivalent to course 102C. Introduction to history of Judeo-Persian literature and culture to prepare students to read Judeo-Persian texts. P/NP or letter grading.

140. Persian Belles Lettres (Adabiyâth). (4) Lecture, three hours; requirement: course 103A. Study of major Persian poets: prose, — Sa'hravardi, Hamadâni, Nasafi, Irâqi, and others; poetry — Hafez, Sa'di, Rumi, Bahâr, Dehkohdra, and others. May be repeated for credit with consent of instructor. P/NP or letter grading.

141. Persian Analytical Prose. (4) Lecture, three hours. Requisite: course 102C. Study of selected analytical and expository prose texts, with emphasis on philosophy, sciences, literary criticism, and history. May be repeated for credit with consent of instructor. P/NP or letter grading.

142. Persian Popular Ethics. (4) Lecture, three hours. Requisite: course 102C. Study of major Persian works on popular ethics which have helped shape modern Persian legal and political values in Iranian civilization. May be repeated for credit with consent of instructor. P/NP or letter grading.

150A-150B. Survey of Persian Literature in English. (4-4) Three terms. Three courses. Knowledge of Persian not required. Each course may be taken independently for credit.

161A-161B-161C. Elementary Middle Iranian. (4-4-4) Three terms. Three courses. Knowledge of Persian not required. Each course may be taken independently for credit.


111A-111B-111C. Elementary Kurdish. (4-4-4) Lecture, three hours; laboratory, two hours. Proficiency-based course in basic grammar of literary Kurdish (Soranî). Graded readings, translation, composition (level one), conversation (levels one and two).


Islamic Studies

Upper Division Courses

110. Introduction to Islam. (5) Lecture, three hours; discussion, one hour. Genesis of Islam, its doctrines, and practices, with readings from the Qur'an and hadith; schools of law and theology; piety and Sufism; reform and modernism. P/NP or letter grading.

130. Shi’a in Islamic History. (4) Seminar, three hours; discussion, one hour. Rise and development of Shi’a Islam, its doctrines and practices, major branches: Twelvers, Isma'ili, Zaydis; their contribution to Islamic thought and civilization; modern trends of reinterpretation and reform. Letter grading.

151. Contemporary Islamic Thought. (4) Lecture, 90 minutes; discussion, 90 minutes. Recommended prerequisite: course 110. Based on original writings of major Islamic thinkers in English translation, provides balanced picture of enormous ideological variety found in contemporary Muslim world. Examination of representative writings from wide spectrum of modern Islamic intellectuals and writers. Letter grading.

197. Variable Topics in Islamic Studies. (4-4) Seminar, one hour. Limited to seniors/minors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Islamic Studies. (2 to 4) Tutorial, one hour. Limited to seniors/majors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses


480 / Near Eastern Languages and Cultures

Graduate Courses

201. Arabo-Islamic Sciences. (4) Seminar, three hours. Preparation: good reading knowledge of Arabic, English, and one other Western language. Comprehensive coverage of Arabo-Islamic sciences that formed matrix of Islamic education. Survey of most recent developments in following disciplines: Arabic language and literature, Old Islamic jurisprudence, theology, and Sufism. Letter grading.

596. Directed Individual Study. (2 to 8) Tutorial, to be arranged. May be repeated for credit. S/U or letter grading.


Jewish Studies

Lower Division Courses

10. Social, Cultural, and Religious Institutions of Judaism. (5) Lecture, three hours; discussion, one hour. Judaism’s basic beliefs, institutions, and practices. Topics include development of biblical and rabbinic Judaism; concepts of God, sin, repentance, prayer, and the messiah; history of Talmud and synagogue; evolution of folk beliefs and year-cycle and life-cycle practices. P/NP or letter grading.

75. Modern Hebrew Literature Made into Films. (5) Formerly numbered 175. Lecture, four hours; discussion, one hour. Recent adaptations, and discussion of modern Hebrew literature that was made into films, including literary works of prominent Israeli authors (S. Yizhar, A.B. Yehezuela, Amos Oz, and Yitzhak Ben Ner) that were translated to English and had film adaptations. Letter grading.
Upper Division Courses

M111E. Ethnic Groups and Their Bibliographies: Jewish History and Culture. (4) (Same as Comparative Literature M111E.) Basic reference sources on specific topics on Judaica, ranging from biblical studies to the Holocaust to Jewish life in the U.S.

M130. Modern Jewish Religious Movements and Their Ideologies. (4) Lecture, three hours. Introduction to and overview of Jewish religious movements and evolution of their ideologies in the Western world from time of their development to the present.

M135. Jewish Law. (5) Lecture, three hours. Introduction to Jewish law from biblical literature to modern legal systems. Comparison of Jewish legal systems to modern secular systems and discussion of ethical dimensions.

140A-140B. American Jewish History. (4-4) Lecture, three hours. Examination of social and cultural history of American Jewish community from its inception to the present, with emphasis on integration of successive immigrants and development of institutions. P/NP or letter grading. 140A. 1654 to 1914; 140B. 1914 to the Present.

141. Modern Anti-Semitism. (4) Lecture, three hours. Examination of modern anti-Semitism from the 18th century to the present; comparison of modern racist ideologies with premodern theories; case studies (e.g., Dreyfus affair, Beiliss Trial, Holocaust); Jewish reactions.

142. History and Institutions of State of Israel. (4) Lecture, three hours. Study of social and cultural development of State of Israel from its pre-state institutional structures to the present, with emphasis on major trends, personalities, and ideologies, and state's position in wider framework of modern Jewish history.

143. Introduction to Jewish Folklore. (4) Lecture, three hours. Nature of Jewish folklore; narrative, folk song, folk art, folk religion, and methods and perspectives used in their analysis. P/NP or letter grading.

M150A-150B. Hebrew Literature in English. (4-4) Lecture, three hours. Each course may be taken independently for credit. M150A. Literary Traditions of Ancient Israel: Bible and Apocrypha. (Same as Comparative Literature M150A.) Study of literary culture of ancient Israel through examination of principal compositional strategies of the Hebrew Bible and the Apocrypha (read in translation). P/NP or letter grading. M150B. Diaspora Literature. (Same as Comparative Literature M156B.) Study of literary responses of Jews to modernity, its challenges, and threats. Readings in texts originally written in English or translated from Hebrew, Yiddish, German, Russian, French, and Italian. Analysis of formal aspects of each work. M151B. Israel and Diaspora in Modern Hebrew Literature. (Formerly numbered M150B.) Lecture, three hours. Each course may be taken independently for credit. P/NP or letter grading.

M151A-151B. Modern Jewish Literature in English. (4-4) Lecture, three hours. Each course may be taken independently for credit. P/NP or letter grading. M151A. Diaspora Literature. (Same as Comparative Literature M156B.) Study of literary responses of Jews to modernity, its challenges, and threats. Readings in texts originally written in English or translated from Hebrew, Yiddish, German, Russian, French, and Italian. Analysis of formal aspects of each work.


177. Variable Topics in Jewish Studies. (4) (Formerly numbered 197A-197Z.) Lecture, three hours. Variable topics; consult Schedule of Classes for topics to be offered in specific term. May be repeated for credit. P/NP or letter grading.

M181. Topics in Jewish History. (4) (Same as History M181B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of major issues in Jewish history. May be repeated for maximum of 16 units with topic and/or instructor change. P/NP or letter grading.

M182A. Ancient Jewish History from Patriarchs to Rabbin. (4) (Formerly numbered M182A.) (Same as History M182A2.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/se-miors. Survey of social, political, and religious developments. P/NP or letter grading.

M182B. Between Crescent and Cross: Jewish Middle Ages. (4) (Formerly numbered M191B.) (Same as History M182B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Exploration of unfolding of Jewish history from rise of Christianity to expulsion of Jews from Spain in 1492. P/NP or letter grading.

M182C. Jewish History from Spanish Expulsion to 1818. (4) (Formerly numbered M191C.) (Same as History M182C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/se-miors. Survey of early modern Jewish history begin-ning with enormously repercussive expulsion of Jews from Spain in 1492 and survey of developments in Jewish society and identity over five centuries in Eu- rope and Middle East, and concluding with natural-ism. P/NP or letter grading.

M182D. European Jewry from 1818 to the Present. (4) (Formerly numbered M191G.) (Same as History M182D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of major social, economic, and political factors that shaped lives of Europe's Jews from outbreak of First World War to the present. Emphasis on diverse Jewish communities of interwar Europe, fate of Jews under Nazis, and dimensions of postwar Jewish community. P/NP or letter grading.

M182E-M182F. Jewish Intellectual History. (4-4) (Formerly numbered M192A-M192B.) (Same as History M182E-M182F.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. M182E. Medieval Period. Examination of three intellectual worldviews that competed for hegemony in medieval Jewish world — rabbinic Judaism, medieval rationalism as embodied in philosophy, and cabala. M182F. Modern Period. Exploration of some of most important cur- rents and figures in Jewish intellectual history from the 18th century to the present.

182G. Spirit of Secularism: Jewish Cultures in Secular Age. (4) (Same as History M182G.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of emergence of distinct forms of Jewish culture in modern age, particularly those that challenge traditional forms of Jewish religious culture (e.g., laws, customs, or rit-uals). P/NP or letter grading.

M184A. Jewish Civilization: Encounter with Great World Cultures. (4) (Formerly numbered M100.) (Same as History M184A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of origins and historical development of anti-Semitism. P/NP or letter grading.

M184B. History of Antisemitism. (4) (Formerly numbered M191D.) (Same as History M184B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of origins and historical development of anti-Semitism. P/NP or letter grading.

M184C. American Jewish Experience. (4) (Formerly numbered M191L.) (Same as History M184C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Experience of Jews in America, both historical and contemporary. P/NP or letter grading.

M184D. History of State of Israel from 1948 to the Present. (4) (Formerly numbered M191S.) (Same as History M184D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/se-miors. Examination of history of State of Israel from 1948 to the present. P/NP or letter grading.

M187. Holocaust in Literature. (4) (Same as Comparative Literature M190A.) Lecture, three hours. Research seminar on selected topics. Reading, dis-cussion, and development of culminating project. P/NP or letter grading.

191. Variable Topics Seminars: Jewish Studies. (4) (Formerly numbered 190.) Seminar, three hours. Research seminar on selected topics. Reading, dis-cussion, and development of culminating project. P/NP or letter grading.

197. Individual Studies in Jewish Studies. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be ar-ranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Jew- ish Studies. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Supervised individual research or in- vestigation under guidance of faculty mentor. Culmi-nating paper or project required. Individual contract required. P/NP or letter grading.

Near Eastern Languages

Lower Division Courses


50A. First Civilizations. (5) Lecture, three hours; discussion, one hour. Survey of great civilizations of ancient Near East — Egypt, Israel, and Mesopotamia — with attention to emergence of writing, monote-ism, and urban societies. Letter grading.


50C. Modern Middle Eastern Cultures. (5) Lecture, three hours; discussion, one hour. Survey of modern Middle Eastern cultures through readings and films from Arab countries, Iran, Turkey, and Israel. Letter grading.

Upper Division Course

M101B. Egyptian Art and Archaeology of Middle and New Kingdoms. (4) (Same as Art History M101B.) Lecture, three hours. Requisite: Art History 20. Survey of ancient arts during Middle and New Kingdoms. P/NP or letter grading.
Graduate Courses

200. Bibliography and Method of Near Eastern Languages and Literatures. (4) Lecture, two hours. Required for M.A. degree. Introduction to bibliographical resources and training in methods of research in various areas of specialization offered by department. May be repeated for credit.

201. Study of Religion: Theory and Method. (4) Seminar, three hours. Preparation: familiarity with at least two major world religions. Introduction to variety of theories and methods used in academic study of religion. In attempt to demonstrate importance that historical, cultural, and social exigencies play in development of religious traditions, discussion of theories comparatively and in their historical context, with focus on presuppositions and core concepts and implications of each theory. Letter grading.

210. Survey of Afro-Asian Languages. (4) Lecture, three hours. Survey of structures of a number of representative languages from various major branches of Hamito-Semitic (Afro-Asian) language family.

241. Folklore and Mythology of Near East. (4) Lecture, two hours, S/U or letter grading.

290. Seminar: Paleography. (4) Seminar, three hours. Provides students with ability to cope with varieties of manuscripts.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprentice under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Study. (2 to 8) Tutorial, to be arranged. May be repeated for credit. S/U or letter grading.


Semitics

Upper Division Courses


140A-140B. Elementary Akkadian. (4-4) Lecture, three hours. Elementary grammar and reading of texts in standard Babylonian.

141. Advanced Akkadian. (4) Lecture, three hours. Old Babylonian syntax; reading of basic Old Babylonian texts.

142. Akkadian Literary Texts. (4) Lecture, three hours. Selected readings from Akkadian myths and epics, with introduction to historical tradition of the works and their literary structure.

197. Individual Studies in Semitics. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

198. Directed Research or Senior Project in Semitics. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

199. Directed Research or Senior Project in Semitics. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses

201A-201B-201C. Elementary Turkish. (5-5-5) Lecture, five hours. Course 101A is requisite to 101B, which is requisite to 101C. Grammar, reading, conversational, and elementary composition drills. P/NP or letter grading.


210A-210B-210C. Elementary Uzbek. (4-4-4) Lecture, three hours; laboratory, two hours. Elementary grammar, reading, and composition exercises; elementary conversation.

211A-211B-211C. Elementary Turkish. (4-4-4) Lecture, three hours; laboratory, two hours. Elementary grammar, reading, and composition exercises; elementary conversation.

212A-212B-212C. Advanced Uzbek. (4-4-4) Lecture, three hours; laboratory, two hours. Descriptive Uzbek grammar, reading, and analysis of Uzbek literary and folkloric texts. High-style composition and conversation.

214A-214B-214C. Bashkir. (4-4-4) Lecture, three hours. Requisites: course 102A. Grammar, reading of literary and folkloric texts.

215A-215B-215C. Elementary Azeri. (4-4-4) Knowledge of Russian, Turkish, and Persian helpful. Grammatical competence at elementary level; knowledge of basic facts of Azeri grammar; reading competence with help of dictionary; ability to write simple compositions; basic conversational skill.

216A-216B-216C. Advanced Azeri. (4-4-4) Lecture, three hours; discussion, one hour; laboratory, one hour. Preparation: placement test. Proficiency-based course in descriptive Azeri grammar. Reading and analysis of Azeri literary and folkloric texts in new writing system. High-style composition and conversation. Letter grading.


160. Turkish Tradition. (4) Lecture/discussion. Preparation: entrance examination. Survey of cultural history of the Turks, as seen primarily through their literature, from their early history to the present.

165. Islamic Literary Heritage of Central Asia. (4) Lecture, two hours; discussion, one hour. Systematic survey of Islamic documents produced in Turkish and Persian in Central Asia, with reading of primary sources in English translation. Study of special characteristics of Central Asian Islam.


197. Individual Studies in Turkic. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

198. Directed Research or Senior Project in Turkic. (2 to 4) Tutorial, one hour. Limited to seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

204A-204B-204C. Introduction to Ottoman. (4-4-4) Lecture, three hours. Introduction to the three-hour language of Ottoman Empire from its foundation in the 14th century to its overthrow in the 20th century. For students of history, literature, and religion of the Balkans, Near East, and Central Asia. Topics include Arabic script as applied to Ottoman; Arabic and Persian elements in grammar and vocabulary. Readings of historical and literary texts.


235A-235B. Middle Turkic: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. (4-4-4) Lecture, three hours. Requisite: course 180. Survey of Middle Turkic documents. Textual and linguistic analysis of Middle Turkic texts from various literary genres.

240A-240B-240C. Advanced Ottoman. (4-4-4) Lecture, three hours. Requisites: courses 210A, 210B, 210C. Emphasis on different genres of Ottoman writing (belles lettres as well as various types of state documents) in elaborate high style of classical Ottoman period (15th to 19th century). Selections are read in manuscript to prepare students to read works in form in which they are likely to encounter them in their research.

250A-250B-250C. Islamic Texts in Chaghatay. (4-4-4) Lecture, three hours. Requisites: courses 220A, 220B, 220C. Philosophical and linguistic survey of basic Islamic source material written in Chaghatay literary language. Reading and discussion of Chaghatay texts on Islamic topics.

280A-280B. Seminars: Modern Turkish Literature. (4-4-4) Seminar, two hours. Requisite: course 102B. Specific issues and trends in development of Turkish literature from middle of 19th century to the present.

290A-290B. Seminars: Classical Turkic Literature — Ottoman, Chaghatay, and Azeri. (4-4) Seminar, two hours. Requisites: courses 210A, 210B, and 210C, and/or 220A, 220B, and 220C. Survey of Islamic literatures of the Turks in classical period. Readings of Ottoman, Chaghatay, and Azeri texts from various literary genres. Discussion of stylistic, prosodic, and linguistic characteristics.

596. Directed Individual Study. (2 to 8) Tutorial, to be arranged. May be repeated for credit. S/U or letter grading.


NEUROBIOLOGY
David Geffen School of Medicine
UCLA
73-235 Center for the Health Sciences
Box 951763
Los Angeles, CA 90095-1763
(310) 825-9553, 206-7625
e-mail: neurobio@mednet.ucla.edu
http://www.neurobio.ucla.edu

Scope and Objectives
The Department of Neurobiology offers advanced training leading to the Ph.D. degree. Graduates can anticipate an academic career at the college or university level or as a basic science researcher at a research institute or biotechnology company. In accord with this the department strives to produce graduates soundly qualified both for teaching at the college or university level and for the conduct of original research in neurobiology.

The overall objective of the Ph.D. program is to provide a strong theoretical and practical foundation in the area of cellular and systems neurobiology, with the goal to develop a better understanding of normal and pathological brain function and behavior. The graduate program provides (1) basic and advanced instruction in the fundamentals of neuroscience, (2) advanced independent research training in the areas of cellular, structural, and systems neurobiology, and (3) teaching experience in undergraduate, graduate, and professional (dental and medical) courses in neuroscience. The program is targeted toward highly qualified and self-motivated doctoral students who take advantage of the flexible curriculum characterized by extensive informal and formal interactions with faculty in small groups and on an individual tutorial basis. The curriculum is structured to allow students extensive opportunities for critical examination of contemporary neuroscience literature and research and for the development of oral and written communication skills.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Neurobiology offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Neurobiology.

Medical History
Upper Division Courses
107A-107B. Historical Development of Medical Sciences. (4-4) Lecture, three hours. Major contributions of medicine and medical personalities from earliest times. P/NP or letter grading. 107A. Contributions of physicians and medical personalities from earliest times through 1650. 107B. Subject in the period from 1650 through the 19th century. Illustrated lectures, class discussion, and required readings from selected texts.

M169. History of Neurosciences. (4) (Same as Neurobiology M169.) Lecture, one hour; discussion, two hours. Development of neurosciences, especially neuroanatomy and neurophysiology, from Enlightenment era through latter 20th century. Emphasis on fundamental nerve functions, cell communication, and technological, conceptual, and cultural influences that have shaped understanding of brain and nervous system. P/NP or letter grading.

Graduate Course
596. Directed Individual Studies in Medical History. (2 to 12) Tutorial, to be arranged. Investigation of subjects in medical history selected by students with advice and direction of instructor. Individual reports and conferences. S/U or letter grading.
Neurobiology

Lower Division Course

88. Lower Division Seminar: Special Topics in Neurobiology (4). One to three hours, outside study, nine hours. Requisite: satisfaction of Entry-Level Writing requirement. Variable topics seminar that examines specific issues or problems and ways that professionals in the approach study of them. Students define, prepare, and present their own research projects with guidance of professional school faculty member. Letter grading.

Upper Division Courses


M168. Ideas and Experiments in History of Physiology, (4) (Same as Physiological Science M168). Lecture, three hours. Interaction of concepts and experimental techniques in physiology from the early 19th to latter 20th centuries, including heart and circulation, hormones and vitamins, brain, spinal cord, and peripheral nervous system, as well as development of physiology as scientific discipline. Discussion of weekly readings and presentations by students. Letter grading.

M169. History of Neurosciences. (4) (Same as Medical History M169). Lecture, one hour; discussion, two hours. Development of neurosciences, especially neuropathology, from Enlightenment era through latter 20th century. Emphasis on fundamental nerve functions, cell communication, and technological, conceptual, and cultural influences that have shaped our understanding of brain and nervous system. P/NP or letter grading.

197. Individual Studies in Neurobiology. (2 to 4) Tutorial, to be arranged. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned readings and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

198. Directed Research in Neurobiology. (2 to 8) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Studies in anatomy and related subject areas appropriate for training of particular student. Which includes assignment or laboratory work leading to final oral or written report. Individual contract required. P/NP or letter grading.

Graduate Courses

M200A. Synapses, Cells, and Circuits. (4) (Same as Neuroscience M204). Lecture, three hours; laboratory, two hours. Fundamental topics concerning neuronal, cellular, and structural organization of nervous system. Specific topic areas include neuronal ultrastructure, cellular neurobiology, neuroanatomy, neural circuitry, and imaging. Letter grading.

M200B. Cell, Developmental, and Molecular Neurobiology. (6) (Same as Molecular, Cell, and Developmental Biology CM220 and Neuroscience M201.) Lecture, six hours. Fundamental topics concerning cellular, developmental, and molecular neurobiology, including intracellular signaling, cell-cell communication, neuronogenesis and migration, synapse formation and elimination, programmed neuronal death, and neurotrophic factors. Letter grading.

M200C. Sensory Systems Neurobiology. (4) (Formerly numbered 200C.) (Same as Neuroscience M221.) Lecture, two hours; discussion, two hours. Fundamental topics in sensory systems neurobiology, including sensory transduction, taste and olfaction, audition, vision, and somatosensory system. Letter grading.

200D. Motor Systems Neurobiology. (4) Lecture, four hours. Fundamental topics in motor systems neurobiology, including muscle, motor units, and motor control. Reflexes, locomotion, basal ganglia, cerebellum, and eye movements. Letter grading.

200E. Regulatory, Behavioral, and Cognitive Neurobiology, (6) (Formerly numbered 200E-200F-200G.) Lecture, two hours; laboratory, two hours. Topics include hypothalamus, cardiovascular system, breathing, food intake and metabolism, water intake and body fluids, neuroendocrine regulation of growth and development, sleep and dreaming, psychosocial development, motivation, reward and addiction, cognitive development, object, face, and spatial recognition, learning and memory, language and communication, and thinking and problem solving. Letter grading.

M200F. Cellular Neurophysiology. (4) (Same as Neuroscience M202 and Physiological Science M202.) Lecture, three hours; discussion, two hours. Requisites: Molecular, Cell, and Developmental Biology 171 or Physiological Science 166, and Physiological Science 111A or M180A or Physics 6B. Advanced course in cellular physiology of neurons. Action and membrane potentials; ion channels and channel blockers, gates, ion pumps and neuronal homeostasis, synaptic receptors, drug-receptor interactions, transmitter release, modulation by second messengers, and sensory transduction. Letter grading.

M200G. Biology of Learning and Memory. (4) (Same as Molecular, Cellular, and Integrative Physiology M200G, Neuroscience M220, and Psychology M208.) Lecture, four hours. Molecular, cellular, circuit, systems and neuroendocrine topics and models of learning and memory. Cross-disciplinary focus on learning and memory to provide integrative view of subject that emphasizes emergent mechanisms that take advantage of novel groundbreaking models. Letter grading.


220. Structural Neurobiology. (4) Lecture, two hours; laboratory, two hours. Introduction to molecular structure of chemical, electrical, and ionic synapses as determined by imaging methods such as electron tomography. Comprehensive review of current principles governing synaptic transmission and balanced account of somatic vs dendritic field, such as kiss and run and fast exocytosis. Laboratory sessions teach methods for preparing samples through in-depth analysis of imaging strategies. S/U grading.

M227. Neuroendocrinology of Reproduction. (4) (Same as Physiology M227.) Lecture, three hours; discussion, one hour. Preparation: undergraduate life sciences and chemistry courses. Structural, functional, and developmental aspects of neuroendocrine and reproductive organs, with emphasis on feedback regulatory mechanisms between hypothalamus-pituitary and gonadal functions and on functional integration of neuroendocrine-reproductive axis at cellular and molecular levels. Letter grading.

M229. Oral Embryology and Histology. (4) (Same as Oral Biology M203.) Lecture, four hours. Lectures and laboratory instruction in development and histological structure of facial region and oral and peri-oral organs and tissues. Letter grading.

M234. Seminar: Developmental Neuroendocrine Immunology. (2) (Same as Oral Biology M234.) Seminar, two hours. Designed for graduate students. Psychological processes; programming; and endoneuroendocrine immunological research is characterization of mechanisms that underlie these interactions. Examination of current literature on neurotransmitter interaction from a developmental perspective. S/U or letter grading.

251. Problems in Developmental and Comparative Immunology. (2) Lecture/discussion, two hours. Review of current literature emphasizing early development and evolution of immune competence. S/U or letter grading.


270. Joint Seminar: Neuroscience Lectures. (1) (Formerly numbered 270A-270B-270C.) Seminar, one hour. Formal lectures on current research topics in neuroscience by speakers from national, international, and local neuroscience communities. S/U grading.

M287. Dynamics of Neural Microcircuits. (4) (Same as Neuroscience M287.) Lecture, two hours; discussion, two hours. Development of integrative understanding of neural microcircuits that underlie specific functions of sensory processing, generation, and coordination of motor activity, as well as generation and modulation of neural rhythms. Letter grading.

295. Culture of Neurobiology. (2) Discussion, one hour. Outside readings, classroom discussions, short write-ups, and student presentations on current issues in neurobiology. Topics include networking, mentoring, publishing, grant system, authorship, and career opportunities. S/U grading.

296. Research Seminar and Journal Club. (1) Seminar, one hour. Seminar and journal club with focus on current research topics and activities occurring within department. S/U grading.

298A-298B-298C. Advanced Topics in Neurobiology. (2-2-2) Seminar, one hour; discussion, one hour. Advanced seminar courses in neurobiology to be offered by different departmental faculty members. Topics are grouped thematically. S/U grading. 298A. Molecular, Cellular, and Developmental Neurobiology; 298B. Sensory and Motor Systems Neurobiology; 298C. Regulatory, Behavioral, and Cognitive Neurobiology.

495. Preparation for Teaching in Anatomical Sciences. (2 to 4) (Formerly numbered 495A-495F.) Seminar, to be arranged. Designed for graduate students. Observation and practice of methods of teaching in anatomy, including preparation of material, participation in laboratory instruction, and presentation of review sessions, all with peer and faculty criticism. Gross anatomy, microscopic anatomy, and neuroanatomy subject fields included. May not be applied toward degree requirements. S/U grading.

501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate adviser and graduate dean, and host campus, host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Study or Research. (2 to 12) Tutorial, to be arranged. S/U grading.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 12) Tutorial, to be arranged. S/U grading.


NEUROLOGY
David Geffen School of Medicine
UCLA
C-128 Reed Neurological Research Center
Box 951769
Los Angeles, CA 90095-1769
(310) 206-6584
fax: (310) 267-2477
http://www.neurology.ucla.edu

Chairs
John C. Mazzotta, M.D., Ph.D., Chair
Jeffrey L. Cummings, M.D. (Augustus S. Rose Professor of Neurology), Vice Chair of Programs and Translational Research
Barbara Giesser, M.D., Vice Chair of Clinical Affairs
Barbara G. Vickrey, M.D., M.P.H., Vice Chair of Academic Affairs
Hugh B. McIntyre, Jr., M.D., Ph.D., Acting Vice Chair, Harbor-UCLA
Alan Shewmon, M.D., Vice Chair, Olive View-UCLA
Claude G. Wasterlain, M.D., Vice Chair, VA Southern California

Scope and Objectives
Neurology is the medical science dealing with the normal and diseased nervous system. Neurological disorders are often associated with significant disability, morbidity, and mortality. Their higher incidence in association with greater longevity of the population, increased awareness, improved diagnostic methods, and other factors place neurological disorders among the major medical problems today. The Department of Neurology and the Reed Neurological Research Center provide means for a coordinated basic science and clinical research approach to neurological disorders, patient care, and neurological education.

The department instructs medical students throughout the four years. Emphasis in the first year is on basic aspects of neuroanatomy, chemistry, and physiology; in the second year, neurological history taking and neurological examination of afflicted patients are stressed. The third year consists of a clerkship, and the fourth year provides electives in neurology, including an advanced clinical clerkship.

Graduate students and postdoctoral candidates are trained in both the basic and clinical laboratories.

For further details on the Department of Neurology and a listing of the courses offered, see http://www.neurology.ucla.edu.

NEUROSCIENCE
Interdepartmental Undergraduate Program
College of Letters and Science
UCLA
1506D Gonda Center
Box 951761
Los Angeles, CA 90095-1761
(310) 206-2349
e-mail: efletcher@mednet.ucla.edu
http://www.neurosci.ucla.edu

Scott H. Chandler, Ph.D., Chair
Joseph B. Watson, Ph. D., Vice Chair

Faculty Advisory Committee
Scott H. Chandler, Ph.D. (Physiological Science)
Carlos V. Grijalva, Ph.D. (Physiology)
Patricia E. Phelps, Ph.D. (Physiological Science)
Joseph B. Watson, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)

Scope and Objectives
Neuroscience seeks to understand the brain in health and in disease. Topics of fundamental interest include perception, cognition, learning, memory, motor control, and regulation of body function. The undergraduate interdepartmental program seeks to explore the principles and concepts of this broad range of nervous system function at many levels of analysis, including molecular, cellular, synaptic, network, computational, and behavioral.

Undergraduate Study
Neuroscience B.S.

Preparation for the Major
Life Sciences Core Curriculum

Required: Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C; one course from Statistics 10 or 13.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving grades below C– in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

Transfer Students
Transfer applicants to the Neuroscience major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, one semester of organic chemistry with laboratory, and one statistics course. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
The following 12 courses are required for the Neuroscience major. Consult respective departmental or program listings for course descriptions:

Group 1: Neuroscience M101A, M101B, M101C, 102, Chemistry and Biochemistry 153A, 153L

Group 2: Three electives (one from each area) as follows:


Area 2C: One molecular, cell, and developmental neuroscience course from Molecular, Cell, and Developmental Biology C139, Neuroscience M130, M145, M148, C177, 191C, Physiological Science C126, M145, 146, 147, M148

Group 3: One research-related course from the following: Neuroscience 101L (one term) or 199 (two terms) or 198A and 198B (one term in each course) or Psychology M181A and M181B (with approval of the neuroscience curriculum committee before start of project; one term in each course). All majors who elect to do two terms (one term applies toward Group 3 and one toward Group 4) of Neuroscience 198A and 198B or 199 or Psychology M181A and M181B must do one term of Neuroscience 99 in the same laboratory. In addition, they must submit a poster to the neuroscience undergraduate poster session or the curriculum committee prior to graduation.

Group 4: Two additional elective courses from the Group 2 or 3 list or from Neurobiology/Medical History M169 or Physiological Science 135. Students who select two terms of Neuroscience 198A and 198B or 199 or Psychology M181A and M181B must select only one additional elective to satisfy Group 4.

Psychology 115 cannot be substituted for Neuroscience M101A; however, Physiological Science 111A can be substituted.

No more than eight courses may be from any one department. A maximum of 8 units of Neuroscience 198 or 199 (in any combination) may

Neurology
Upper Division Course
199. Directed Research in Neurology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Neurology
Upper Division Course
199. Directed Research in Neurology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Neurology
Upper Division Course
199. Directed Research in Neurology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Neurology
Upper Division Course
199. Directed Research in Neurology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.
be applied toward the major. All required and elective courses must be taken for a letter grade, and a C average must be maintained in all upper division courses taken for the major.

Honors Program

The honors program provides exceptional Neuroscience majors with the opportunity to do research culminating in an honors thesis. Majors who have completed all preparation courses with a grade-point average of 3.0 or better and an overall GPA of 3.2 or better may apply for admission to the honors program. Applications and program requirements are available in the Neuroscience Undergraduate Office and at http://www.neurosci.ucla.edu. Students must submit the application before beginning their upper division honors requirements. After completion of all requirements and with the recommendation of the faculty sponsor and a second reader of the thesis, the chair confers honors at graduation.

Neuroscience Minor

The Neuroscience minor is designed to allow students in other majors an opportunity to explore the interdisciplinary field of neuroscience in a structured and rigorous way, while pursuing a major field of study in another discipline at the same time.

To enter the minor, students must have an overall grade-point average of 2.0 or better and a 2.5 GPA in the requisite courses for Neuroscience M101A and M101B.

Nonscience majors wishing to minor in Neuroscience should be aware that preparation courses in chemistry, life sciences, and physics are requisites to the upper division course requirements.

Required Upper Division Courses (approximately 31 units): Neuroscience M101A, M101B, M101C (5 units each) and four elective courses selected from 102 and from Groups 2, 3, and 4 as listed under the Neuroscience major.

No more than two courses may be applied toward both this minor and a major or minor in another department or program. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Neuroscience

See the Neuroscience Interdepartmental Graduate Program for the graduate course offerings.

Lower Division Course

10. Brain Made Simple: Neuroscience for the 21st Century. (4) Lecture, four hours. Preparation: high school background in either biology or chemistry. Not open for credit to students with credit for course M101A. General overview and introduction to most exciting and fundamental topics encompassing field of neuroscience. P/NP or letter grading.

Upper Division Courses

M101A-M101B-M101C. Neuroscience: From Molecules to Mind. (5-5-5) (Same as Molecular, Cell, and Developmental Biology M175A-M175B-M175C, Physiological Science M180A-M180B-M180C, and Psychology M117A-M117B-M117C.) Lecture, four hours; discussion, 90 minutes. Requisites: Chemistry 14C or 30A (14C may be taken concurrently). Life Sciences 2, Physics 1B or 1BH or 6B or 6BH. Not open for credit to students with credit for Physiological Science 111A. For Physiological Science majors only, a grade of C− or better is required to proceed to Physiological Science 111B. Cellular neurophysiology, molecular and cellular mechanisms, potential action, synaptic transmission, sensory systems and motor systems; how assemblies of neurons process complex information and control movement. P/NP or letter grading.

M101B. Molecular and Developmental Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: course M101A (or Molecular, Cell, and Developmental Biology M175A or Psychological Science M180A or Psychology M117A) or Physiological Science 111A or Psychology 115, Life Sciences 3, 4. Molecular biology of channels and receptors; focus on voltage-dependent channels and neurotransmitter receptors. Molecular biology of supramolecular mechanisms: synaptic transmission, axonal transport, cytoskeleton, and muscle. Classical experiments and modern molecular approaches in developmental neurobiology. P/NP or letter grading.

M101C. Behavioral and Cognitive Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisite: course M101A (or Molecular, Cell, and Developmental Biology M175A or Psychological Science M180A or Psychology M117A) or Physiological Science 111A or Psychology 115. Neural mechanisms underlying motivation, learning, and cognition. P/NP or letter grading.

101L. Neuroscience Laboratory. (4) Lecture, two hours; laboratory, three hours. Requisites: courses M101A, M101B (M101B may be taken concurrently). Not open for credit to students with credit for Psychology 116. Introduction to laboratory methods in neuroscience. Laboratory exercises range from molecular and cellular biological to behavioral. Hands-on experience with important techniques and experimental approaches in neuroscience.


M119L. Human Neuropsychology. (4) (Same as Psychology M119L.) Lecture, three hours. Recommended requisites: courses M101A and M101C (or Psychology 115), Psychology 120A or 120B. Designed for juniors/seniors. Survey of experimental and clinical human neuropsychology; neuropsychological basis of higher cognitive functioning. P/NP or letter grading.

M119N. The Visual System. (4) (Same as Psychology M119N.) Lecture, three hours. Requisite: course M101A or Molecular, Cell, and Developmental Biology 171 or Physiological Science 111A or Psychology 115. The ability to image and analyze the visual world is a truly remarkable feat. Coverage of anatomy and physiology of visual processing from the retina to visual cortex through lectures, extensive reading, and discussions.

M130. Biological Bases of Psychiatric Disorders. (4) (Same as Molecular, Cell, and Developmental Biology M181, Psychological Science M181, Psychiatry M181, and Psychology M117L.) Lecture, three hours. Requisite: course M101A (or Molecular, Cell, and Developmental Biology M175A or Psychological Science M180A or Psychology M117A) or Physiological Science 111A or Psychology 115. Underlying brain systems involved in psychiatric symptoms and neurological disorders, including schizophrenia, depression, bipolar disorder, obsessive-compulsive disorder. Provides basic understanding of brain dysfunctions that contribute to disorders and rationales for pharmacological treatments. P/NP or letter grading.

M145. Neural Mechanisms Controlling Movement. (5) (Same as Mathematical, Computational, and Neural Sciences 145.) Lecture, four hours. Requisite: course M101A or Psychological Science 111A or M180A. Examination of central nervous system organization required for production of complex movements such as locomotion, mastication, and swallowing. Letter grading.

M148. Neuronal Signaling in Brain. (4) (Same as Psychological Science M148.) Lecture, three hours; discussion one hour. Requisites: courses M101A (or Psychological Science 111A or M180A), M101B (or Psychological Science M180B or Chemistry 153A). Consideration of brain function, with focus on cellular physiology and functional neuroanatomy. Topics include: neural excitability, synaptic transmission and function of specific neuronal circuits in auditory pathway, basal ganglia, cerebellum, hippocampus, and neocortex. Letter grading.

C172. Neuroimaging and Brain Mapping. (4) Lecture, three hours. Requisite: course M101A (or Molecular, Cell, and Developmental Biology M175A or Psychological Science M180A or Psychology M117A) or Molecular, Cell, and Developmental Biology M171 or Psychological Science 111A or Psychology 115. Strongly recommended: course 102. Theory, methods, applications, assumptions, and limitations of neuroimaging: brain structure, brain function, and their relation to psychiatric disorders such as schizophrenia, drug abuse, and cognitive disorders. Letter grading.

M177. Drugs of Abuse from Neurobiology to Policy and Education. (4) (Formerly numbered C195.) Lecture, four hours. Course ranges from synapse to society. Provides intensive didactic on current neuroscientific basis for understanding substance abuse and blends that material with relevant topics such as epidemiology, co-occurring disorders, treatment options, prevention, and public policies, with emphasis on communication of course materials to general public. Concurrently scheduled with course CM277. Letter grading.

191A-191B-191C. Variable Topics Research Seminars: Neuroscience. (4-4-4) (Formerly numbered 197A-197B-197C.) Seminar, three hours. Topics on one or more aspects of neuroscience. Reading, discussion, and development of culminating project. May be applied as elective only in specific area of group 2. Each course may be repeated once for credit. P/NP or letter grading. 191A. Behavioral and Cognitive Neuroscience. Requisite: course M101A or Psychological Science 111A. 191B. Systems and Integrative Neuroscience. Requisite: course M101A or Psychological Science 111A. 191C. Molecular, Cell, and Developmental Neuroscience. Enforced requisite: course M101B.

191H. Honors Seminars: Neuroscience. (4) (Formerly numbered 196H.) Seminar, four hours. Preparation: one statistics course (Statistics 10 or equivalent). Limited to neuroscience honors program students. Instruction in principles of scientific method, ethics, and written and oral communication; critique of current journal articles and research projects. Presentation of individual research. May not be applied toward elective requirements for major. Must be taken during Winter Quarter of academic year in which students enroll in courses 198A and 198B. Letter grading.
The Neuroscience Program offers the Doctor of Philosophy (Ph.D.) degree in Neuroscience. The interdepartmental Neuroscience Ph.D. Program prepares students for careers in neuroscience research and education. The hallmark of the program is an integrated approach to study of the nervous system, using the multi-level analytical tools of molecular, cellular, systems, and/or behavioral biology, as well as quantitative approaches from the fields of mathematics, physics, and engineering. Students working at one or two analytical levels nevertheless learn to appreciate the methods and advantages of other levels of analysis. Emphasis is both on mechanisms of neural function and the biological basis of disease. Students select their research mentor from the list of all neuroscience faculty at UCLA.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gsaa/library/pgmrcintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Neuroscience Program offers the Doctor of Philosophy (Ph.D.) degree in Neuroscience.

Graduate Courses

M201. Cell, Developmental, and Molecular Neurobiology. (6) (Same as Molecular, Cell, and Developmental Biology CM220 and Neurobiology M200B.) Lecture, six hours: Fundamentals of topics concerning cellular, developmental, and molecular neurobiology, including intracellular signaling, cell-cell communication, neurogenesis and migration, synapse formation and elimination, programmed neuronal death, and neurotropic factors. Letter grading.

M202. Cellular Neurophysiology. (4) (Same as Neurobiology M200F and Physiological Science M202.) Lecture, three hours; discussion, two hours. Requisites: Molecular, Cell, and Developmental Biology 171 or Psychological Science 166, and Physiological Science 111A or M180A or Physics 6B. Advanced course in cellular physiology of neurons. Action and membrane potentials, channels and receptor blockers, gates, ion pumps and neuronal homeostasis, synaptic receptors, drug-receptor interactions, transmitter release, modulation of neurotransmitters, and sensory transduction. Letter grading.

M203. Neuroanatomy: Structure and Function of Nervous System. (4) (Formerly numbered M203A-M203B.) (Same as Biomedical Engineering M263.) Lecture, three hours; discussion/laboratory, three hours. Anatomy of central and peripheral nervous system at cellular histological and regional systems level, with emphasis on contemporary experimental approaches to morphological study of nervous system in discussions of circuitry and neurochemical anatomy of major brain regions. Consideration of representative vertebrate and invertebrate nervous systems. Letter grading.

M204. Synapses, Cells, and Circuits. (4) (Formerly numbered M244.) (Same as Neurobiology M200A.) Lecture, three hours; laboratory, two hours. Fundamental topics concerning subcellular, cellular, and structural organization of nervous system. Specific top topics include neuronal ultrastructure, cellular neurobiology, neuroanatomy, neural circuitry, and imaging. Letter grading.

205. Systems Neuroscience. (4) Lecture-discussion, four hours. Introduction to fundamentals of systems neuroscience, with emphasis on integration of molecular mechanisms, cellular processes, anatomical circuits, and behavioral analysis to understand function of neural systems. Letter grading.

M206. Neuroengineering. (4) (Same as Biomedical Engineering M260.) Lecture, four hours; laboratory, three hours. Requisites: Mathematics 32A, Molecular, Cell, and Developmental Biology 100, 171. Introduction to principles and technologies of neural recording and stimulation. Neurophysiology; clinical electro-physiology (EEG, evoked potentials, inverse problem, preparative brain recording), extracellular microelectrodes and recording (field potentials and single units), chronic recording with extracellular electrodes; electrode biocompatibility, tissue damage, electrode and cable survival; intracellular recording and glass pipettes electrodes, iontophoresis; imaging neural activity (Ca imaging, voltage-sensitive dyes), intrinsic optical imaging; MRI, fMRI. Letter grading.

207. Integrity of Scientific Investigation: Education, Research, and Career Implications. (2) Discussion, two hours. Designed for graduate students. Debate on topics related to ethical conduct of scientific investigation, with emphasis on critical thinking. Topics include scientific misconduct, mentoring, data ownership, authorship, peer review, use of animals and humans in biomedical research, conflicts of interest, technology, and scientific integrity. S/U grading.


Scope and Objectives

The interdepartmental Neuroscience Ph.D. Program offers the Doctor of Philosophy (Ph.D.) degree in Neuroscience. The program prepares students for careers in neuroscience research and education. The hallmark of the program is an integrated approach to study of the nervous system, using the multi-level analytical tools of molecular, cellular, systems, and/or behavioral biology, as well as quantitative approaches from the fields of mathematics, physics, and engineering. Students working at one or two analytical levels nevertheless learn to appreciate the methods and advantages of other levels of analysis. Emphasis is both on mechanisms of neural function and the biological basis of disease. Students select their research mentor from the list of all neuroscience faculty at UCLA.

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M220. Biology of Learning and Memory. (4) (Same as Molecular, Cellular, and Integrative Physiology M2000C, Neurobiology M2008.) Lecture, four hours. Molecular, cellular, circuit systems, neuroanatomy, theory, and models of learning and memory. Cross-disciplinary focus on learning and memory to provide integrative view of subject that emphasizes neural processes and neuroanatomical mechanisms. Letter grading.

M221. Sensory Systems Neurobiology. (4) (Same as Neurobiology M200C.) Lecture, two hours; discussion, two hours. Fundamental topics in sensory systems neurobiology, including sensory transduction, taste and olfaction, audition, vision, and somatosensory system. Letter grading.

M230. Molecular and Cellular Mechanisms of Neural Integration. (5) (Same as Physiological Science M210 and Physiology M210.) Lecture, four hours; discussion, one hour. Requisite: course M202. Introduction to mechanisms of synaptic processing. Selected problems of current interest, including regulation and modulation of transmitter release, molecular biology and physiology of receptors, cellular basis of integration in sensory perception and learning, neural nets and oscillations, and findings that take advantage of novel groundbreaking models. Letter grading.

M233. Mechanisms and Relief of Pain. (2) (Same as Oral Biology M204.) Advanced treatment of neuroanatomical, neurophysiological, and biochemical bases of pain. Topics include classical pain theories, pain receptors and pathways, endogenous mechanisms of pain modulation, and pharmacological basis for treatment of pain disorders.

240. Phenotype-Measurement of Control Traits. (4) Lecture, three hours. Preparation: background in human genetics helpful. Integrative approach to understanding gene to behavior pathways by examination of levels of phenotype expression across systems (cell, brain, organism), across species (invertebrate, fly, mouse, human), and throughout development across varying environmental milieux. Using examples from human disorders such as schizophrenia and Alzheimer’s disease, linking of these diverse approaches in genetic research to map out integrative system of understanding basis of complex human behavior. Emphasis on basic understanding of methods used at each level of phenotype analysis, along with major resources that can be accessed to gain insight into gene-behavioral links. S/U or letter grading.

255. Functional Organization of Behavior. (2) Lecture, two hours. Examination of neural properties supporting changes in learned behavior. Different types of learning. Role of neurotransmitters and second messengers in changing ion channels of neurons to support associative learning versus long-term potentiation of neurotransmission. S/U or letter grading.


M253. Neuronal Mechanisms Controlling Rhythmic Movements. (4) (Same as Physiological Science M253.) Requisite: Physiological Science M145. Advanced topics on brainstem mechanisms responsible for controlling cyclic and stereotyped movements such as mastication and locomotion. Emphasis on cellular neurophysiology and interaction between neuronal networks. Introduction to primary literature and techniques used in these areas. Students expected to critically evaluate data and conclusions drawn.

M266A-M266B-M266C. Seminars: Cellular Neuroscience. (2 to 4 each) (Same as Physiological Science M259A-M259B-M259C.) Seminar, two to four hours. Requisite: course M202. Selected topics in sensory transduction, cellular integration, synaptic processing, central nervous system function, and learning. Students required to present two-hour seminar. S/U or letter grading.

M267. Advanced Magnetic Resonance Imaging. (4) (Same as Biomedical Physics M266 and Psychiatry M266.) Lecture, four hours. Starting with basic principles and presentation of physical basis of magnetic resonance imaging (MRI), with emphasis on develop- ing advanced applications in biomedical imaging, including both structural and functional studies. Instruc- tion more intuitive than mathematical. Letter grading.


M273. Neural Basis of Memory. (4) (Same as Psychiatry M270.) Lecture, two hours; discussion, one hour. Anatomical, physiological, and neurochemical systems integrated into models for how behavioral phe- nomena of memory arise. Discussion of invertebrate memory, cortical conditioning, hippocampus and de- clarative memory, and frontal lobes and primary memory.


275. Advanced Techniques in Neurobiology. (2) Lecture, one hour; laboratory, one hour. Preparation: basic biology and chemistry. Designed to provide in- troduction and, when possible, practical demonstra- tion of a number of techniques used in neurochemical research, with emphasis on techniques used for iden- tification, measurement, and visualization of com- pounds thought to be important as mediators of inter- cellular communication in central nervous system. S/U or letter grading.

CM277. Drugs of Abuse from Neurobiology to Pol- icy and Education. (4) (Formerly numbered C277.) (Same as Community Health Sciences M229.) Lecture, four hours. Course ranges from synapse to soci- ety. Provides intensive didactic on current neurosci- entific basis for understanding substance abuse and related mental health problems such as epi- demiology, co-occurring disorders, treatment options, prevention, and public policies, with emphasis on communication of course materials to general public. Concurrently scheduled with course C177. Letter grading.

M287. Dynamics of Neural Microcircuits. (4) (Same as Neurobiology M287.) Lecture, two hours; discussion, two hours. Development of integrative under- standing of neural microcircuits that underlie specific functions of sensory processing, generation, and coordination of motor activity, as well as generation and modulation of neural rhythms. Letter grading.

M293. Culture, Brain, and Development Forum. (4) (Same as Anthropology M293, Applied Linguistics M293.) Tutorial, to be arranged. Designed for stu- dents responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

599. Dissertation Research for Ph.D. Candidates. (2 to 12) Tutorial, to be arranged. Designed for stu- dents requiring special instruction or time to work on dissertation. S/U grading.

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NURSING School of Nursing

UCLA 2-200 Factor Building
Box 951702
Los Angeles, CA 90095-1702

(310) 825-7181
fax: (310) 267-0330
e-mail: sonsaff@sonnet.ucla.edu
http://www.nursing.ucla.edu

Marie J. Cowan, R.N., Ph.D., F.A.A.N., Dean
Adeline M. Nyamathi, A.N.P., Ph.D., F.A.A.N., Associate Dean for Academic Affairs
Suzette Cardin, R.N., D.N.Sc., F.A.A.N., Associate Dean for Student Affairs

Professors

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Joyce A. Newman Giger, R.N., Ed.D., F.A.A.N. (Lulu Wolf Hassenplug Professor of Nursing)
Felicia S. Hodge, Dr.P.H.
Mary A. Lewis, R.N., Dr.P.H., A.N.P.-C., F.A.A.N.
Adeline M. Nyamathi, A.N.P., Ph.D., F.A.A.N. (Audrienne H. Moseley Professor of Community Health Research)
Linda Phillips, R.N., Ph.D., F.G.S.A., F.A.A.N.
Linda P. Sarna, R.N., D.N.Sc., F.A.A.N.
Gwen M. van Servellen, R.N., Ph.D., F.A.A.N.
Mary A. Woo, R.N., D.N.Sc., F.A.A.N.

Professors Emeriti

Nancy L.R. Anderson, R.N., Ph.D., N.P.-C., A.O.C.N., F.A.A.N.
Lina K. Badr, R.N., D.N.Sc., P.N.-C., F.A.A.N.
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Bettty L. Chang, R.N., D.N.Sc., F.N.P.-C., F.A.A.N.
Barbara A. Davis, R.N., Ed.D.
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Charles E. Lewis, M.D., Sc.D.
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Maria W. Seraydarian, Ph.D.
Donna G. Ver Steeg, Ph.D., R.N., Ph.D., F.A.A.N.
Donna L. Vredevoe, Ph.D.
Frances M. Wiley, R.N., M.N.
Anne K. Wuerker, R.N., Ed.D.

Associate Professors

Jill P. Berg, R.N., Ph.D.
Margaret A. Compton, R.N., Ph.D., F.A.A.N.
Lynn V. Doering, R.N., D.N.Sc., F.A.A.N.
Karen H. Gylis, R.N., Ph.D.
MarySue V. Heilemann, R.N., Ph.D.
Donna K. McNeese-Smith, R.N., Ed.D., C.N.A.
Janet C. Mentes, R.N., Ph.D., G.N.P.
Wendie A. Robbins, R.N., Ph.D., N.P., F.A.A.N.
Dorothy J. Wiley, R.N., Ph.D.
Assistant Professors
Barbara Bates-Jensen, R.N., Ph.D.
Elizabeth L. Dixon, R.N., Ph.D.
Jo-Ann O. Eastwood, R.N., Ph.D.

Lorraine S. Evangelista, R.N., Ph.D.
Leah Fitzgerald, R.N., Ph.D., C.F.N.P.
Marie N. Fongwa, R.N., Ph.D.
Angela L. Hudson, R.N., Ph.D., F.N.P.

Linda Searle Leach, R.N., Ph.D., C.N.A.A.
Sally L. Malinski, R.N., Ph.D.
Aurelia M. O’Connell, R.N., Ph.D., A.C.N.P., B.C., C.C.R.N.

Carol L. Pavlish, R.N., Ph.D.
Valda V. Upenieks, R.N., Ph.D.
D. Lynn Woods, R.N., Ph.D., G.N.P., F.A.A.N.

Kynna N. Wright, R.N., Ph.D., M.S.N., M.P.H., F.C.N.P.

Lecturers
Jody Adams-Renteria, R.N., M.N., F.N.P.
Theresa L. Broms, R.N., M.S.N., F.N.P.
Nilofer Makherji Cainglit, R.N., M.S.N., N.P.

Mary M. Canobbio, R.N., M.N., F.A.A.N.
Lori A. Cutter, R.N., M.N., C.F.N.P.
Maggie Dewan-Smith, R.N., M.S.N., N.P.

Mirasol Fajardo, R.N., Ph.N., C.P.N.P.
Jan M. Fredrickson, R.N., M.N., C.P.N.P.
Mary E. Kingston, R.N., M.N., C.P.H.O.
Young Kee Markham, R.N., M.N., G.N.P.-C.
Marguerite McCormick, R.N., M.S.N., A.C.N.P.
Nancy E. McGrath, R.N., M.N., C.P.N.P.

Josephine D. Ortiz, R.N., M.S.N., F.N.P.
Deborah A. Rice, R.N., M.N., F.N.P.-G.
Joan Schleper, R.N., M.S.N., G.N.P.

Adjunct Associate Professors
Mary P. Cadogan, R.N., Dr.P.H., G.N.P.

Joan E. Hahn, R.N., D.N.Sc., C.D.D.N., C.S.
Colleen K. Keenan, R.N.C., Ph.D., W.H.C.N.P.

Scope and Objectives
A strong scientific basis underlies the teaching of nursing practice, leadership, and research. Related clinical experiences are arranged within the UCLA Medical Center, its affiliates, other major medical centers, or in selected community sites.

At the generic bachelor’s level, nurses are prepared as generalists with special skills in primary, secondary, and tertiary prevention and care within a population-based context, leadership, and evidence-based practice. A program designed for associate degree or diploma nurses provides an opportunity to learn about community-based nursing care while providing a foundation for entering the advanced practice nurse master’s degree program. At the master’s level, nurses are prepared as generalists in hospital-based care or for advanced nursing practice as nurse practitioners, clinical specialists, or administrators in a variety of settings and specialized areas of healthcare. The Ph.D. program prepares scholars who do original research, generate new theories, and build the scientific basis for professional nursing practice. Research is both basic and applied.

Undergraduate Study
Nursing B.S.
Two undergraduate programs are offered: Nursing B.S. (Generic/Precandidate) for non-nurses and Nursing B.S. (R.N. to B.S./Postlicensure) for registered nurses.

Generic/Precandidate
The focus of the generic/precandidate program is on the preparation of nurse generalists with special skills in primary, secondary, and tertiary prevention and care within an individual- and population-based context while developing the basics for a strong leadership role. Students learn the art and science of nursing using the latest research findings to guide their practice.

Admission
The School of Nursing strives to attract a culturally and ethnically diverse student population. Admission is designed for freshmen students and transfer students at the junior level beginning Fall Quarter 2008. Freshman applicants are expected to fulfill the University of California admission requirements. Transfer applicants are expected to fulfill the Internship General Education Transfer Curriculum (IGETC). Students must have grades of C or better in requisite courses and an overall grade-point average of 3.5 or better.

Two recommendation forms and a written statement of purpose are also required. Different life experiences, including previous employment, volunteer work, and community service that reflect leadership, responsibility, multicultural involvement, multilingual abilities, and other unusual skills and knowledge are evaluated for all applicants. Consideration is also given to students who are socially, economically, and educationally disadvantaged. Completed applications should reflect clearly identified career goals and documentation of potential for nursing practice.

Preparation for the Major

Transfer Students
Transfer applicants to the Nursing major with 90 or more units must complete the following introductory courses prior to admission to UCLA: communications, genetics, human anatomy, human physiology, inorganic and organic chemistry, cells, tissues, and organs, molecular biology, and psychology.

The Major
Required: Biostatistics 100A, Microbiology, Immunology, and Molecular Genetics 101, Molecular and Medical Pharmacology M110A, Nursing 115, 150, 152, 153, 155, 156, 157, 160, 161, 162, 163, 165, 166, 167, 168, 171C, 171D, 174. Transfer students must also complete Nursing 10, 20, 50, 54A, and 54B. Students are encouraged to pursue a minor in a related field.

The curriculum at UCLA must be completed with a minimum overall grade-point average of 2.0 (C) or better in all courses taken while a student in the School of Nursing.

All required nursing courses in the school must be completed with a grade of C or better in each course (C– grades are not acceptable).

R.N. to B.S./Postlicensure
The focus of the R.N. to B.S./postlicensure program is on community-based nursing care and cultural and human diversity. The curriculum is designed to assist registered nurses in gaining new knowledge needed for professional nursing in a changing society and to build on their earlier associate degree or diploma education. The program also provides a bridge for students who may wish to prepare for advanced practice study at the graduate level.

Emphasis is placed, throughout the curriculum, on concepts related to (1) contributing to the ability of academic health centers through responsiveness to community needs, (2) improving the care of the underserved in community clinics in inner-city urban and rural settings, and (3) redesigning the role of public (community) healthcare through community outreach, home-based health services, and population-based health promotion.

Admission
The School of Nursing strives to attract a culturally and ethnically diverse student population. Admission, beginning in the junior year, requires licensure as a registered nurse and a minimum of one year of full-time experience as an R.N. within the past five years, completion of requisite courses, scholarship, and attainment of a passing score on four Excelsior College Examinations. Students must have grades of C or better in requisite courses and an overall grade-point average of 3.0 or better prior to admission.

Three recommendation forms and a written statement of purpose are also required. Different life experiences, including previous employment, volunteer work, and community service that reflect leadership, responsibility, multicultural involvement, multilingual abilities, and other unusual skills and knowledge are evaluated for all applicants. Consideration is also given to students who are socially, economically, and educationally disadvantaged. Completed applications should reflect clearly identified career goals and documentation of potential in advanced practice nursing.

Transcripts of all high school and college work must be submitted to the UCLA Office of Undergraduate Admissions and Relations with Schools and the School of Nursing. Applicants already enrolled at UCLA need to submit transcripts to the School of Nursing.

Preparation for the Major
Required: Completion of all University and school requirements with grades of C or better (C– grades are not acceptable) prior to admission as follows: human anatomy (one course), sociocultural anthropology (one course), humanities (one or more courses), introductory or
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general microbiology with laboratory (one course), introductory physics (one course or one year of high school physics with laboratory with a grade of B or better), human physiology (one course), introductory psychology (one course), introductory sociology (one course).

The Major

Required: Completion of 76 to 85 units of lower and upper division coursework, including Bio- statistics 100A, Chemistry and Biochemistry 14A, 14B, 14C, Epidemiology 100, Life Sciences 2, 3, Nursing 102, 170, 171A through 171D, 172, 173, 174, 200, 220, and one or more courses from 213A, 214F, 216F, 219A, 232F, and three 4-unit electives related to nursing to be selected with consent of the adviser, depending on student interest and area of concentration.

The curriculum at UCLA must be completed with a minimum overall grade-point average of 2.0 (C) or better in all courses taken while a student in the School of Nursing.

All required nursing courses in the school must be completed with a grade of C or better in each course (C—grades are not acceptable).

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The School of Nursing offers the Master of Science in Nursing (M.S.N.) degree and the Doctor of Philosophy (Ph.D.) degree in Nursing. A concurrent degree program (Nursing M.S.N./Management M.B.A.) is also offered.

Nursing

Lower Division Courses

10. Introduction to Nursing and Social Justice I. (2) Lecture, two hours. Within context of history of nursing, introduction to practice of nurses, including role of advocacy. Discussion of effective use of self as professional nurse in relation to ethics, cultural competence, and human diversity. Introduction to ethical principles (justice, autonomy, veracity, beneficence, confidentiality) and professional values (truthfulness, autonomy, human dignity, integrity, and social justice) in relation to nursing practice throughout history in health/illness and end-of-life contexts. Letter grading.

20. Introduction to Nursing and Social Justice II. (2) Lecture, two hours. Advanced discussion on history of nursing, with focus on role of contemporary nursing in relation to ethics and social justice. Analysis of ethical principles (justice, autonomy, veracity, beneficence, confidentiality) and professional values (truthfulness, autonomy, human dignity, integrity, and social justice) in relation to nursing practice throughout history in health/illness and end-of-life contexts. Evaluation of social, cultural, legal, and political forces in relation to paternalism for professional nurses working with diverse patient populations in the 21st century. Letter grading.

50. Fundamentals of Epidemiology. (4) Lecture, three hours; laboratory, three hours. Epidemiology focuses on disease occurrence and distribution and determinants of health-related states or events in specified populations. Fundamentally, epidemiology seeks to control health problems in communities and institutions. Letter grading.

54A. Pathophysiology I. (2) Lecture, two hours. Preparation: human physiology course taken within past five years. Designed to provide students with basic understanding of pathophysiological changes that occur within internal environment of individuals. Understanding these alterations is basic to providing quality nursing care. Discussion of system variations across lifespan. Letter grading.

54B. Pathophysiology II. (2) Lecture, two hours. Requisite: course 54A. Designed to provide students with understanding of pathophysiological changes that occur within internal environment of individuals. Presence of dysfunction or disease of selected systems provided as rationale for nursing diagnosis and therapeutic interventions. Letter grading.

Upper Division Courses

102. Professional Nursing in Culturally Diverse Communities. (5) Lecture, four hours; community experience, three hours. Introduces roles of professional nurses and nonprofessionals in transition to professional nursing in context of complex and dynamic healthcare systems. Analyses include individual and population-based approaches to healthcare in dynamic multicultural communities. Letter grading.

105. Human Physiology. (4) Lecture, three hours; discussion, one hour. Designed for nursing students. Lecture and discussion, with emphasis on a correlational approach to anatomy and physiology of human body. Letter grading.


150. Fundamentals of Professional Nursing. (3) Lecture, two hours; laboratory, three hours. Introduction to practice of professional nursing as theory-based goal-directed method for assisting patients to meet basic human needs at various levels of health continua. Concepts of client relationship, interdisciplinarity, communication and collaboration, interpersonal relationships, and nursing process as clinical decision-making strategy essential to practice of professional nursing. Essentials of nutrition. Characteristics and roles of professional nursing. Development of caregiving, teacher, and collaborator roles in learning experiences in nursing skills laboratory and clinical settings. Letter grading.

152. Human Development/Health Prom in Culturally Diverse Populations. (4) Lecture, four hours. Introduction to primary prevention strategies as they pertain to health and wellness across lifespan, using population-based approach to nursing care of diverse populations. Vaccine-preventable illnesses; priorities in reproductive health, including issues related to contraception and parenting; well-child care; school-age health, and chronic illness prevention strategies for young- and middle-aged adults; elderly who live independently in communities or within institutions. Analysis of influence of overarching political, societal, and governmental systems within the U.S. Letter grading.

153. Healthcare Policy and Professional Nursing. (4) Lecture, four hours. Focus on the role of professional nurses in healthcare delivery and their impact on delivery of nursing care, with emphasis on role of professional nursing within legal, ethical, political, economic, and organizational domains of healthcare system. Letter grading.


C156. Informatics. (2) Lecture, one hour; discussion, three hours. State-of-art view of information systems of import to nursing and healthcare delivery systems, including contemporary topics such as database searching, management, and simple analysis of data. Introduction to knowledge and skills pertaining to development and use of electronic health records in contemporary healthcare systems. Analysis of influences on computer-based approaches to healthcare in dynamic multicultural communities. Letter grading.

157. Research Utilization. (2) Lecture, two hours. Preparation of entry-level nurse clinicians for evaluation of research from variety of disciplines that have relevance for nursing practice. Topics include critiquing research reports and focused planning for research utilization, with emphasis on quality of study designs; reproducibility, validity, and generalizability of findings; and practicality of implementing particular findings. Introduction to systematic approach to gathering and evaluating bodies of literature and examining feasibility of research findings for application of evidence-based findings to clinical practice. Examination of standard research concepts in depth; control of variables, data analysis, interpretation of results, and research application in clinical settings. Interrelationships of theoretical frameworks, design, sample, instruments, and data analysis. Letter grading.

M158. Culture, Illness, and Healing. (4) (Same as Anthropology M168.) Lecture, four hours. Medical anthropology is organized around holistic exploration of ways in which health, illness, and medical practices are socially and culturally mediated. Topics include comparing illness experiences, understandings about health and illness, patterns of care seeking, therapeutic practices, and medical systems in context of different social and cultural settings, including our own. P/NP or letter grading.
160. Secondary Prevention. (4) Lecture, four hours. Requisite: course 152. Corequisite: course 165. Screening and early detection of illness to prevent chronic or acutely deteriorating illness. Emphasizing concepts of health and human development and using nursing practice, application of nursing role in providing care to individuals and their families to screen, diagnose, treat, and maximize the earliest possible time to prevent disability or premature mortality. Examination of health problems of individuals within context of family, social and community systems, and interdisciplinary healthcare systems. Emphasis on differences in developmental stages in response to stresses and relief from symptoms of illness in ambulatory and acute care settings, community agencies, rehabilitation units, outpatient. Coconducted clinics and surgical units, and home and community settings. Concurrently scheduled with course C260. Letter grading.


162. Tertiary Prevention and Care I. (7) Lecture, seven hours. Requisites: courses C160, 161. Corequisite: course C162. Course experience in two-course sequence. Examination of pathophysiological and psychosocial aspects of assessment and management for selected acute and emergent problems of patients/citizens across lifespan, with emphasis on social, cultural, and developmental influences. Building on prior knowledge and experience, integration of basic knowledge of pathophysiology, diagnostics, pharmacology, therapeutic interventions, and communication concepts as applied to care of medical and surgical clients across lifespan (pediatrics to geriatrics). Discussion of application of nursing process, evidence-based problem solving, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery required. Individual contract required. P/NP or letter grading.


165. Tertiary Prevention and Care II. (7) Lecture, seven hours. Requisites: courses C162, 163. Corequisite: course C166. Second course in two-course sequence. Examination of pathophysiological and psychosocial aspects of assessment and management for selected acute and emergent problems of patients/citizens across lifespan, with emphasis on social, cultural, and developmental influences. Building on prior knowledge and experience, integration of basic knowledge of pathophysiology, diagnostics, pharmacology, therapeutic interventions, and communication concepts as applied to care of medical and surgical clients across lifespan (pediatrics to geriatrics). Discussion of application of nursing process, evidence-based problem solving, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery required. Individual contract required. P/NP or letter grading.


167. Clinical Internship. (12) Clinical, 36 hours. Requisites: courses C165, 166. Supervised practicum experience within setting of multidimensional team, with focus on application of theory in clinical interpretation of assessment and diagnostic data for purpose of planning, implementing, and evaluating course of care for patients, both as individuals and in groups. Mid-level assessment, health maintenance, and management of symptomatology across lifespan. Letter grading.

168. Advanced Leadership and Role Integration. (4) Lecture, four hours. Leadership and management theories and models, resource allocation and management, delegation, conflict resolution, legal implications and practice, managed care, evaluation of practice, continuous quality improvement, accreditation process for healthcare systems, and contemporary issues in workplace. Emphasis on integration of all professional role behaviors, application of research, and leadership-management of care as transition is made from student role to that of practicing professional nurse. Preparation for National Council Licensure Examination (NCLEX). Letter grading.

170. Issues in Providing Healthcare to Culturally Diverse Populations. (4) Formerly numbered 196. Lecture, three hours; discussion, one hour. Open to nonnursing students with consent of instructor. Theoretical and experiential course designed to provide base for understanding issues of providing healthcare to culturally diverse populations, with emphasis on strategies to facilitate intercultural/intracultural communication and integration in/into group dynamics in healthcare settings. P/NP or letter grading.

171A. Community Health Nursing. (3) Formerly numbered 190.) Lecture, three hours. Enforced requisite: course 102. Theoretical content focuses on population health promotion and disease prevention among individuals, families, and small aggregates within communities. Letter grading.

171B. Community Health Nursing. (3) Clinical, nine hours. Corequisite: course 171A. Clinical concentration in community health nursing practice in multicultural community health nurse settings, including clinics, maternal and child healthcare agencies, shelters for homeless persons, mental health centers, occupational health, childcare agencies, and schools. Community health nursing practice focuses on community as context for health promotion and disease prevention among individuals, families, and community groups with awareness of psychosocial environment. Letter grading.

171C. Public Health Nursing. (3) Lecture, three hours. Requisites: courses 171A, 171B. Theoretical content focuses on population-based public health in relation to health promotion and disease prevention and control at level of communities, other large community aggregates, and systems. Letter grading.

171D. Public Health Nursing. (3) Clinical, nine hours. Corequisite: course 171C. Clinical concentration in population-based public health nursing in culturally diverse settings, including health departments, health policy institutions, and public service agencies. Public health practice focuses on health promotion and disease prevention at level of communities, aggregates, whole populations, and systems, both domestically and internationally. Letter grading.

172. Nursing Management. (3) Formerly numbered 195.) Lecture, two hours; field study, three hours. Requisite: course 102. Management theory applied to nursing practice. Acquisition of basic knowledge of management concepts and skills as practiced in organizational structures of community healthcare settings. Letter grading.

173. Introduction to Research. (4) Formerly numbered 193.) Lecture, four hours. Introduction to planning research project based on simple question. Specific components of research activities analyzed: specific aims and study purposes, variable definition, sample selection, data collection tools, data analyses, and communication of results in research papers. Critique of research reports. P/NP or letter grading.

174. Physical Assessment. (4) Formerly numbered 192.) Lecture, three hours; laboratory, three hours. Designed to provide in-depth review and synthesis of physical assessment skills and knowledge covering lifespan. Individual study, use of audiovisual aids, physical assessment skills practice in laboratory, and required text are mandatory. Letter grading.

197. Individual Studies in Nursing. (2 to 4) (Formerly numbered 199.) Tutorial, one hour. Limited to junior/senior Nursing majors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery required. Individual contract required. P/NP or letter grading.

Graduate Courses


201. Health-Related Quality of Life. (2) Lecture, two hours. Theoretical foundations of health-related quality of life as an outcome of disease, treatment, and style of care. Analysis of meaning, dimensions, predictors, measures, ethical dilemmas, cultural diversity issues, and biobehavioral foundations of health-related quality of life. Letter grading.


204. Research Design and Critique. (4) Lecture, 90 minutes; discussion, 90 minutes. Requisite: course 173 or equivalent upper division basic research methodology course. Complex research designs and analysis of multiple variables, and research utilization. Emphasis on techniques for control of variables, data analysis, and interpretation of results. Analysis in depth of interrelationship of theoretical frameworks, design, sample selection, data collection instruments, and data analysis techniques. Content discussed in terms of clinical nursing research problems and how these apply to clinical settings. Letter grading.

205. Introduction to Qualitative Methods in Research. (4) Lecture, four hours. Requisite: course 202. Introduction to qualitative research design in nursing science. Examination of major methodologies that guide qualitative research in relation to various strategies for data collection (interviews, participant observation, focus groups), data analysis, and data interpretation. Scientific rigor and ethical concerns for research with human participants critically examined. Letter grading.
205B. Advanced Qualitative Research Methodology I. (4) Lecture, four hours. Prerequisite: course 205. In-depth study and application of qualitative methods and pragmatism as foundation for study of grounded theory methodology as guide to study design development, including sampling plan, interview strategies for data collection, and basic coding. Exploration of self-reflexivity and ethics in relation to enacting field, recruitment of pilot study participants, interviewing, and preliminary data analysis via analytic, theoretic, and reflexive memos based on study data collected as part of course. Letter grading.

205C. Advanced Qualitative Research Methodology II. (4) Lecture, four hours. Prerequisite: courses 205, 205B. Advanced techniques for simultaneous collection and analysis of qualitative data. Expansion on traditional grounded theory analysis procedures by learning and applying situational analysis and constructivist grounded theory techniques to analysis of data. Development of conceptual formulation (or grounded theory) of student-selected phenomenon based on pilot study data collected and analyzed as part of course. Letter grading.

206. Nursing Theory Development. (4) Lecture, four hours. Examination of theorems of thinking in nursing and contextual issues that continue to influence development of nursing knowledge and nursing science. Application of skills fundamental to development of theorems and integral to use of theory in nursing research. Letter grading.

207. Quantitative Research Designs of Clinical Phenomena. (4) Lecture, three hours; discussion, one hour. Introduction to wide array of quantitative research designs and statistical analysis. Clinical nursing phenomena. Emphasis on dynamic interaction between research process and theory, as well as on appropriate use of experimental, quasi-experimental, and correlational designs among diverse populations. Approaches for evaluation of validity of research designs, with analysis of related threats to validity of each design. Letter grading.

208. Research in Nursing: Measurement of Outcomes. (4) Lecture/discussion, three hours. Prerequisites: courses 206, 207. Measurement theories, including topics related to scaling and tool development. Emphasis on opportunity to develop knowledge and skills through course content and individualized direct involvement in a clinical research project. S/U or letter grading.

209. Human Diversity in Health and Illness. (2) Lecture, two hours. Core course in response to illness that nurses diagnose and treat, centering on culture and human belief systems associated with diverse orientations related to ethnicity and gender. Provides opportunities for students to use in clinical practice, research, teaching, and administration. Letter grading.

211. Theoretical Foundations of Women's Health Care during Reproductive Years. (4) Formerly numbered 211F) Lecture, three hours; discussion, one hour. Theory and research on assessment and management of women’s health issues during reproductive years. Clinical topics include gynecology, family planning, pregnancy, and postpartum care, with emphasis on health promotion of women during reproductive years in primary care settings. Letter grading.

212. Health-Related Family Theory. (2) Lecture, two hours. Overview of conceptual frameworks related to contemporary family structure and functioning, with particular emphasis on health. Family is defined broadly to include nontraditional families; consideration of cross-cultural views of families as well. Identification of limitations of current theory and research related to family study and applicability of current knowledge to various situations encountered in care of families. Letter grading.

213A. Occupational Health Nursing Role and Theory. (4) Lecture, four hours. Introduction to multidisciplinary occupational health environment, including work setting, occupational health nursing scope and standards of practice, and legal and regulatory issues that affect occupational health nursing. Letter grading.

213B. Health Assessment, Research, and Health Promotion in Occupational Health. (3) Lecture, three hours. Prerequisite: course 213A. Clinical practice issues of occupational health, including adult workforce health issues, adult workforce health assessment, and special populations at risk. Health promotion and research in occupational health. Letter grading.


215F. Human Responses to Cancer. (4) Lecture, three hours; selected field experiences. Prerequisite: course 214F. Application of cancer-related theory/research to clinical practice, with emphasis on assessment and intervention of nursing care problems in response to cancer and cancer treatment. Focus on issues affecting nursing care in prevention, screening, diagnosis, treatment, symptom management, rehabilitation, and quality of life related to responses to major cancers. Letter grading.


217. Human Responses to Critical Illness. (2) Lecture, two hours. Prerequisite: course 216. Builds on pathophysiology concepts and nursing management of acutely and critically ill adults presented in course 216. Emphasis on synthesis of research, theory, and experiential knowledge and skills to provide advanced preparation for acute care advanced practice nurses. Letter grading.

217F. Human Responses to Critical Illness. (4) Lecture, three hours; discussion, one hour. Prerequisite: course 216F. Builds on pathophysiology concepts and nursing management of acutely and critically ill adults presented in course 216F. Emphasis on synthesis of research, theory, and experiential knowledge and skills to provide advanced preparation for acute care advanced practice nurses. Letter grading.


218B. Nursing Administration Theory. (4) Lecture, four hours. Prerequisite: course 218A. Focus on synthesizing organizational and management theories in relation to strategic planning, change management, care delivery systems, human and financial resource management, decision making, management information systems, professional practice, and meeting accreditation and legal standards. Letter grading.

218C. Nursing Administration Theory. (4) Lecture, four hours. Prerequisite: course 218B. Project management, organizational communication, governance, development, and change within organizations, risk management, liability, and ethics of administration decision making. Emphasis on issues affecting local, national, and international healthcare management and policy development. Letter grading.

218D. Nursing Administration Theory. (4) Lecture, four hours. Prerequisite: course 218C. Community healthcare needs, political action and healthcare policy, marketing, and media. Planning for future continuous personal and professional growth. Emphasis on issues affecting local, national, and international healthcare management and policy development. Letter grading.

219A. Principles of Accounting and Budgeting in Healthcare Organizations. (4) Lecture, four hours. Theories of management, organization, and administration presented in relation to techniques of accounting, budgeting, finance, and healthcare economics. Focus on definition of terms, followed by practical applications within variety of healthcare settings. Letter grading.


220. Theories of Instruction and Learning in Nursing. (3) Lecture, two hours. Theories of learning, curriculum and program development, and principles and techniques of evaluation. Examination of educator role of advanced practice nurse in variety of settings and with diverse cultural and socioeconomic groups. Opportunities provided for skill development in use of computer-based information systems and development of instructional aids. Letter grading.

221. Immunosuppression and Patient Care. (2) Lecture, two hours. Prerequisite: course 220. Emphasis on immunosuppression, its causes, clinical manifestations, and modifiers. Special emphasis on physiologic and pathophysiologic mechanisms of immunosuppression as a basis for care and application used in patient education and clinical decisions, and supportive treatments and modifiers. Letter grading.

222. Childhood Development: Research and Application in Nursing. (3) Lecture, three hours. Critical evaluation and current research and theory in child development and their application to care of children. Provides scientific basis for understanding human growth and development, anticipating problems, and managing barriers to growth and development throughout childhood. Letter grading.

225A. Advanced Pharmacology I. (3) Formerly numbered 225.) Lecture, two hours. Course 225A is enforced requisite to 225B. Basic pharmacological principles in addition to clinical knowledge and skills necessary for care of clients/patients with stable acute or chronic conditions. Focus on major drug classes and their advanced and basic pharmacokinetics, adverse effects, and clinical uses. Letter grading.

225B. Advanced Pharmacology II. (2) Lecture, two hours. Prerequisite: course 225A. Knowledge of acute and chronic illnesses in pharmacology necessary for care of clients/patients with stable acute or chronic conditions. Letter grading.
Biologic/Psychologic Interface in Health and Illness. (2) Lecture, two hours. Interaction of physiologic, behavioral, and psychosocial factors in illness, and theory and research underlying these factors, including differential influence of gender, ethnicity, and culture. Letter grading.

230A-230B. Advanced Pathophysiology I, II, (2-2) (Formerly numbered 230.) Lecture, two hours. Requisite: course 105 or equivalent taken within past five years. Course 230A is requisite to 230B. In-depth examination of pathophysiological processes that underlie human illness and disease, with detailed study of these in major body systems. Analysis of manifestations of and responses to processes of cellular and molecular pathology at extracellular, systemic, and human levels. Letter grading.


232. Human Responses to Aging and Chronic Illness. (2) Lecture/discussion, four hours. Pathophysiologic concepts and nursing management of older adults who are healthy or who have disability and/or chronic illness. Nursing aspects of selected dysfunctions and implications for advanced practice in gerontological nursing. Letter grading.

232F. Human Responses to Aging and Chronic Illness. (4) Lecture/discussion, four hours. Pathophysiologic concepts and nursing management of older adults who are healthy or who have disability and/or chronic illness. Nursing aspects of selected dysfunctions and implications for advanced practice in gerontological nursing. Letter grading.

233F. Human Responses to Aging and Chronic Illness. (2) Lecture/discussion, four hours. Biopsychosocial concepts and nursing management of healthy, disabled, and/or chronically ill older adults, addressing pathophysiological aspects of common health problems. Implications for advanced practice in gerontological nursing. Letter grading.

233F. Human Responses to Aging and Chronic Illness. (4) Lecture/discussion, four hours. Biopsychosocial concepts and nursing management of healthy, disabled, and/or chronically ill older adults, addressing pathophysiological aspects of common health problems. Implications for advanced practice in gerontological nursing. Letter grading.

234. Essential Theoretical Foundations of Primary Care of Children. (4) Lecture, four hours. Requisite: course 238A. Family nurse practitioners are taught to assume responsibility for health promotion and illness prevention, and maintenance and management of common developmental, behavioral, acute, and chronic health problems of infants, children, and adolescents in primary healthcare settings. Presentation of condition or disease, etiology and incidence, clinical findings, differential diagnosis, pharmacologic and treatment management, complications, and preventive and patient education measures. Examination of primary child health delivery model reliant on evidence-based knowledge, practice protocols, consultation, referral, and community resources. Letter grading.


241. Biobehavioral Foundations of Neuropsychiatric Assessment. (2) Lecture, two hours. Biologic and behavioral theories and research from variety of disciplines, including nursing, for application of neuropsychiatric assessment and diagnosis. Exploration of theory and research evidence underlying assessment and diagnosis of cognitive, addictive, and affective dysfunctions, with emphasis on developing a behavioral nursing approach. Letter grading.

241F. Biobehavioral Foundations of Neuropsychiatric Assessment. (4) Lecture, four hours. Biologic and behavioral theories and research from variety of disciplines, including nursing, for application of neuropsychiatric assessment and diagnosis. Exploration of research underlying assessment and diagnosis of cognitive, addictive, and affective dysfunctions, with emphasis on developing a behavioral nursing approach. Letter grading.

242. Biobehavioral Foundations of Neuropsychiatric Nursing Care. (2) Lecture, two hours. Concepts and principles of working with individuals and groups using psychotherapeutic nursing practices. Discussion of evolution of these modalities in nursing practice, as well as theory and research evidence underlying treatment of individual and group cognitive and affective deficits and thought, addictive, and mood disorders, with emphasis on developing unified approach to management of biobehavioral symptoms in advanced nursing practice. Letter grading.

242F. Biobehavioral Foundations of Neuropsychiatric Nursing Care. (4) Lecture, four hours. Biologic and behavioral research from variety of disciplines, including nursing, for application to treatment of neuropsychiatric dysfunctions. Exploration of research underlying treatment interaction in cognitive, addictive, and affective dysfunctions, with emphasis on developing a biobehavioral nursing approach. Letter grading.


245. Theoretical Foundations of Clinical Nurse Specialist Practice. (4) Lecture/discussion, four hours. Theoretical foundations of clinical nurse specialist practice, including systems theory, behavioral theories, consultation theory, change theory, and models of research utilization. Emphasis on application of relevant theories to clinical nurse specialty practice roles in healthcare systems through case study analysis, with focus on application to clinical practice settings which include culturally diverse populations. Letter grading.

246. Nursing Science of Individual Responses to Health and Illness. (4) Lecture, four hours. Review of state of science in research on individual responses to health and illness conducted by nurse scientists. Critical examination of theoretical concepts, research methodologies, and measurement issues. Focus on discussion of historical development and progression of scientific inquiry. Discussion of ethical and policy implications of research findings in these research domains. Letter grading.

247. Research on Family, Community, and Health Systems. (4) Lecture, four hours. Requisite: course 246. Review of state of science in family, community, and health systems research conducted by nurse scientists. Critical examination of theoretical concepts, research methodologies, and measurement issues. Focus on discussion of historical development and progression of scientific inquiry and investigations by nurse scientists. Discussion of ethical and policy implications of research findings in these research domains. Letter grading.

248A. Biobehavioral Sciences. (2 or 4) Lecture, two or four hours. Theoretical and research measurement issues related to one or more of following areas: health beliefs and health promotions, sense of well-being, quality of life, grief and bereavement, and adherence to and utilization of prevention and treatment services. Ethical considerations in research in biobehavioral sciences and policy decisions that have impact on health status. Letter grading.
248B. Biologic Sciences. (2 or 4 Lecture, two or four hours. Survey course to explore ways in which physiology, anatomy, and genetics influence nursing investigations. Emphasis of nurse scientists who reformulate physiologic theory to address research questions and nursing interpretations of physiologic theory. Ethical considerations in research in biologic sciences and policy, including the impact on advance of research. Letter grading.

248C. Health Disparities in Vulnerable Populations. (2 or 4 Lecture, two or four hours. Theoretical and research-driven responses to health disparities concerned with factors related to health disparities. Discussion of ethical considerations in research with vulnerable populations and policy decisions impacting health status. Analysis of research that describes, explains, and examines variables influencing health disparities and intervention strategies to reduce these disparities. Letter grading.

248D. Health Services. (2 or 4 Lecture, two or four hours. Examines impact of systems of care on quality care outcomes in primary, secondary, and tertiary care centers. Discussion of ethical considerations and policy decisions impacting healthcare services research. Research areas include quality of care, healthcare delivery systems, and outcome measurement issues related to patients, families, providers, and organization/setting. Letter grading.

250. Ethnicity, Health, Justice, and History of Nursing. (5) Lecture, five hours. Interset of social, cultural, legal, and political forces in the U.S. form background for study of ethical issues related to role of nurses as advocates for social justice in contemporary society today. Analysis situated within context of history of nursing, with emphasis on human rights, civil rights, and patient rights. Discussion of evolution of professional nursing within healthcare arenas in relation to ethical principles, cultural competence, and human diversity. Letter grading.

252. Health Promotion/Risk Reduction Systems: Population Level. (5) Lecture, four hours; fieldwork, three hours. Introduction to primary, secondary, and tertiary prevention strategies as they pertain to health and wellness across lifespan, using population-based approach to nursing care of diverse populations. Priorities in reproductive health, including issues related to childbearing and parenting; well-child care, school-age health, and chronic illness prevention strategies for young- and middle-aged adults; priorities associated with aging include aging among both older and frail adults. Analysis of influence of overarching political, societal, and governmental systems within the U.S. Letter grading.

254. Theoretical Foundations of Master’s Clinical Nurse Role. (4) Lecture, four hours. Theoretical foundations of primary, secondary, and tertiary prevention as they relate to nursing care management in acute care settings for master’s entry clinical nurses (MECN). Emphasis on application of relevant theories to MECN practice roles in healthcare systems through case-study analysis, with focus on application to clinical practice settings that include culturally diverse populations. Discussion of case management, outcomes coordination, leadership, risk anticipation, information technology, and research utilization of MECN role as it relates to patient/client sphere of influence. Letter grading.


C256. Informatics. (2) Lecture, one hour; discussion, three hours. State-of-art view of information systems of importance to nursing and healthcare delivery systems. Examination of data-base searching, management, and simple analysis of data. Introduction to knowledge and skills pertaining to development and use of electronic health records in complex inpatient and outpatient system of influence of overarching ethical, political, and social influences on information systems developed for personal and public healthcare delivery in the U.S. Concurrently scheduled with course C156. Letter grading.


259. Secondary Prevention. (4) Lecture, four hours. Requisite: course 252. Corequisite: course 225A. Screening and early detection of illness to prevent chronic or acute illness. Expand on concepts of health and human development and using nursing process, application of nursing role in providing care to individuals and their families to screen, diagnose, and treat illness at earliest possible time to prevent disability or premature mortality. Examination of health problems of individuals within context of family, social and community systems, and interventions that are based on the intersection of family, community, and healthcare professionals related to clinics and surgical units, and home and community settings. Concurrently scheduled with course C160. Letter grading.


264. Professional Issues in Nursing. (3) Lecture, three hours. Requisites: course 418A or 438A or 439A. Assessment of organizational, legal, ethical, and healthcare policy issues in relation to delivery of healthcare services by advanced practice nurses in evolving healthcare systems. Letter grading.

265. Tertiary Prevention and Care II. (7) Lecture, seven hours. Requisites: courses C262, 463. Corequisites: courses 464, 465. Second course in two-course sequence. Examination of pathophysiologic and psychosocial aspects of assessment and management for selected acute and emergent problems of patients/caregivers across lifespan, with emphasis on social, cultural, and developmental influences. Building on prior knowledge and experience, integration of basic knowledge of pathophysiologic, diagnostics, pharmacology, therapeutic interventions, and communication concepts as applied to care of medical and surgical clients across lifespan, pediatric, and geriatric. Discussion of application of nursing process, research, problem solving, and critical thinking. Concurrently scheduled with course C165. Letter grading.

266. Healthcare Systems/Organizations. (4) Lecture, four hours. Development of understanding of ways healthcare is organized and delivered. Discussion of quality of healthcare delivery, including establishment of private and public healthcare plans and delivery systems, development of management systems, and organizational characteristics common shared by MHOs/PPCs. Examination of role of MECN in delivery of patient care within integrated care systems and on continuum of healthcare. Application of basic economic principles to the management of nursing and healthcare organizations. Letter grading.

267. Healthcare Policy. (3) Lecture, three hours. Requisite: course 266. Analysis of healthcare policies and how policies impact clinical practice and healthcare delivery. Discussion of concepts related to policy making, specifically how to formulate healthcare policy, how to affect political process, and stakeholder involvement in policy decision making and implementation. Development of understanding of increasing levels of public, governmental, and third-party participation in and scrutiny of shape and direction of healthcare system. Current mandated assembly bills and their effect on nursing. Concepts associated with escalating healthcare costs and cost containment efforts instituted by private and government sectors, as well as by individual healthcare institutions. Letter grading.

268. Systems (Hospital Unit): Individual Level. (4) Lecture, four hours. Requisite: course 267. Discussion of use of systems theory approach in providing patient-centered and value-added care. Functioning within systems, individuals of vital healthcare practitioners learn to use critical thinking and decision making to coordinate and deliver quality and cost-effective patient care. Development of understanding of different models of organizing nursing care within environment managing, care within multidisciplinary team framework, and promoting effective teamwork that enhances patient outcomes, improves staff vitality, and reduces costs. Letter grading.

269. Quality Improvement and Population-Based Quality of Practice. (4) Lecture, four hours. Requisite: course 268. Principal elements related to quality improvement theories and ways in which quality management impacts delivery of patient-centered and value-driven care, including improved system performance and efficient use of financial resources, quality improvement, and patient-population quality practice at organizational level. Review of methods used to improve patient-care outcomes such as organizational support, effective teamwork, and quality-improvement concepts in workplace. Emphasis on quality improvement, advanced practice, population science-based clinical and cost-control decision making, patient safety and risk reduction, resource management, and external impacts on quality control. Letter grading.

M273. Advanced Seminar: Medical Anthropology. (2 or 4) (Same as Anthropology M263Q, Community Health Sciences M244, and Psychiatry M273.) Seminar, three hours. Limited to 15 students. Examination of interrelationships between society, culture, ecology, health, and illness. Basic anthropological methods revealed through critical analysis and class discussion provided through key theoretical works. S/U or letter grading.

295A. Nursing Science Seminar. (1) Seminar, one hour. Introduction to nursing research methods, activities, and potential research opportunities for doctoral study. S/U grading.

295B-295C. Nursing Science Seminars. (1-1) Seminar, one hour. Requisites: course 295A. Introduction to writing, with emphasis on preparing applications for National Student Research Award. Discussion of requirements of various extramural and specialty organizations, and evaluation criteria identified for applications. Pre-planning for dissertation. Letter grading.

M298. Interdisciplinary Response to Infectious Disease Emergencies: Nursing Perspective. (4) (Formerly numbered 298.) Lecture, three hours; discussion, one hour. Designed to instill in professional students ideas of common emergency health problems and coordinated response, with specific attention to biocoverage tools of the community. Students detect, prevent, and intervene in infectious disease emergencies. Interdisciplinary sessions also attended by students in Schools of Dentistry, Medicine, and Public Health during weeks two through five. Letter grading.

299A. Nursing Research Seminar. (2) Seminar, two hours. Seminar to assist students who are beginning careers in scientific research to understand issues of responsible conduct of research and protection of research subjects. S/U grading.

299B-299C. Nursing Research/Laboratory Experiences. (4-4) Seminar/discussion, one hour; research/laboratory, three hours. Requisites: courses 202, 206. Seminars and research/laboratory-based experiences to assist students to prepare for careers as scientists, with focus on research methodology and mentorship. S/U grading.

299D. Nursing Education Seminar. (1 to 4) Seminar, one hour; discussion, one to four hours. Requisites: courses 206, 207, 208, 220. Seminar to assist students to prepare for careers in academic settings, with focus on teaching. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance in a regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

418A. Nursing Administration Practicum. (3 or 4) Clinic practicum, 11 to 18 hours; clinical conference, one hour. Requisites: courses 212A, 418A. Experience in organizational setting for synthesizing content from course 212B, including strategic planning and management, care delivery systems, resource management, decision making, management information systems, professional practice, and meeting accreditation and legal standards. Letter grading.

418C. Nursing Administration Practicum. (3 or 4) Clinic practicum, eight or 11 hours; clinical conference, one hour. Requisites: courses 212A, 212B. Experience in organizational setting for synthesizing and evaluating content from course 212C, including processes of project management, organizational communication, government development and change, diverse relationships within organization, risk management, liability, and ethics of administration decision making. Letter grading.

418D. Nursing Administration Residency. (12) Clinic practicum, 33 hours; clinical conference, one hour. Requisites: courses 218C, 418C. Experience in organization setting as students assume leadership role in planning, managing, and evaluating administrative projects. Synthesizing of content from course 218D, including assessing community healthcare needs, marketing, media, and political action and healthcare policy. Letter grading.


438D. Pediatric Primary Care: Residency. (8) Clinic practicum, 24 hours. Requisites: courses 238C, 438C. Students assume primary responsibility for planning, managing, and evaluating care of children. Research, theory, and clinical knowledge analyzed, integrated, and applied to care of children and families with actual or potential health problems. Letter grading.


439B. Advanced Practice Nursing: Clinical Practicum. (6) Clinic practicum, 18 hours. Corequisite: course 239B. Continuation of course 439A for advanced practice nursing with emphasis on nursing management of acute and chronic health problems in selected populations. Developmental needs of clients in relation to family, social, and cultural structures. Letter grading.

439C. Advanced Practice Nursing: Clinical Practicum. (6) Clinic practicum, 18 hours. Corequisite: course 239C. Third clinical practicum course for advanced practice nurses, with focus on nursing assessment and intervention in common illness-associated symptoms and complex patient/family presentations. Analysis, evaluation, and integration of current theory and research to provide basis for development of interventions and treatment for acute and chronic problems across lifespan. Letter grading.


GYNECOLOGY

The medical student program in obstetrics and gynecology is designed to provide a broad and deep foundation in the essentials of women’s health. Through a combination of didactic instruction and supervised clinical experience, students acquire the relevant clinical skills of history taking and physical examination and learn reproductive physiology from infancy to the postmenopausal period; antepartum, intrapartum, and postpartum obstetric care; and recognition and management of various gynecologic disorders. Third-year students work in ambulatory clinics and on inpatient services during a six-week core clerkship. Greater depth of experience is provided by elective clerkships during the fourth year which emphasize subspecialties such as maternal/fetal medicine, reproductive endocrinology, gynecologic oncology, and family planning.

For further details on the Department of Obstetrics and Gynecology, see http://www.uclaobgyn.com.

Upper Division Course

199. Directed Research in Obstetrics and Gynecology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

OPHTHALMOLOGY

David Geffen School of Medicine

UCLA
2-142 Jules Stein Eye Institute
Box 957000
Los Angeles CA 90095-7000
(310) 825-5053
http://www.jsei.org

Chairs
Bartly J. Mondino, M.D. (Bradley R. Straatsma, M.D. Endowed Professor of Ophthalmology), Chair
Sherwin J. Isenberg, M.D., Vice Chair, Harbor-UCLA
Arthur L. Rosenbaum, M.D., Vice Chair

Scope and Objectives

Ophthalmology is the medical science that encompasses knowledge concerning the eyes and the visual system. Derived from many basic and clinical fields, this knowledge must be synthesized by the physician and applied to the prevention, diagnosis, medical management, and surgical therapy of ocular disease.

In response to the steadily increasing incidence and growing importance of ocular disorders, the Department of Ophthalmology and the Jules Stein Eye Institute (including the Doris Stein Eye Research Center) are closely coordinated to form a comprehensive center for research in the sciences related to vision, for the care of patients with disease of the eyes and related structures, and for education in the broad field of ophthalmology.

The Department of Ophthalmology provides instruction to medical students during the second, third, and fourth years. Through lectures, demonstrations, discussions, and the opportunity to observe patients and review data on cases with a variety of ocular conditions, students gain knowledge and experience in ophthalmology.

For further details on the Department of Ophthalmology and a listing of the courses offered, see http://www.jsei.org/Education/.

Upper Division Course

199. Directed Research in Ophthalmology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

ORAL BIOLOGY

School of Dentistry

UCLA
13-089 Dentistry
Box 951668
Los Angeles, CA 90095-1668
(310) 825-1955
fax: (310) 794-7109
e-mail: pnuttle@dent.ucla.edu
http://uclasod.dent.ucla.edu/divisions/index.asp?id=26

Wenyuan Shi, Ph.D., Chair

Professors
Carol A. Bibb, Ph.D., D.D.S.
Robert H. Chiu, Ph.D.
Diana Messadi, D.D.S., Ph.D.
Wenyuan Shi, Ph.D.
Igor Spigelman, Ph.D.
Lawrence E. Wolinsky, D.M.D., Ph.D.

Professors Emeriti
George W. Bernard, D.D.S., Ph.D.
Douglas Junge, Ph.D.
Bernard G. Samat, M.S., M.S., D.D.S.

Associate Professors
Francesco Chiappelli, Ph.D.
Anahid Jettew, M.P.H., Ph.D.
Kenneth T. Miyasaki, D.D.S., M.S., Ph.D.
Sotirios Tetrads, Ph.D., D.D.S.

Assistant Professors
Bradley Henson, D.D.S., Ph.D., in Residence
Clarice Law, D.M.D., M.S.
Jeanne Nervina, Ph.D., D.M.D., M.S.

Adjunct Associate Professors
Shen Pang, Ph.D.
Ki-Hyuk Shin, Ph.D., M.S.
Craig D. Woods, D.D.S.

Adjunct Assistant Professors
Yong Kim, Ph.D.
Shen Hu, Ph.D.
Jun Song, Ph.D., M.D., M.S.

Scope and Objectives

Oral biology is the area of knowledge that deals with the development, structure, and function of the oral tissues and their interrelationships with other organ systems in normal and disease states. It is a multidisciplinary field that includes cell biology, morphology, molecular biology, biochemistry, neuroscience, immunology, microbiology, and virology. The objective of the graduate program is to provide students with a sound foundation in these areas in order to pursue an academic or research career.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA
Graduate Degrees, available at the Graduate Division website, http://www.gdnnet.ucla.edu/gsaa/library/pgmintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Section of Oral Biology in the School of Dentistry offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Oral Biology. A combined D.D.S./Oral Biology M.S or Ph.D. or advanced certificate training/Oral Biology M.S. or Ph.D. is also offered.

Oral Biology
Graduate Courses

201A-201B-201C. Advanced Oral Biology. (3-2-3) Lecture, three hours/two hours/three hours:

201A. Ontogenesis. (3) Lecture, three hours. Evolutionary perspective of cellular development from simple molecules that were formed during the first billion years of the Earth to development of cells, tissues, and organs of invertebrates and vertebrates. Development of vertebrate feeding apparatus from a comparative anatomical and physiological point of view, followed by embryogenesis of orofacial and dental structures of humans. S/U or letter grading.

201B. Homeostasis in Oral Systems. (2) Lecture, two hours. Normal regulatory functions of various oral systems. Topics include mechanisms of salivary secretion and nonspecific salivary protective mechanisms; integrative action of oral sensory systems such as touch, pain, and taste; normal control of movements in jaw and face. Letter grading.

201C. Pathobiology. (3) Lecture, three hours. Molecular basis for pathogenic processes in tissues of the oral cavity. Topics include microbially mediated demineralization of hard tissues, soft tissue infections, carcinogenesis, colonization of mucosal substrates by opportunists, etc. S/U or letter grading.

M203. Oral Embryology and Histology. (4) (Same as Neurobiology M229.) Lecture, four hours. Lectures and laboratory are devoted to development and histological structure of facial region and oral and peri-oral organs and tissues. Letter grading.

M204. Mechanisms and Relief of Pain. (2) (Same as Neuroscience M223.) Advanced treatment of neuroanatomical, physiological, and biochemical aspects of pain sensation. Topics include classical pain theories, pain receptors and pathways, endogenous mechanisms of pain modulation, and pharmacological basis for treatment of pain disorders.

205. Methodology in Research Design and Data Analysis. (4) Lecture, two hours; discussion, one hour; computer laboratory, one hour. Designed for graduate oral biology students. Integration of didactic lectures in descriptive and inferential statistics and in research design (emphasis on experimental design), discussion of current research dealing with immunological issues related to oral health, including HIV, opportunistic oral infections, periodontal pathology, oral immunopathology, caries immunology, endodontic immunology, etc. S/U or letter grading.

206. Current Topics in Oral Immunology. (1) Preparation: basic immunology. Discussion and analysis of current research dealing with immunological issues related to oral health, including HIV, opportunistic oral infections, periodontal pathology, oral immunopathology, caries immunology, endodontic immunology, etc. S/U or letter grading.

209. Scientific Ethics. (2) Lecture, one hour; laboratory, one hour. Required for and in scientific ethics for graduate students in Oral Biology M.S. and Ph.D. programs and for NRSA trainees in School of Dentistry. Letter grading.

211. Biology of the Temporomandibular Joint. (2) Anatomy, histology, physiology, and biomechanics of the temporomandibular joint (TMJ) and related musculature. Pain mechanisms, sensorimotor integration, and motor mechanisms in TMJ function, and current methods of TMJ imaging.

215. Fundamentals of Immunology. (2) Basic cellular and molecular mechanisms involved in responses mediated by immune effectors, with emphasis on immunopathology involved in autoimmunity, cancer, and immunodeficiency syndromes.

226. Craniofacial Growth and Development. (2) (Formerly numbered 226A.) Lecture, two hours. Preparation: strong background in histology and embryology. Students acquire, from scientific literature discussed in lecture/seminar format, advanced knowledge of relevant aspects of human biology as they apply to classic and current concepts of principles governing growth and development of craniofacial region. Students required to present seminars on assigned topics that aid their understanding and analysis of course content that has application to their specific and professional fields.

227. Dental Embryology and Histology. (2) Description and interpretation of important stages in development of the oral apparatus and histological features of its component tissues. Critique of scientific literature relevant to course content and analysis of current state of knowledge about selected features of the orofacial apparatus which are of significance to clinical dental specialists.

228. Dental Pharmacology and Therapeutics. (2) Lecture, three hours. Survey of pharmacology, with particular emphasis on how drugs interact with dentistry. General principles of drug action and drug effects on autonomic and central nervous systems.

M234. Seminar: Developmental Neuroendocrine-immunology. (2) (Same as Neurobiology M234.) Designed for graduate students. Psychological and physiological processes intertwine, and one important aspect of psychoneuroimmunological research is characterization of mechanisms that underlie these interactions. Examination of current literature on neuroimmunome interaction from a developmental perspective. S/U or letter grading.

M256. Interdisciplinary Response to Infectious Disease Emergencies: Dentistry Perspective. (4) Lecture, three hours; discussion, one hour. Designed to instill in professional students ideas of common emergency health problems and coordinated response, with specific attention to bioterrorism. Examination of tools to help students prevent, detect, and intervene in infectious disease emergencies. Interdisciplinary sessions also attended by students in Schools of Medicine, Nursing, and Public Health during weeks two through five. Letter grading.

M260. Oral Biology Seminar. (2) Seminar, one hour; outside research, one hour. Research seminar to discuss faculty and student research of oral biology and related disciplines. Discussion of basic sciences relevant to oral biology, involving participants in important areas of investigation. S/U grading.

273. Research in Clinical Immunology and Lymphology. (2) Lecture, one hour; discussion, one hour. For further discussion of cutting-edge topics in immunology and lymphology from clinical perspective. Emphasis on immune surveillance and lymphatic drainage of oral pathologies associated with AIDS and other diseases.

275. Molecular and Cell Biology for Oral Biology Graduate Students. (3) Lecture, two hours; literature review, one hour. Advanced course on prokaryotic and eukaryotic molecular and cell biology, with emphasis on applications in dental research.

596. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. S/U grading.


Scope and Objectives
Pathology is the branch of medicine concerned with the causes and development of disease. The goal of the cellular and molecular pathology (CMP) graduate program is to provide students with the knowledge to integrate findings at the molecular, cellular, and systemic levels to understand the causes and progression of disease.

Coursework is designed so that students gain an in-depth knowledge of cell and molecular biology, genetics, and disease mechanisms. Didactic instruction is complemented by participation in seminars and training in the design and execution of original laboratory research. As a result, graduates obtain the expertise to translate and answer questions defined in the clinical area to the laboratory bench and vice versa.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Pathology and Laboratory Medicine offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Cellular and Molecular Pathology.
M257. Introduction to Toxicology. (4) (Same as Pharmacology M257.) Requisite: Pharmacology M241. Biochemical and systemic toxicology, basic mechanisms of toxicity, and interaction of toxic agents with specific organ systems.

M258. Pathologic Changes in Toxicology. (4) (Same as Pharmacology M258.) Designed to give students experience in learning normal histology of tissues which are major targets of toxin and the range of pathologic changes that occur in these tissues (liver, bladder, lung, kidney, nervous system, and vascular system).

260. Immunopathology. (4) Lecture, two hours; discussion, one hour; laboratory, one hour. Requisite: Microbiology M261. Advanced information for graduate and advanced undergraduate students regarding immune system anatomy, lymphocytic development, acute and chronic inflammation, hypersensitivity, and autointolerance. Letter grading.

270. Basic and Clinical Aspects of Developmental Hematology. (4) Lecture, two hours. Graduate- and postgraduate-level course that covers broad range of topics in both basic and clinical aspects of developmental hematology. Pediatric hematologic disorders provide important paradigm to study other developmental systems. Subjects include hematopoiesis, basic stem cell biology, angiogenesis, alternative models to study developmental hematology (zebrafish and Drosophila), basic physiology of normal and abnormal cells, platelets, and white cells, leukogenesis and novel therapeutics to treat leukemia, basic and clinical stem cell transplantation, state-of-the-art methods in developmental hematology (genomics, proteomics, and gene therapy), design of clinical trials, and biomedical modeling and statistics in developmental hematology. Letter grading.

M272. Stem Cell Biology and Regenerative Medicine. (4) (Same as Molecular, Cell, and Developmental Biology M272.) Lecture, two hours; discussion, two hours. Designed for graduate students. Presentation of current knowledge of embryonic and adult stem cells and factors that regulate their growth and development. Major emphasis on how advances in cell and molecular biology and tissue engineering can be applied to use of stem cells in regenerative medicine. Bioethical and legal issues related to stem cell research: S/U or letter grading.


596. Directed Individual Study or Research. (4 to 12) Tutorial, to be arranged. Individual research with members of the staff or of other departments, the latter for purpose of supplementing programs available in department. S/U grading.


Pediatrics

Upper Division Course

199. Directed Research in Pediatrics. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

PEDIATRICS

David Geffen School of Medicine

UCLA
22-412A Marion Davies Children’s Center
Box 951752
Los Angeles, CA 90095-1752
(310) 825-4125
fax: (310) 206-4584
http://www.pediatrics.medsch.ucla.edu

Chairs
Edward R.B. McCabe, M.D., Ph.D. (Mattei Executive Endowed Professor of Pediatrics), Executive Chair Sherin Devaskar, M.D., Executive Vice Chair Judith E. Brill, M.D., Vice Chair, Clinical Affairs
Thomas S. Kitzinger, M.D., Ph.D. (Jack H. Skirball Professor of Pediatric Cardiology), Vice Chair, Academic Affairs
Lee T. Miller, M.D., Vice Chair, Medical Education
Kathleen M. Sakamoto, M.D., Vice Chair, Translational Research
Mark Schuster, M.D., Vice Chair, Health Services and Community Research
Richard Findlay, M.D., Interim Chair, King/Harbor
Adam J. Jonas, M.D., Chair, Harbor-UCLA
Mohammed Malekzadeh, M.D., Chair, Olive View-UCLA
Charles F. Simmons, Jr., M.D., Chair, Cedars-Sinai

Scope and Objectives

The Department of Pediatrics encompasses five teaching hospitals: Mattel Children’s Hospital at UCLA and Olive View-UCLA, Harbor-UCLA, King/Harbor, and Cedars-Sinai Medical Centers. The clinical program and teaching activities of the UCLA Medical Center are integrated with the Olive View-UCLA Medical Center. In the fundamentals of clinical medicine course, medical students receive detailed instruction in the techniques of the clinical examination of pediatric patients.

The required six-week clinical clerkship in pediatrics can be taken in any of four programs (Mattel/Olive View-UCLA, Cedars-Sinai, Harbor-UCLA, Kaiser Los Angeles). In-depth electives in the Department of Pediatrics are listed in the School of Medicine Handbook of Clinical Courses, as are the advanced clinical clerkships.

For further details on the Department of Pediatrics and a listing of the courses offered, see http://www.mattel.ucla.edu.

Pharmacology

See Molecular and Medical Pharmacology

PHARMACY

College of Letters and Science

UCLA
321 Dodd Hall
Box 951451
Los Angeles, CA 90095-1451
(310) 825-4641
fax: (310) 825-6040
e-mail: phil@humnet.ucla.edu
http://www.humnet.ucla.edu/humnet/phil/

D. Anthony Martin, Ph.D., Chair

Professors
Joseph Almo, D.Phil.
Tyler Burge, Ph.D.
John P. Carriero, Ph.D.
Brian P. Copenhaver, Ph.D. (Steven F. and Christine L. Udvar-Hazy Professor)
Barbara Herman, Ph.D. (Gloria and Paul Griffin Professor of Philosophy)
David B. Kaplan, Ph.D. (Hans Reichenbach Professor of Scientific Philosophy)
Gavin Lawrence, D.Phil.
D. Anthony Martin, Ph.D.
Calvin G. Normore, Ph.D.
Terence D. Parsons, Ph.D.
Seana Stilh Jin, D.Phil., J.D.

Professors Emeriti
Marilyn McCord Adams, Ph.D.
Robert Merrich Adams, Ph.D.
Keith S. Donnellan, Ph.D.
Philippa R. Foot, M.A.
Herbert Morris, Ph.D.

Associate Professor
Sean A. Kelsey, Ph.D.

Assistant Professors
Mark D. Greenberg, Ph.D.
Pamela Hieronymy, Ph.D.
Alexander J. Julius, Ph.D.
Christopher J. Smeken, Ph.D.
Sheldon R. Smith, Ph.D.

Lecturer
Andrew Hsu, Ph.D.

Scope and Objectives

In the last survey conducted by the Conference Board of the Associated Research Councils, UCLA’s Philosophy Department was judged among the six best in the nation in terms of the...
quality of its faculty. It offers programs leading to the Bachelor of Arts and Ph.D. degrees.

"Philosopher," translated from the Greek, literally means “lover of wisdom.” The term has come to mean someone who seeks knowledge, enlightenment, and truth. The undergraduate program is not directed at career objectives (although it is traditionally good preparation for law, theology, and graduate work in philosophy). Philosophy is taught to undergraduates primarily as a contribution to their liberal education. All of the lower and most of the upper division course offerings should be of interest and useful to students who are reflective about their beliefs or who wish to become so. It also provides the occasion to ponder the foundations of almost any other subject to which they are exposed — whether history, religion, government, law, or science.

The principal goal of the graduate program is to produce philosophers of high quality, thinkers informed by the great historical traditions of Western philosophers who can apply the methods of philosophical analysis to a broad range of current philosophical problems. Since all its graduate students hope to teach at the college or university level, the department is also committed to training clear, able, and stimulating teachers.

Undergraduate Study

Philosophy B.A.

Preparation for the Major

Required: Four lower division courses, including Philosophy 7 or 21, 22, 31, and one other philosophy course.

Transfer Students

Transfer applicants to the Philosophy major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: one philosophy of mind or skepticism and rationality course, one ethical theory course, one symbolic logic course, and one additional philosophy course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Thirteen upper division (100 series) or graduate (200 series) philosophy courses (52 units), including Philosophy 100A, 100B, 100C. Seven of the 13 courses must be distributed among the groups into which the undergraduate and graduate courses are divided, in the following manner: two courses in each of three of the groups and one course in the remaining group.

Courses listed under Special Studies may be applied toward the major but not toward a group requirement. A maximum of 8 units of course 199 may be applied toward the major but not toward a group requirement. Courses 100A, 100B, 100C may not be applied toward any group requirement. No course used to satisfy the major or preparation requirements may be taken on a P/NP basis.

Students intending to do graduate work in philosophy should consult both the graduate and undergraduate advisers.

Honors Program

Admission

To be admitted to the honors program, students must have taken at least three upper division philosophy lecture or seminar courses at UCLA with an overall grade-point average of 3.7.

Requirements

To be awarded honors in philosophy at graduation, Philosophy majors must (1) have a 3.7 grade-point average in UCLA philosophy courses and a 3.7 GPA in upper division UCLA philosophy courses; (2) satisfy the honors directed study requirement by taking Philosophy 198A and 198B (usually but not necessarily concurrently) with two different regular upper division philosophy courses supervised by the instructors of those courses; and (3) receive a grade of A– or better in any course applied toward satisfaction of the honors requirement.

Students may substitute Philosophy 191 for either course 198A or 198B or, alternatively, may complete up to two philosophy graduate seminars in lieu of courses 198A and/or 198B. For an undergraduate or graduate seminar to be applied toward the honors directed study requirement, the consent of both the seminar instructor and the faculty honors adviser is required in advance. Students may also substitute up to one 4-unit Philosophy 198C or 199 course in which they produce a substantial paper that represents an original piece of research or its equivalent.

Exceptional work done to satisfy the honors requirement may be submitted to the department chair for consideration for highest honors.

Philosophy Minor

To enter the Philosophy minor, students must have an overall grade-point average of 2.0 or better.

Required Lower Division Courses (8 units): Philosophy 7 or 21, and 22 or 31.

Required Upper Division Courses (24 units): Five courses, including at least one from each of the four groups into which the undergraduate and graduate courses are divided (Philosophy 100A, 100B, 100C apply toward Group I); one additional upper or lower division philosophy course.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Philosophy offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Philosophy.

Philosophy

Lower Division Courses

1. Beginnings of Western Philosophy. (5) Lecture, three hours; discussion, one hour. Origins of Greek cosmology and philosophy, beginnings of systematic thought and scientific investigation concerning such questions as origin and nature of the material world, concept of laws of nature, possibility and extent of knowledge. Concentration on pre-Socratic philosophers, particularly Anaximander, Heraclitus, the Pythagoreans, Parmenides, Empedocles, and Greek atomists, during first two thirds of course and on Socrates and some earlier works of Plato in last few weeks. P/NP or letter grading.

2. Introduction to Philosophy of Religion. (4) Lecture, three hours; discussion, one hour. Introductory study of such topics as nature and grounds of religious belief, relation between religion and ethics, nature and existence of God, problem of evil, and what can be learned from religious experience.

3. Historical Introduction to Philosophy. (5) Lecture, three hours; discussion, two hours. Historical introduction to Western philosophy based on classical texts dealing with major problems, related thematically and studied in chronological order; properties of rational argument, existence of God, problem of knowledge, nature of causality, relation between mind and body, possibility of justice, and others. P/NP or letter grading.

4. Philosophical Analysis of Contemporary Moral Issues. (3) Lecture, three hours; discussion, one hour. Critical study of principles and arguments advanced in discussion of current moral issues. Possible topics include revolutionary violence, rules of warfare, sexual morality, right of privacy, punishment, nuclear warfare and deterrence, abortion and mercy killing, experimentation with human subjects, and other issues. P/NP or letter grading.

5. Philosophy in Literature. (5) Lecture, three hours; discussion, one hour. Philosophical inquiry into such themes as freedom, responsibility, guilt, love, self-knowledge and self-deception, death, and meaning of life through examination of great literary works in Western tradition. P/NP or letter grading.

6. Introduction to Political Philosophy. (5) Lecture, three hours; discussion, one hour. Study of some classical or contemporary works in political philosophy. Questions that may be discussed include: What is justice? What obey the laws? Which form of government is best? How much personal freedom should be allowed in society? P/NP or letter grading.

7. Introduction to Philosophy of Mind. (5) Lecture, three hours; discussion, one hour. Introductory study of philosophical issues about nature of the mind and its relation to the body, including materialism, functionalism, behaviorism, determinism and free will, nature of psychological knowledge. P/NP or letter grading.
8. Introduction to Philosophy of Science. (5) Lecture, three hours; discussion, one hour. Study of selected problems concerning the character and reliability of scientific understanding, such as nature of scientific theory and explanation, reality of theoretical entities, inductive confirmation of hypotheses, and occurrence of scientific revolutions. Discussion at non-technical level of episodes from history of science. P/NP or letter grading.

9. Principles of Critical Reasoning. (4) Nature of arguments: how to analyze them and assess soundness of the reasoning they represent. Common fallacies that often occur in arguments discussed in light of what counts as a good deductive or inductive inference. Other topics include use of language in argumentation to arouse emotions as contrasted with conveying thoughts, logic of scientific experiments and hypothesis-testing in general, and some general ideas about probability and its application in making normative decisions (e.g., betting).

21. Skepticism and Rationality. (4) Lecture, three hours; discussion, one hour. Can we know anything with certainty? How can we justify any of our beliefs? Introduction to study of these and related questions through works of some great skeptics of modern period, such as Descartes, Hume, Leibniz, or Berkeley.

22. Introduction to Ethical Theory. (5) Lecture, three hours; discussion, one hour. Enforced requisite: course 31 or 124. Philosophy of the Hellenistic and Roman periods. Readings include discussions of virtue, utilitarianism, justice, responsibility, meaning of ethical terms, relativism, etc. P/NP or letter grading.

22W. Introduction to Ethical Theory. (5) Lecture, three hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for course 22W. Systematic introduction to ethical theory, including discussion of egoism, utilitarianism, justice, relativism, meaning of ethical terms, relativism, etc. P/NP or letter grading.

100C. History of Modern Philosophy, 1650 to 1800. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Strongly recommended prerequisites: course 100B. Courses 100A, 100B, and 100C should be taken in immediately successive terms if possible. Survey of development of metaphysics and theory of knowledge from 1650 to 1800, including Malebranche, Leibniz, and Berkeley, and/or Leibniz, and culminating in Hume and Kant. Topics may include views of these (and perhaps other) philosophers of the period on mind and body, possibility, existence of God, skepticism, empiricism, limits of human knowledge, and philosophical foundations of modern science.

Group I: History of Philosophy

M101A. Plato — Earlier Dialogues. (4) Same as Classics M146A.) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Study of selected topics in early and middle dialogues of Plato.

M101B. Plato — Later Dialogues. (4) Same as Classics M146B.) Lecture, three hours; discussion, one hour. Preparation: course M101A. Study of selected topics in middle and late dialogues of Plato.

M102. Aristotle. (4) Same as Classics M147.) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Study of selected works of Aristotle.

M102B. Ancient Greek and Roman Philosophy. (4) Same as Classics M145A.) Lecture, three hours. Study of some major Greek and Roman philosophical texts, including those of pre-Socratics, Plato, Aristotle, and Hellenistic philosophers, with emphasis on historical and cultural setting of the texts, their literary form, interrelations, and contribution to discussion of basic philosophical issues.

M103B. Later Ancient Greek Philosophy. (4) Same as Classics M145B.) Lecture, three hours. Preparation: one course from 1, 100A, M101B, M102A. Study of some major texts in Greek philosophy of the Hellenistic and Roman periods. Readings vary and include works by Stoics, skeptics, philosophers of science, Neoplatonists, etc. P/NP or letter grading.

104. Topics in Islamic Philosophy. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Selected topics from metaphysical, epistemological, and ethical writings of Hume. Limited to 40 students when concurrently scheduled with course C212. P/NP or letter grading.

105. Kant. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Study of Kant’s views on related topics in theory of knowledge, ethics, and politics. May be repeated for credit with consent of instructor. P/NP or letter grading.

116. 19th-Century Philosophy. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Selected topics in 19th-century thought.

117. Late 19th- and Early 20th-Century Philosophy. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Selected topics in work of one or more of following philosophers: Boltzmann, Frege, Husserl, Meinong, G. Moore, early Russell, and Wittgenstein. May be repeated for credit with consent of instructor.

118. Kierkegaard. (4) Preparation: one philosophy course. Philosophical study of some major works of Kierkegaard, with emphasis on interpretation of the texts.

C110. Descartes. (4) Lecture, four hours. Requisites: course 21 or two philosophy courses. Study of works of Descartes, with discussion of issues such as problem of skepticism, four-fold division of human knowledge, existence of God, relation between mind and body, and connection between science and metaphysics. May be concurrently scheduled with course C200. P/NP or letter grading.

C110. Spinoza. (4) Lecture, three hours; discussion, one hour. Preparation: course 21. Study of philosophy of Spinoza. May be concurrently scheduled with course C210, in which case there is weekly discussion meeting, plus fewer readings and shorter papers for undergraduates. Limited to 30 students when concurrently scheduled. P/NP or letter grading.

C111. Leibniz. (4) Lecture, three hours; discussion, one hour. Preparation: course 21. Study of philosophy of Leibniz. May be concurrently scheduled with course C211, in which case there is weekly discussion meeting, plus fewer readings and shorter papers for undergraduates. Limited to 30 students when concurrently scheduled. P/NP or letter grading.

C112. Locke and Berkeley. (4) Lecture, four hours. Preparation: one philosophy course. Study of philosophies of Locke and Berkeley, with emphasis in some cases on one or the other. Limited to 40 students when concurrently scheduled with course C212. P/NP or letter grading.

C114. Hume. (4) Lecture, four hours. Preparation: one philosophy course. Selected topics from meta- physical, epistemological, and ethical writings of Hume. Limited to 40 students when concurrently scheduled with course C214. P/NP or letter grading.

C115. Kant. (4) Lecture, three hours; discussion, one hour. Preparation: course 21 or 22. Study of Kant’s views on related topics in theory of knowledge, ethics, and politics. May be repeated for credit with consent of instructor. P/NP or letter grading.

C116. 19th-Century Philosophy. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Selected topics in 19th-century thought.

Group II: Logic, Semantics, and Philosophy of Science

124. Philosophy of Science: Historical. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Historical introduction to philosophy of science. Several general topics discussed in context of actual creation of knowledge of natural sciences. May be repeated for credit with consent of instructor.

125. Philosophy of Science: Contemporary. (4) Lecture, three hours; discussion, one hour. Requisite: course 33 or 124. Introduction to contemporary philosophy of science, focusing on problems of central importance. May be repeated for credit with consent of instructor.
126. Philosophy of Science: Social Sciences. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Topics in the philosophy of social sciences (e.g., methods of social sciences in relation to physical sciences, value-bias in social inquiry, concept formation, theory construction, explanation and prediction, nature of social laws).

127A. Philosophy of Language. (4) Lecture, three hours; discussion, one hour. Requisite: course 31. Syntax, semantics, pragmatics. Semantical concept of truth, sense and denotation, synonymy and analyticity, modality and tense, indirect discourse, indexical terms, semantical paradoxes. May be repeated for credit with consent of instructor. P/NP or letter grading.

127B. Philosophy of Language. (4) Lecture, three hours; discussion, one hour. Requisite: course 31. Course 127A is not requisite to 127B. Selected topics similar to those considered in course 127A, but at more advanced and technical level. May be repeated for credit with consent of instructor. P/NP or letter grading.

128A. Philosophy of Mathematics. (4) Lecture, four hours. Requisite: courses 31, 32, and preferably one additional logic course. Philosophy of mathematics; logicism of Frege and Russell, arithmetic reduced to logic; ramified type theory and impredicative definition (Russell, Poincaré, early Weyl). P/NP or letter grading.


129. Philosophy of Psychology. (4) Lecture, three hours; discussion, one hour. Preparation: one 4-unit psychology course, one philosophy course. Selected philosophical issues arising from psychological theories. Relevance of computer simulation to accounts of thinking and mental processes. Consensus of operationism and theory learning theory; psychological aspects of theory of syntax; behaviorism, functionalism, and alternatives; physiology and psychology.

130. Philosophy of Space and Time. (4) Lecture, three hours; discussion, one hour. Preparation: two philosophy courses or one philosophy course and one physics course. Selected philosophical problems concerning nature of space and time. Philosophical implications of space-time theories, such as those of Newton and Einstein. Topics may include nature of geometry, conventionalism, absolutist versus relationist views of space and time, philosophical impact of relativity theory.

131. Science and Metaphysics. (4) Lecture, four hours. Preparation: two philosophy courses. Recommended; some background in basic calculus and physics. Interpretation of one or two metaphysical topics on which results of modern science have been thought to bear. Topics may include nature of causation, reality and direction of time, time-travel, backwards causation, realism, determinism, absolute view of space, etc. May be repeated for credit with consent of instructor. P/NP or letter grading.

132. Philosophy of Biology. (4) Lecture, four hours. Preparation: one philosophy course. Intensive study of one or more advanced topics in philosophy of biology, which may include structure of evolutionary theory, fitness, taxonomy, reductionism, concept of biological species, and biological explanation. P/NP or letter grading.

133. Topics in Logic and Semantics. (4) Lecture, four hours. Requisite: course 32. Possible topics include formal theories, definitions, alternative theories of descriptions, many-valued logics, deviant logics. P/NP or letter grading.

M134. Introduction to Set Theory. (Same as Mathematics M112.) Lecture, three hours; discussion, one hour. Requisite: course 135 or Mathematics 110A or 121 or 131A. Axiomatic set theory as framework for mathematical concepts; relations and functions, numbers, cardinality, axiom of choice, transfinite numbers. P/NP or letter grading.


136. Modal Logic. (4) Lecture, four hours. Requisite: course 31. First course in two-term sequence (also see course 176). Topics include various modal worlds, derivation within the systems, Kripke-style semantics and generalizations, Lemmon/Scott completeness, incompleteness in tense and modal logic, quantificational extensions. Letter grading.

Group III: Ethics and Value Theory

150. Society and Morals. (4) Lecture, three hours; discussion, one hour. Requisite: course 22. Critical study of principles and arguments advanced in discussion of current moral and social issues. Topics similar to those in course 4, but with familiarity with some basic philosophical concepts and methods presupposed. May be repeated for credit with consent of instructor.

151A-C151B-C151C. History of Ethics. (4-4-4) Lecture, three hours; discussion, one hour. Preparation: two philosophy courses. Each course may be taken independently for credit. P/NP or letter grading. 151A. Selected Classics in Ancient Ethical Theories: Plato, Aristotle. C151B. Selected topics of Kant's ethical theory. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C245. C151C. Selected Classics of Medieval Ethics.

153A. Topics in Ethical Theory: Normative Ethics. (4) Requisite: course 22. Study of selected topics in normative ethical theory. Topics may include human rights, virtues and vices, principles of culpability and praiseworthiness (criteria of right action). May be repeated for credit with consent of instructor.

C153B. Topics in Ethical Theory: Metaethics. (4) Formerly numbered 153B.) Lecture, three hours; discussion, one hour. Preparation: course 22. Study and analysis of basic concepts, selected problems, and contemporary issues in metaethics. Topics may include analysis of moral language, justification of moral beliefs, moral realism, skepticism, free will, moral motivation, etc. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C253B. P/NP or letter grading.

154. Topics in Value Theory: Rationality and Action. (4) Requisite: course 22. Selected topics concerning normative issues in practical rationality or philosophy of action. Topics may include moral and practical dilemmas, nature of reasons for action, rationality of morality and prudence, weakness of will, freedom of the will, and decision theory. May be repeated for credit with consent of instructor.

154B. Topics in Value Theory: Moral Responsibility and Free Will. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Examination of philosophical problems surrounding moral responsibility and free will, using contemporary or classical readings in attempt to better understand kind of freedom required for moral agents. P/NP or letter grading.

155. Medical Ethics. (4) Lecture, three hours; discussion, one hour. Examination of philosophical issues raised by problems of medical ethics, such as abortion, euthanasia, and medical experimentation. P/NP or letter grading.

C156. Topics in Political Philosophy. (4) Lecture, three hours; discussion, one hour. Analysis of some basic concepts in political theory. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C247. P/NP or letter grading.

157A-157B. History of Political Philosophy. (4-4) Lecture, three hours; discussion, one hour. Preparation: two philosophy courses. May be repeated with consent of instructor. 157A. History of discussion of classic works in earlier political theory, especially those by Hobbes, Locke, Hume, and Rousseau. 157B. Reading and discussion of classic works in later political theory, especially those by Kant, Hegel, and Marx.

161. Topics in Aesthetic Theory. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Metaphysical foundations of aesthetic theory, and aesthetic values. May be repeated for credit with consent of instructor.

166. Philosophy of Law. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Examination, through study of recent philosophical writings, of such topics as nature of law, relations of law and morals, legal reasoning, punishment, and obligation to obey the law. P/NP or letter grading.

Group IV: Metaphysics and Epistemology

170. Philosophy of Mind. (4) Lecture, three hours; discussion, one hour. Preparation: two relevant philosophy or linguistics courses. Theories of meaning and communication; how words refer to things; limits of meaningfulness; analysis of speech acts; relation of everyday language to scientific discoveries. P/NP or letter grading.

174. Topics in Theory of Knowledge. (Formerly numbered 168) Lecture, four hours. Requisite: course 182 or 183. Intensive investigation of one or two selected topics or works in theory of knowledge, such as a priori knowledge, problem of induction, memory, knowledge as justified true belief. Topics announced each term. May be repeated for credit with consent of instructor. P/NP or letter grading.

175. Topics in Philosophy of Religion. (4) Lecture, three hours; discussion, one hour. Preparation: course 21 or 22. Intensive investigation of one or two topics or works in philosophy of religion, such as attributes of God, arguments for or against existence of God, or relation between religion and ethics. Topics announced each term. May be repeated for credit with consent of instructor.

176. Metaphysics of Modality. (4) Requisites: courses 31, 32. Highly recommended: course 136. Second course in two-term sequence (also see course 136). Metaphysical foundations of modal logic and philosophical basis of model theory of modal logic. What are "possible worlds"? What is the "accessibility" relation? Is modal logic a logic or a theory? Is its focus logical or metaphysical necessity? Are the two notions really distinct? How metaphysically involved is (quantified) modal logic? What is its connection to doctrines of (1) "Haecceitism" and (2) "Aristotelian Essentialism"? P/NP or letter grading.

177A. Existentialism. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Analysis of methods, problems, and views of some of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Sartre, Marcel, and Camus. Possible topics include metaphysical foundations, nature of mind, freedom, problem of evil, other people, ethics, existential psychoanalysis.

177B. Historical Studies in Existentialism. (4) Preparation: one philosophy course. Study of central philosophical texts of one of the following: Nietzsche, Heidegger, Jaspers, Buber, Sartre, or Camus. Emphasis on explication and interpretation of the texts. May be repeated for credit with consent of instructor.
178. Phenomenology. (4) Lecture, three hours; dis- cussion, one hour. Preparation: two philosophy courses. Introduction to phenomenological method of ap- proaching philosophical problems via works of some of the following: Brentano, Husserl, Heidegger, Schel- er, Sartre, Merleau-Ponty, Ricoeur. Topics include ont- ology, epistemology, and particularly philosophy of mind.

179. Asian Philosophy. (4) Lecture, three hours; dis- cussion, one hour. Examination of central concepts and arguments in Buddhist or Chinese philosophy. Appropriate parallels to social concepts in Western tradition. P/NP or letter grading.

180. Philosophy of Action. (4) (Formerly numbered 187.) Lecture, four hours. Preparation: two philosophy courses. Study of various concepts employed in un- derstanding human action. Topics may include rational choice, desire, intention, weakness of will, and self-deception. P/NP or letter grading.

181. Philosophy of Perception. (4) (Formerly num- bered 166.) Lecture, four hours. Preparation: two philosophy courses. Critical study of main philosophical theories of perception and arguments used to estab- lish them. P/NP or letter grading.

182. Elements of Metaphysics. (4) Lecture, three hours; discussion, one hour. Preparation: course 21. Study of basic metaphysical questions; nature of physical world, of minds, and of universals; and an- swers provided by alternative systems (e.g., phenomen- enalism, materialism, dualism). P/NP or letter grad- ing.


184. Topics in Metaphysics. (4) Lecture, three hours; discussion, one hour. Preparation: course 21. In- tensive investigation of one or two topics or works in metaphysics, such as personal identity, nature of dis- positions, possibility and necessity, universals and par- ticulars, causality. Topics announced each term. May be repeated for credit with consent of instructor. P/NP or letter grading.

198A-198B. Honors Research in Philosophy. (2-2) Tutorial, two hours. Limited to junior/senior philosophy honors program students. Each course to be taken in conjunction with one upper division philosophy lec- ture course, either concurrently or in subsequent term, under direct supervision of lecture course in- structor. Advanced work related to lecture course, fur- ther reading, and preparation of 15- to 20-page paper representing original research. Courses 198A and 198B must be taken in conjunction with two different lecture courses. Each course must be taken to satisfy de- partmental honors requirement. Individual contract required. Letter grading.

198C. Honors Research in Philosophy. (4) Tutori- al, four hours. Limited to junior/senior philosophy honors program students. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

199. Directed Research in Philosophy. (2 to 4) Tu- torial, three hours. Limited to juniors/seniors. Super- vised individual research under guidance of faculty mentor. Culuminating paper or research project re- quired. Up to 8 units may be applied toward degree requirements. May be substituted by permission for course in one of four groups on basis of similarity of subject matter. Individual contract required. P/NP or letter grading.

Graduate Courses

200A-200B-200C. Seminar for First-Year Graduate Students. (4-4-4) Seminar, three hours. Limited to and required of all first-year graduate philosophy stu- dents. Selected topics in metaphysics and epistemol- ogy, philosophy of history, and ethics. S/U or letter grading.

Group I. History of Philosophy


206. Topics in Medieval Philosophy. (4) Lecture, four hours. Study of philosophy and theology of one of several medieval philosophers such as Augustine, Anselm, Abelard, Aquinas, Scotus, or Ockham or study of single area such as logic or theory of knowl- edge in several medieval philosophers. Topics an- nounced each term. May be repeated for credit with consent of instructor. S/U or letter grading.

207. Seminar: History of Medieval and Renais- sance Philosophy. (4) Seminar, four hours. Selected problems and philosophers. May be repeated for credit with consent of instructor. S/U or letter grading.

208. Hobbes. (4) Lecture, three hours; discussion, one hour. Preparation: one philosophy course. Hob- bes' political philosophy, especially Leviathan, with at- tention to its relevance to contemporary political phi- losophy. May be concurrently scheduled with course C108. S/U or letter grading.

209. Descartes. (4) Lecture, four hours. Study of works of Descartes, with discussion of issues such as problem of dualism, foundations of knowledge, ex- istence of God, relation between mind and body, and connection between science and metaphysics. May be concurrently scheduled with course C109. S/U or letter grading.

210. Spinoza. (4) Lecture, three hours. Selected topics in philosophy of Spinoza. May be concurrently scheduled with course C110, in which case there is two-hour biweekly discussion meeting, plus additional readings and longer term paper for graduate stu- dents. S/U or letter grading.

211. Leibniz. (4) Lecture, three hours. Selected topics in philosophy of Leibniz. May be concurrently scheduled with course C111, in which case there is two-hour biweekly discussion meeting, plus additional readings and longer term paper for graduate stu- dents. S/U or letter grading.

212. Locke and Berkeley. (4) Lecture, four hours. Preparation: one philosophy course. Selected philos- ophies of Locke and Berkeley, with emphasis in some cases on one or the other. Limited to 30 students when concurrently scheduled with course C112. S/U or letter grading.

214. Hume. (4) Lecture, four hours. Selected topics in philosophy of Hume. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C114. S/U or letter grading.


216. 19th-Century Philosophy. (4) Seminar, four hours. Topics in 19th-century philosophy. May be re- peated for credit with consent of instructor. S/U or let- ter grading.

219. Topics in Modern Philosophy. (4) Lecture, three hours; discussion, one hour. Selected topics in one or more philosophies of early modern period, or study in single area such as knowledge or metaphysics in several philosphers. May be repeat- ed for credit with consent of instructor. Concurrently scheduled with course C119. S/U or letter grading.

220. Seminar: Topics in History of Philosophy. (4) Seminar, three hours. Selected problems and philos- ophers which may be from different periods. May be repeated for credit with consent of instructor. S/U or letter grading.

Group II. Logic, Semantics, and Philosophy of Science

221A. Topics in Set Theory. (4) Lecture, three hours. Preparation: Mathematics M112. Sets, relations, func- tions, partial and total ordereings; well-orderings. Ord- inal and cardinal arithmetic, finiteness and infinity, continuum hypothesis, inaccessible numbers. For- malization of set theory; Zermelo/Fraenkel; von Neu- mann/Gödel theory. May be repeated for credit with consent of instructor. S/U or letter grading.

221B. History of Set Theory. (4) Lecture, four hours. Development of concept of set and axiomatic set the- ory by examining selected writings of Frege, Cantor, Russell, Zermelo, Gödel, and several others. Origins and significance of certain key ideas, such as the set the- ory as logic, axiomatic set theory as reaction to para- doxes, formal first-order axiomatic set theory as op- posed to informal axiomatics, type theory and rank hi- erarchy, ramification and predicativity, proper classes and sets as small classes, and particular Zermelo/ Fraenkel axiomatic theory. Emphasis on actual ex- pressed ideas and views of various influential au- thors. S/U or letter grading.

222A-222B-222C. Gödel Theory. (4-4-4) Lecture, four hours. S/U or letter grading. 222A. Preparation: several courses in logic, preferably including course 135B. First in series of three courses leading to Gödel incompleteness theorem and Tarski definition of truth. 222B. Preparation: course 222A. Second-order arith- metic. Second in series of three courses leading to Gödel incompleteness theorem and Tarski definition of truth. 222C. Preparation: course 222B. Gödel num- bering and Gödel theory. Final course in Gödel theory series.

224. Philosophy of Physics. (4) Seminar, three hours. Selected philosophical problems in modern physi- cal theory, depending on interests and background of participants, including space and time; observation in quantum mechanics; foundations of statistical me- chanics. May be repeated for credit with consent of in- structor. S/U or letter grading.
225. Probability and Inductive Logic. (4) Lecture, three hours. Requisite: course M134 or Mathematics M112. Topics may include interpretations of probability, Bayesian and non-Bayesian confirmation theory, paradoxes of confirmation, coherence, and condition- ing. S/U or letter grading.

226. Topics in Mathematical Logic. (4) Lecture, four hours. Content varies from term to term. May be re- peated for credit with consent of instructor. S/U or letter grading.

227. Philosophy of Social Science. (4) Lecture, four hours. Examination of philosophical problems concerning the concepts used in social sci- ences. Topics may include relation between social processes and individual psychology, logic of expla- nation in social sciences, determinism and spontane- ity in history, interpretation of cultures radically differ- ent from one's own. Students with primary interest and advanced preparation in social sciences encour- aged to enroll. May be repeated for credit with con- sent of instructor. S/U or letter grading.

228. Seminar: Philosophy of Science. (4) Seminar, four hours. Topics on sense and denota- tion, modal logic, logic of demonstratives, epistemic logic, propositional logic, possible worlds semantics. May be repeated for credit with consent of instructor. S/U or letter grading.

232. Philosophy of Science. (4) Seminar, three hours. Selected topics in philosophy of science. May be repeated for credit with consent of instructor. S/U or letter grading.

233. Seminar: Philosophy of Physics. (4) Semi- nars, four hours. May be repeated for credit with con- sent of instructor. S/U or letter grading.

Group III. Ethics and Value Theory

241. Topics in Political Philosophy. (4) Seminar, four hours. May be repeated for credit with con- sent of instructor. S/U or letter grading.

245. History of Ethics: Modern. (4) Lecture, three hours; discussion, one hour. Intensive study of Kant's ethical theory. Selections in presentation. May be repeated for credit with consent of instructor. S/U or letter grading.

246. Seminar: Ethical Theory. (4) Seminar, four hours. Selected topics. Content varies from term to term. May be repeated for credit with consent of in- structor. S/U or letter grading.

247. Topics in Political Philosophy. (4) Lecture, three hours; discussion, one hour. Analysis of some basic concepts in political theory. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C155B. S/U or letter grading.

248. Problems in Moral Philosophy. (4) Seminar, four hours. Intensive study of some leading current problems in moral philosophy. May be repeated for credit with consent of instructor. S/U or letter grading.

253B. Topics in Ethical Theory: Metaethics. (4) Lecture, three hours; discussion, one hour. Requisite: course 222. Study and analysis of basic concepts, se- lected problems, and contemporary issues in meta- ethics. Topics may include analysis of moral lan- guage, justification of moral beliefs, moral realism, skepticism, free will, moral motivation, etc. May be re- peated for credit with consent of instructor. May be concurrently scheduled with course C155B. S/U or letter grading.

255. Seminar: Aesthetic Theory. (4) Seminar, four hours. Selected topics. May be repeated for credit with consent of instructor. S/U or letter grading.

M256. Topics in Legal Philosophy. (4) (Same as Law M227.) Lecture, three hours. Examination of top- ics such as concept of law, nature of justice, problems of punishments, legal reasoning, and obligation to obey the law. May be repeated for credit with consent of instructor.

M257. Seminar: Philosophy of Law. (4) (Same as Law M228.) Seminar, three hours. Selected topics in philosophy of law. May be repeated for credit with consent of instructor.

259. Philosophical Research in Ethics and Value Theory. (2 to 4) Seminar, two hours. Preparation: com- pletion of course M134 or consent of instructor. Presenta- tion of ongoing research by graduate students. Par- ticipants make presentations, analyze and discuss pre- sentations of others, and read and discuss philosophical texts related to presentations. May be repeated for credit with con- sent of instructor. S/U grading.

Group IV. Metaphysics and Epistemology

271. Seminar: Topics in Metaphysics and Episte- mology. (4) Seminar, three hours. May be repeated for credit with consent of instructor. S/U or letter grading.

275. Human Action. (4) Preparation: two upper divi- sion philosophy courses. Examination of theories, concepts, and problems concerning human actions. Topics may include analysis of intentional actions; de- terminism and freedom; nature of explanations of in- tentional actions. May be repeated for credit with con- sent of instructor.

280. 20th-Century Continental Philosophy. (4) Seminar, three hours. Selected topics in 20th-century con- tinental European philosophy. May be repeated for credit with consent of instructor. S/U or letter grading.

281. Seminar: Philosophy of Mind. (4) Seminar, three hours. May be repeated for credit with consent of instructor. S/U or letter grading.

282. Seminar: Metaphysics. (4) Seminar, three hours. May be repeated for credit with consent of in- structor. S/U or letter grading.

283. Seminar: Theory of Knowledge. (4) Seminar, three hours. May be repeated for credit with consent of instructor. S/U or letter grading.

284. Seminar: Philosophy of Perception. (4) Semi- nar, three hours. May be repeated for credit with con- sent of instructor. S/U or letter grading.

285. Philosophy of Psychoanalysis. (4) Seminar, three hours. Examination of topics such as nature and validity of psychoanalytic explanations and inter- pretations, psychoanalysis and language, metapsy- chological concepts such as the unconscious, ego, id, superego, defense mechanisms, and psychoanalytic conception of human nature. S/U or letter grading.

286. Philosophy of Psychology. (4) Seminar, four hours. Relevance of computer simulation to accounts of thinking and meaning; relations between semianti- cal theory and learning theory; psychological aspects of theory of syntax; behaviorism, functionalism, and alternatives; physiology and psychology. S/U or letter grading.

287. Seminar: Philosophy of Language. (4) Semi- nar, three hours. May be repeated for credit with con- sent of instructor. S/U or letter grading.


289. Seminar: Philosophy of Religion. (4) Semi- nar, four hours. May be repeated for credit with con- sent of instructor. S/U or letter grading.

290. Workshop: Philosophy of Language. (4) Seminar, two hours. Ongoing discussion of current is- sues in philosophy of language based on contempo- rary texts and current research. Presentations of ideas by attending faculty and graduate students with open discussion. May be repeated for credit with con- sent of instructor.

291. Workshop: Philosophy of Mathematics. (4) Seminar, three hours. Ongoing discussion of current issues in philosophy of mathematics based on con- temporary texts and current research. Presentations of ideas by attending faculty and graduate students with open discussion. May be repeated for credit with consent of instructor. S/U or letter grading.

Special Studies

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice person- nel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guid- ance and supervision of regular faculty member re- sponsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching College Philosophy. (2 to 4) Semi- nars, to be arranged. Seminars, workshops, and apprentice teaching. Selected topics, including evalua- tion scales, various teaching strategies and their ef- fects, and other topics in college teaching. May be repeated for credit. S/U grading.

501. Cooperative Program. (2 to 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Studies. (2 to 8) Tutorial, to be arranged. Properly qualified graduate students who wish to pursue a problem through reading or ad- vanced study may do so if their proposed project is acceptable to a staff member. May be repeated for credit. S/U or letter grading.


Adjunct Professors
Viktor Decyk, Ph.D.
Philip Pritchett, Ph.D.

Scope and Objectives
Since the time of the ancient Greeks, a natural affinity has existed between astronomy and physics, and the intellectual development of the two disciplines has often proceeded synergistically. Newton’s discovery of the laws of mechanics and universal gravitation not only explained motion on Earth, but brought the heavens and Earth into a single quantitative framework in which both are governed by the same laws. The revolutionary discoveries of twentieth-century physics — quantum mechanics and nuclear physics — were rapidly adopted by astronomers to interpret the spectroscopic observations of the stars and to construct accurate models of stellar structure. Einstein’s general theory of relativity predicted the expansion of the universe and that most awe-inspiring compaction of matter — the black hole.

Today astronomers study the accretion of matter onto supermassive black holes in quasars and search the most distant regions of the universe to learn about the exotic physical conditions that existed when the universe’s expansion was only fractions of a second old. By measuring the gravitational interactions on distance scales from galaxies to the vast superclusters of galaxies, astronomers have concluded that most of the universe’s matter is dark or nonluminous; physicists have speculated that this dark matter may consist of yet undiscovered exotic particles which are predicted by the most advanced theories of elementary particle physics.

Department of Physics and Astronomy faculty members and students are able to study the universe in the holistic manner which is demanded by the breadth of these two disciplines.

Undergraduate Study
The Department of Physics and Astronomy offers a choice of four undergraduate majors: the B.S. degree program in Astrophysics, the B.S. degree program in Biophysics, the B.S. degree program in Physics, and the B.A. degree program in Physics. Courses taken to fulfill any of the requirements for the majors must be taken for a letter grade.

Astronomy Courses
The department offers general courses to all University students, including those who are not science oriented. Astronomy 3 is the fundamental one-term course for students who do not major in physical sciences and should be taken in the first or second year. Astronomy 4, 5, and 6 develop the topics covered in course 3 to somewhat greater depths but are still aimed at nonscience majors. Course 4 discusses stellar and supermassive black holes; course 5 concentrates on the problem of life in the universe; course 6 discusses the structure and evolution of the universe.

Astronomy 81 and 82 are general survey courses recommended for science majors in their second year. They systematically introduce astrophysics and require a good background in physics and mathematics (at least two terms of the Physics 1 series and two terms of the Mathematics 31and 32 series). Students of junior and senior standing in Physics or related sciences are invited to select any of these courses: Astronomy 115, 117, 127, 140, 180.

Physics Courses
Students who wish to use physics to satisfy part of the general education requirements in the physical sciences and who have no mathematics background beyond the high school mathematics required for admission to UCLA may take Physics 10.

Physics 1Q is intended for entering freshman Physics majors and other interested students. Although it is not a required course or a part of or requisite to any general physics sequence of courses, its purpose is to indicate the nature of current research problems in physics on a level intended to be attractive to entering students with a good high school science and mathematics background.

Physics 1A, 1B, and 1C, or 1AH, 1BH, and 1CH form sequences of courses in general physics for majors in Physics.

The department takes into account prior preparation in physics. If students feel their background would permit acceleration, they may be exempted from one course in the 1A, 1B, 1C sequence by taking the final examination with a class at the end of any term. This serves as a placement examination. A satisfactory score on one or both parts of the College Board Advanced Placement Physics C Test may also serve as a placement examination, but placement is not automatic. Students should discuss such possibilities with their departmental adviser.

Physics 6A, 6B, 6C form a one-year sequence of courses in basic physics for students in the biological and health sciences.

Physics 10 is a one-term, nonlaboratory course that surveys the whole field of physics. Any two or more courses from Physics 1A, 6A, and 10 are limited to 6 units credit.

Astrophysics B.S.

Preparation for the Major
Required: Astronomy 81, 82; Physics 1A or 1AH, 1B or 1BH, 1C or 1CH, 4AL, 4BL, 17, 18L; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Program in Computing 10A or demonstrated ability to program. Systematic study of astrophysics should begin with Astronomy 81.
and 82, taken in the second year. Recommended: Chemistry and Biochemistry 20A.

Transfer Students

Transfer applicants to the Astrophysics major with 90 or more units must complete as many of the following introductory courses as possible prior to admission to UCLA: two astrophysics courses, two years of calculus, one and one half years of calculus-based physics with laboratory for majors, and one programming course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major


Honors Program

Senior majors in Astrophysics with a 3.5 grade-point average in all astronomy, mathematics, and physics courses are eligible for the honors program in astrophysics. In addition to completing all courses required for the major, students must complete two terms of Astronomy 199. To receive honors and highest honors at graduation, the grade-point average must remain at 3.5 and 3.75 or better, respectively, and work in course 199 must reflect original research and be accepted by the departmental honors committee.

Biophysics B.S.

The goal of the Biophysics major is to provide students with the undergraduate background to enable them to enter very good graduate programs in biophysics, molecular biology, and physics. As the molecular biophysics field emerges as an important and rapidly developing area of scientific research and knowledge, the major is designed to provide both the scientific/technical training and the immersion in physics and molecular biology necessary to enable students to understand and integrate these fields intellectually and to have the opportunity to become leaders in bringing the analytic and experimental techniques of both fields to bear on the complicated behavior of microbiological macromolecular systems.

Preparation for the Major

Required: Physics 1A or 1AH, 1B or 1BH, 1C or 1CH, 4A, 4B, 17, 18L; Chemistry and Biochemistry 20A, 20B, 30A, 30B; Life Sciences 2, 3 or 3H, 4; Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: Life Sciences 1, Mathematics 33B, Physics 1BL.

Transfer Students

Transfer applicants to the Biophysics major with 90 or more units must have completed the following introductory courses prior to admission to UCLA: two years of calculus, one and one half years of calculus-based physics with laboratory for majors, one year of general biology with laboratory for majors, and one year of general chemistry with laboratory for majors.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Physics 105A, 110A, 110B, 115A, 115B, 131, M180G, 191; Chemistry and Biochemistry 110A, 153A; Molecular, Cell, and Developmental Biology 100, 104. Recommended: Molecular, Cell, and Developmental Biology 171, Physics 108, 117, 140B, C185, guided research in chemistry and biochemistry, molecular, cell, and developmental biology, or physics. An overall 2.0 grade-point average in all upper division courses is required.

Physics B.S.

The Physics B.S. major should be taken if students intend to continue toward the Ph.D. in Physics.

Preparation for the Major

Required: Physics 1A or 1AH, 1B or 1BH, 1C or 1CH, 4A, 4B, 17, 18L; Chemistry and Biochemistry 20A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B. A detailed brochure on the major is available from the Undergraduate Office, 1-707A Physics and Astronomy Building.

Transfer Students

Transfer applicants to the Physics B.S. major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of calculus, one and one half years of calculus-based physics with laboratory for majors, and one general chemistry course for majors.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Physics 105A, 105B, 110A, 110B, 112, 115A, 115B, 115C, 131. The remainder of the course of study consists of a plan, to be worked out by students in consultation with their designated departmental adviser, that details which courses they take to complete the degree. There are four overall requirements: (1) the plan must be worked out five terms before students expect to graduate; (2) the plan must include at least two courses from the Physics 180 series, which should be taken in the senior year; (3) there must be three additional upper division courses in the plan, preferably selected from Physics 108, 114, 117, M122, 123, 124, 126, 132, 140A, 140B; (4) there must be written rationale for the plan. Except for the Physics 180 laboratories, the courses need not be in the Physics and Astronomy Department. However, it is expected that the courses fit into a coherent structure. It is important that the structure and rationale are thought out carefully, as the plan must be endorsed by the designated adviser and be approved by the departmental academic affairs committee. Preapproved plans of study are available from the undergraduate advisers. A C average is required in all courses taken to satisfy the major requirements.

Students preparing for graduate school should take additional courses in physics and mathematics. Physics 108, 114, 117, M122, 123, 124, 126, 132, 140A, and 140B are recommended.

Honors Programs

The department offers three honors programs leading to graduation with honors or highest honors in physics. Students are eligible after completing the preparation for the major and four upper division physics courses with an overall grade-point average of 3.0 and a 3.5 GPA in upper division physics and mathematics courses. Contact the Undergraduate Office for a complete description of the programs and an application.

Physics B.A.

The Physics B.A. major is intended to provide a strong background in physics, yet allow students flexibility to study other fields as well. It should be of particular interest to students who want to double major or who want to teach science. Students who intend to continue work toward the Ph.D. in Physics are advised to work for the B.S. in Physics as described earlier.

Preparation for the Major

Required: Physics 1A or 1AH, 1B or 1BH, 1C or 1CH, 4A, 4B, 17, 18L; Chemistry and Biochemistry 20A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B. A detailed brochure on the major is available from the Undergraduate Office, 1-707A Physics and Astronomy Building.

Transfer Students

Transfer applicants to the Physics B.A. major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of calculus, one and one half years of calculus-based physics with laboratory for majors, and one general chemistry course for majors.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major


Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases,
more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Physics and Astronomy offers the Master of Arts in Teaching (M.A.T.) degree in Astronomy, Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Astronomy, Master of Arts in Teaching (M.A.T.) degree in Physics, and Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Physics.

Astronomy

Lower Division Courses

3. Nature of the Universe. (5) Lecture, three hours; discussion, two hours. Not open to students with credit for or currently enrolled in course 81 or 82 or former course 3H. No special mathematical preparation required beyond that necessary for admission to the University as a freshman. Offered to general University students, normally not intending to major in physics, astronomy, or related fields. Major emphasis on development of ideas in astronomy and what has been learned of the nature of the universe, including recent discoveries and developments. P/NP or letter grading.

4. Black Holes and Cosmic Catastrophes. (4) Lecture, three hours; discussion, one hour. Essentially nonmathematical course for general University students that discusses black holes and related cosmic catastrophes. White dwarfs, neutron stars, and black holes are compact objects formed in violent events that terminate lives of stars and are associated with some of the most energetic and explosive phenomena in astronomy: planetary nebulae and novae (white dwarfs), supernovae, pulsars, galactic X-ray sources, and gamma ray bursts. Supermassive black holes form in nucleus of young galaxies, and gravitational accretion of matter onto black holes powers most energetic objects in universe — quasars. Universe was born in ultimate cosmic explosion — Big Bang — that may have derived its energy from quantum mechanical vacuum. P/NP or letter grading.

5. Life in the Universe. (4) Lecture, four hours; discussion, one hour. Preparation: prior introduction to astronomy. Life on Earth and prospects for life elsewhere in the context of the evolution of the universe from the simple to complex. Course material primarily from astronomy and biology but includes some chemistry, geology, and physics. Selected topics treated in some depth, but with little or no formal mathematics. P/NP or letter grading.


7. Astronomy and Media. (4) Lecture, three hours; discussion, one hour. Laboratory, one hour. Designed to help nonmajors develop skills to continually learn about science through media. Detailed study of research currently in media, including meteor impacts, greenhouse theory of variable stars, and extraterrestrial life. Investigation of forces that influence science reporting. P/NP or letter grading.

81. Astrophysics I: Stars and Nebulae. (4) Lecture, three hours; discussion, one hour. Requisites: Mathematics 31A, 31B, and Physics 1A or 1AH. Offered to nonmajors and upper division students. Survey of our knowledge about stars: their distances, masses, luminosities, temperatures, and interrelations between these parameters. Methods and importance for astrophysics. Variable stars. Planetary and gaseous nebulae. P/NP or letter grading.

82. Astrophysics II: Stellar Evolution, Galaxies, and Cosmology. (4) Lecture, three hours; discussion, one hour. Requisites: Mathematics 31A, 31B, and Physics 1A or 1AH. Recommended: course 81. Physics 1B and 1C (or 1BH and 1CH). Open to qualified sophomores and upper division students. Basic principles of stellar structure and evolution. Red giants, white dwarfs, novae, supernovae, neutron stars, and black holes. Pulsars and galactic X-ray sources. Milky Way galaxy and the interstellar medium. Extragalactic astronomy, galaxy clustering, active galactic nuclei, and quasars. Introduction to cosmology: Hubble law, thermal history of the Big Bang, and earliest moments of the universe. P/NP or letter grading.

Upper Division Courses

115. Statistical Mechanics and Its Application to Astrophysics. (4) Lecture, three hours; discussion, one hour. Requisites: Mathematics 32B, 33A, 33B, Physics 1A, 1B, and 1C (or 1AH, 1BH, and 1CH). Permanent enrollment limited to physics majors or students with a special interest in astrophysics. P/NP or letter grading.


180. Astrophysics Laboratory. (4) Lecture, two hours; laboratory, four hours. Designed for juniors/seniors in Astrophysics, Physics, or a related field. Lectures cover statistical methods in astrophysics, one- and two-dimensional random processes, and numerical methods. Laboratory experiments involve radio astronomy, interferometry, narrowband solar imaging, and visual photometry. Emphasis on use of computers for automatic collection of data and for processing two-dimensional astronomical images. P/NP or letter grading.

190. Research Colloquia in Astrophysics. (2) Seminar, two hours. Designed to bring together students undertaking supervised tutorial research in seminar setting with one or more faculty members to discuss their own work or related work in discipline. Led by one supervising faculty member. P/NP grading.

194. Research Group Seminars: Astrophysics. (1) Group research meeting, one hour. Designed for undergraduate students who are part of research group/laboratory. Discussion of research of faculty members or students with regard to understanding methodology in field and/laboratory equipment. P/NP grading.

196. Research Apprenticeship in Astrophysics. (2 to 4) Tutorial, six to 12 hours. Limited to seniors with overall 3.0 grade-point average. Entry-level research apprenticeship for upper division students under guidance of faculty mentor. May be repeated for credit. Individual contract required. P/NP grading.

197. Individual Studies in Astronomy. (2 to 4) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

198. Honors Research in Astrophysics. (2 to 4) Tutorial, 12 hours. Limited with minimum overall 3.0 grade-point average. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

199. Directed Research or Senior Project in Astronomy. (2 to 4) Tutorial, two hours. Limited to juniors/senior Astrophysics and Physics majors. Supervised individual research or investigation under guidance of faculty mentor. Individual contract required. Letter grading.

Graduate Courses


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274. Galaxies. (4) Lecture, three hours. Galaxy prop-erties: kinematics, mass, morphology, stellar popula-tions; stellar orbits; structure, galaxy formation; galaxy clusters, collisions, and mergers; obser-vations and theory of quasars and active galactic nuclei. Letter grading.


277A-277B. Astronomy Research Project. (6-6) Tutorial, to be arranged. Designed for second-year graduate astronomy students. Two-term research project planned in conjunction with a faculty adviser on any suitable research topic in astronomy or astro-physics, culminating in a written report at each of sec-ond term. S/U grading.

277B. Special Topics in Astronomy. (2 or 4) Semi-nar, to be arranged. A formal course with lecture/seminar format and based on one of a set of specific topics in astronomy. S/U (2-unit course) or letter (4-unit course) grading.

279. Seminar: Current Astronomical Research. (2 or 4) Seminar, one hour. Astronomy and astrophysics colloquium with lectures on current research by local and visiting researchers. S/U grading.


285. Origin and Evolution of Solar System. (4) (Same as Earth and Space Sciences M285.) Lecture, four hours. Dynamical problems of solar system; chemical evidences from geochemistry, meteorites, and solar atmosphere; nucleosynthesis; solar origin, evolution, and termination; solar nebula, hydromag-netic processes, formation of planets and satellite systems. Content varies from year to year. May be re-peated for credit. S/U grading.

296. Research Topics in Astronomy. (2) Discus-sion, two hours. Advanced study and analysis of cur-rent topics in astronomy. Discussion of current re-search and literature in research specialty of faculty member teaching course. May be repeated for credit. S/U grading.

M285. Origin and Evolution of Solar System. (4) (Same as Earth and Space Sciences M285.) Lecture, four hours. Dynamical problems of solar system; chemical evidences from geochemistry, meteorites, and solar atmosphere; nucleosynthesis; solar origin, evolution, and termination; solar nebula, hydromagnetic processes, formation of planets and satellite systems. Content varies from year to year. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Semi-nar, to be arranged. Preparation: apprentice person nel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guide-line and supervision of regular faculty member re-sponsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

596A. Directed Individual Studies. (4 to 10) Tutori-al, to be arranged. May be repeated at discretion of department. S/U grading.

596L. Advanced Study and Research at Lick Ob-servatory. (4 to 12) Tutorial, to be arranged. De-signed for graduate students who require observa-tional experience, as well as those working on observa-tional problems for their thesis. May be repeated at discretion of department. S/U grading.

599. Ph.D. Research and Writing. (10 to 12) Tutori-al, to be arranged. May be repeated at discretion of department. S/U grading.

Physics

Lower Division Courses


1AH. Physics for Scientists and Engineers: Me-chanics (Honors). (5) Lecture/demonstration, four hours; dis-cussion, one hour. Recommended preparation: Mathematics 31A. Enforced corequisite: Mathematics 31B. Enforced corequisite: Mathematics 32A. Enriched preparation for upper division physics cours-es. Same material as course 1A but in greater depth; recommended for Physics majors and other students desiring such coverage. P or letter grading.

1B. Physics for Scientists and Engineers: Oscilla-tions, Waves, Electric and Magnetic Fields. (5) Lecture/demonstration, four hours; discussion, one hour. Enforced requisite: Mathematics 31B. Enforced corequisite: Mathematics 31B. Recommended corequisite: Mathematics 32A. Enriched preparation for upper division physics courses. Same material as course 1B but in greater depth; recommended for Physics majors and other students desiring such coverage. P/NP or letter grading.

1BH. Physics for Scientists and Engineers: Oscil-lations, Waves, Electric and Magnetic Fields (Hon-ors). (5) Lecture/demonstration, four hours; dis-cussion, one hour. Enforced requisite: course 1AH or 1A. Mathematics 31B. Enforced corequisite: Mathe-matics 32A. Recommended corequisite: Mathematics 32B. Enriched preparation for upper division physics courses. Same material as course 1B but in greater depth; recommended for Physics majors and other students desiring such coverage. P/NP or letter grading.


1CH. Physics for Scientists and Engineers: Elec-trodynamics, Optics, and Special Relativity (Hon-ors). (5) Lecture/demonstration, four hours; discus-sion, one hour. Enforced requisites: courses 1AH or 1A; 1BH or 1B; Mathematics 32A. Enforced corequi-site: Mathematics 32B. Recommended corequisite: Mathematics 33A. Special relativity. P/NP or letter grading.

1Q. Contemporary Physics. (2) Lecture, four hours; discussion, four hours; laboratory, one hour. Top-ics include planetary motion, Newton laws, gravita-tion, electricity and magnetism, wave motion, light, sound, and heat, relativistic mechanics, at-mos, and subatomic particles. As time permits, devel-opment of physical ideas placed in cultural and histor-ical perspective. P/NP or letter grading.

4BL. Physics Laboratory for Scientists and Engi-neers: Electricity and Magnetism. (2) Laboratory, three hours. Enforced requisite: course 1A or 1AH. Enforced corequisite: course 1B or 1BH. Experiments on electric forces, fields, and potentials. Magnetic fields. Linear and nonlinear devices. Resistors, cap-acitors, and inductors. Modern circuits. Geometrical and physical optics. Letter grading.

6A. Physics for Life Sciences Majors: Mechanics. (5) Lecture, three hours; discussion, one hour; labor-atory, two hours. Enforced requisites: Mathematics 3A, 3B. Enforced corequisite: Mathematics 3C. Not open for credit to students with credit for course 6AH. Motion, Newton laws, energy, linear and angular mo-men tum, rotation, equilibrium, gravity, biological appli-ca tions. P/NP or letter grading.

6AH. Physics for Life Sciences Majors: Statics and Dynamics (Honors). (5) Lecture, three hours; discussion, one hour; laboratory, two hours. Enforced requisites: Mathematics 3A, 3B. Enforced corequisite: Mathematics 3C. Not open for credit to students with credit for course 6A. Statics and dynamics of forces, energy, and momentum, with applications to biologi-cal and biochemical systems. Physics of states of matter (solids, liquids, and gases) and of surfaces and interfaces as they apply to biological organisms. P/NP or letter grading.

6B. Physics for Life Sciences Majors: Waves, Electromagnetism, and Hydrodynamics. (5) Lecture, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: course 6A or 6AH. Not open for credit to students with credit for course 6B. Mechanical waves, sound, electricity and magnetism, electromag-netic waves, biological applications. P/NP or let-ter grading.

6BH. Physics for Life Sciences Majors: Sound, Light, and Hydrodynamics (Honors). (5) Lecture, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: course 6A or 6AH. Not open for credit to students with credit for course 6B. Sound and electromagnetic waves, interference, dif-fraction, radioactivity, and hydrodynamics, with appli-cations to biological and biochemical systems. P/NP or letter grading.

6C. Physics for Life Sciences Majors: Light, Flu-ids, Thermodynamics, Modern Physics. (5) Lec-ture, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: course 6B. Not open for credit to students with credit for course 6CH. Geo-metrical and physical optics, fluid statics and dynam-ics, thermodynamics. Selected topics from founda-tions of quantum mechanics; atoms, nuclear and particle physics; relativity; medical detectors; biologi-cal applications. P/NP or letter grading.

6CH. Physics for Life Sciences Majors: Electricity, Magnetism, and Transport (Honors). (5) Lecture, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: course 6BH. Not open for credit to students with credit for course 6HC. Electrostatics in vacuum and in water. Electric current with applications to electrophysiology. Magnetism, espe-cially NMR. Diffusion and heat flow, with applications to biological and biochemical systems. P/NP or letter grading.

10. Physics. (4) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 1A, 1AH, 6A, or 6AH. Special mathemati-cal preparation beyond that necessary for admission to University in freshman standing not required. Top-ics include planetary motion, Newton laws, gravita-tion, electricity and magnetism, wave motion, light, sound, heat, relativistic mechanics, at-mos, and subatomic particles. As time permits, devel-opment of physical ideas placed in cultural and histor-ical perspective. P/NP or letter grading.
17. Elements of Quantum Mechanics and Statistical Mechanics. (4) Lecture; three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32A, 32B. Corequisite: Mathematics 33A. Photons, photoelectric effect, uncertainty principle Bohr atom, Schrödinger equation, hydrogen atom, Gaussian and Poisson distributions, temperature, entropy, Maxwell Boltzmann distribution, kinetic theory of gases, laws of thermodynamics, black body radiation, P/NP or letter grading.

18L. Modern Physics Laboratory. (4) Lecture, one hour; laboratory, six hours. Enforced requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 4AL, 4BL, 17. Experiments such as superconductivity, radioactivity, polarization; measurement of speed of light, fine structure constant, Boltzmann constant, Planck constant. Letter grading.

88. Lower Division Seminar: Current Topics in Physics. (2) Limited to freshmen/sophomores. Intensive exploration of a particular theme or topic based on current research. Consult Schedule of Classes for topics to be offered in a specific term. P/NP or letter grading.

M88. Limits of Biological Design through Physical Principles. (4) (Same as Molecular, Cell, and Developmental Biology M88H.) Seminar, three hours. Enforced requisites: courses 1A, 1B, and 1C, or 1AH, 1BH, and 1CH, or 1AH, 1BH, and 6C, Chemistry 20A, 20B, Life Sciences 1, 3, Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A. Specific examples of diverse biological design such as scaling of metabolic activity, bone and muscle mass, cell size, cell membranes and pumps, heart and blood circulation, swim bladders, insect vision, magnetic bacteria, etc., studied quantitatively using elementary mathematics and physical principles. P/NP or letter grading.

98XA. P.EERS Collaborative Learning Workshops for Life Sciences Majors. (1) (Formerly numbered 96A.) Laboratory, three hours. Corequisite: associated undergraduate lecture course in physics for life sciences majors. Development of problem-solving skills and intuition in collaborative learning environment. May be repeated three times, but only 1 unit may be applied toward graduation. P/NP grading.

98XB. P.EERS Collaborative Learning Workshops for Physical Sciences and Engineering Majors. (1) (Formerly numbered 91A.) Laboratory, three hours. Corequisite: associated undergraduate lecture course in physics for physical sciences and engineering majors. Development of problem-solving skills and intuition in collaborative learning environment. May be repeated three times, but only 1 unit may be applied toward graduation. P/NP grading.

Upper Division Courses

105A. Analytic Mechanics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 33A. Corequisite: Mathematics 33B. Newtonian mechanics and conservation laws, gravitational potentials, calculus of variations, Lagrangian and Hamiltonian mechanics, central force motion, linear and nonlinear oscillations. P/NP or letter grading.

105B. Analytic Mechanics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 105A. Relativity with four vectors, noninertial reference frames, dynamics of rigid bodies, coupled oscillators, normal modes of oscillation, vibrating strings, and wave propagation. P/NP or letter grading.

108. Optical Physics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 105B. Interaction of light with matter; dispersion theory, oscillator strength, line widths, molecular scattering. Coherence theory. Kirchhoff formulation of diffraction theory, crystal optics, optical rotation, electro and magneto optical effects. Additional topics of fundamental or current interest. P/NP or letter grading.

110A. Electricity and Magnetism. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 131, Mathematics 32B, 32A, 33A. Electromagnetics and magnetostatics. P/NP or letter grading.


112. Thermodynamics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 33A, 33B. Corequisite: course 115B. Fundamentals of thermodynamics, including first, second, and third laws. Statistical mechanical point of view and its relation to thermodynamics. Some simple applications. P/NP or letter grading.

114. Mechanics of Wave Motion and Sound. (4) Lecture, three hours; discussion, one hour. Enforced requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 105A, 105B. Mathematics 32B, 33A, 33B. Vi- brating strings, and wave propagation. P/NP or letter grading.


116. Electronics. (4) Lecture, three hours; laboratory, three hours. Alternating current circuits, transmission line circuits, transistor and IC circuits to generate, modify, and detect electrical signals, introduction to digital circuits, analysis of noise and methods to reduce its influence in electrical measurements.

117. Electronics for Physics Measurement. (4) Lecture, three hours; laboratory, two hours. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 32A, 33A, 33B. Hands-on experimental course to develop understanding of design principles in modern electronics for physics measurements. Broad introduction to analog and digital electronics from practical viewpoint, followed by examination of typical circuits for scientific instrumentation and study of methods of computer data acquisition and signal processing. P/NP or letter grading.


123. Atomic Structure. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 33A, 33B. Corequisite: course 115B. Fundamentals of atomic structure. Interaction of radiation with matter. P/NP or letter grading.

124. Nuclear Physics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 33A, 33B. Corequisite: course 115C. Nuclear properties, nuclear forces, nuclear structure, nuclear decays, and nuclear reactions. P/NP or letter grading.

126. Elementary Particle Physics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 33A, 33B. Corequisite: course 115C. Introduction to physics of elementary particles. The four basic interactions: strong, electromagnetic, weak, and gravitational. Properties of baryons, mesons, quarks, and leptons; conservation laws, symmetries and broken symmetries; the Standard Model; experimental techniques; new physics at the new accelerators. P/NP or letter grading.


131. Mathematical Methods of Physics. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 33A, 33B. Vector fields and line integrals; Green’s theorem; Divergence and Laplace transforms. P/NP or letter grading.

140A. Introduction to Solid-State Physics. (4) Lecture, three hours; discussion, one hour. Enforced requisites: course 112. Introduction to basic theoretical concepts for solid state and semiconductors. Crystal symmetry; cohesive energy; diffraction of electron, neutron, and electromagnetic waves in a lattice; reciprocal lattice; phonons and their interactions; free electron theory of metals; energy bands. Letter grading.


150. Physics of Charged-Particle and Laser Beams. (4) Lecture, three hours; discussion, one hour. Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), Mathematics 32B, 33A, 33B. Physics of charged-particle and laser beams presented as a unified subject. Basic physics of charged-particle beams, covering relativistic particle motion in electromagnetic fields, transport and focusing, acceleration mechanisms, linear and circular accelerators, and advanced topics. Some fundamentals of laser physics, including gain and broadening mechanisms, linear light optics, laser resonators, and advanced topics and applications. P/NP or letter grading.
160. Numerical Analysis Techniques and Particle Simulations. (4) Lecture, three hours; computer terminals, six hours. Minimum knowledge of computer programming (Fortran). Requisites: courses 1A, 1B, and 1C (or 1AH, 1BH, and 1CH), 105A, 105B, 110A, 110B. Introduction to field of computer modeling of physical systems using particle models, numerical methods, methods of diagnosing results, experience with running interesting physical problems. P/NP or letter grading.

180A. Nuclear Physics Laboratory. (4) Laboratory, four hours. P/NP or letter grading.

180B. Physical Optics and Spectroscopy Laboratory. (4) Laboratory, four hours. P/NP or letter grading.

180C. Solid-State Laboratory. (4) Laboratory, four hours. P/NP or letter grading.

180D. Acoustics Laboratory. (4) Laboratory, four hours. P/NP or letter grading.

180E. Plasma Physics Laboratory. (4) Laboratory, four hours. P/NP or letter grading.

180F. Elementary Particle Laboratory. (4) Laboratory, four hours. P/NP or letter grading.

M180G. Soft Matter Laboratory. (4) (Formerly numbered 198G, same as Chemistry M120.) Laboratory, four hours. P/NP or letter grading.


188. Special Courses in Physics. (4) Lecture, three hours; discussion, one hour. Limited to junior/senior Astrophysics and Physics majors. Departmentally sponsored temporary courses such as pilot courses or those taught by visiting faculty members. May be repeated for credit. P/NP or letter grading.

188L. Special Laboratory Courses in Physics. (4) Lecture, one hour; laboratory, two hours. Limited to junior/senior departmental majors. Departmentally sponsored temporary laboratory courses such as pilot courses or those taught by visiting faculty members. May be repeated for credit. P/NP or letter grading.

190. Research Colloquia in Physics. (2) Seminar, two hours. Designed to bring together students undertaking supervised tutorial research in seminar setting with one or more faculty members to discuss their own work or related work in discipline. Led by one supervising faculty member. P/NP grading.

191. Variable Topics in Physics and Astronomy. (4) Seminar, three hours. Participating research seminar on advanced topics in physics. Reading, discussion, and development of culminating project. Content varies from year to year. May be repeated for credit by petition. P/NP or letter grading.

193. Journal Club Seminars: Physics. (2) Seminar, one hour. Limited to undergraduate students. Seminars are linked to speaker-series seminars offered by department on weekly basis. Supplemental reading from literature on speaker’s topic, as well as active participation and discussion to understand what kind of questions modern-day physicists actually ask and how they go about answering them. P/NP grading.

194. Research Topics in Physics and Astronomy. (1) Research group meeting, one hour. Designed for undergraduate students who are part of research group/labouratory. Discussion of research of faculty members or students with regard to understanding methodology in field and laboratory equipment. P/NP grading.

196. Research Apprenticeship in Physics. (2 to 4) Tutorial, 12 hours. Limited to juniors/seniors with overall 3.0 grade-point average. Entry-level research apprenticeship for upper division students; under guidance of faculty mentor. May be repeated for credit. Individual contract required. P/NP grading.

197. Individual Studies in Physics. (2 to 4) Tutorial, 12 hours. Limited to juniors/seniors with overall 3.0 grade-point average. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

199. Directed Research or Senior Project in Physics. (2 to 4) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. Individual contract required. P/NP or letter grading.

Graduate Courses

210Q. Modern Physics Research Areas. (2) Review of modern physics research areas, with emphasis on those actively pursued at UCLA. S/U grading.


213B. Advanced Atomic Structure. (4) N× symbols, continuous groups, fractional parentage coefficients, n electron systems.


215C. Quantum Statistical Mechanics and the Many-Body Problem. (4) Lecture, three hours. Classical methods for interacting systems; quantum field theory techniques in statistical mechanics; Green’s function approach; Coulomb gas; imperfect Bose gas; electron-electron interaction; superconductivity; phase transitions; theory of Fermi liquid. S/U or letter grading.


220. Classical Mechanics. (4) Lecture, three hours. Hamilton/Jacobi theory, action-angle variables, classical perturbation theory, and selected topics such as introduction to physics of continuous media and fluids, P/NP or letter grading.

221A-221B. Quantum Mechanics. (4-4-4) Lecture, three hours. Hamiltonian/Jacobi theory, action-angle variables, classical perturbation theory, and selected topics such as introduction to physics of continuous media and fluids, P/NP or letter grading.


223. Advanced Classical Mechanics. (4) Requis- ites: course 220. Topics such as nonlinear mechan- ics, ergo- dynamical theory, mechanics of fluid media.

224. Introduction to the Strong Interaction. (4) Evidence concerning the strong interaction, particularly as exemplified in nucleon/nucleon and pion/nucleon systems. Isospin, scattering matrix, density matrix and polarization, properties of pions, one pion exchange potential, phase shift analysis.


226E. Particle Astrophysics: Exploring Earliest and Extreme Universe. (4) Lecture, three and one half hours. Requisites: courses 210A, 210B, 212A, 212B. Recommended: course 225A. Introduction to high-energy astrophysics and discussion of latest developments in both experimentation and theory. Special emphasis on unified picture of universe that emerges from particle physics, astronomy, and cosmology. S/U or letter grading.

230A-230B-230C. Relativistic Quantum Theory. (6- 6-6) Lecture, four hours. Requisites: courses 221A, 221B, 221C. Modern quantum field theory, including quantum electrodynamic and quantum chromodynam- ics, renormalization group methods, path-integral quantization, spontaneous symmetry breakdown, monopoles and other solitons.

231A. Methods of Mathematical Physics. (4) Lecture, three hours. Not open for credit to students with credit for Mathematics 266A. Linear operators, review of functions of a complex variable, integral transforms, partial differential equations. S/U or letter grading.


232A-232B. Relativity. (4-4) Special and general theories, with applications to elementary particles and astrophysics.

232C. Special Topics in General Relativity. (4) Lecture, four hours. S/U or letter grading.


M236. Geometry and Physics. (4) (Same as Mathematics M217.) Lecture, three hours. Interdisciplinary course on topics at interface between physics quantum fields and superstrings and mathematics of differential and algebraic geometry. Topics include super-symmetry, Seiberg/Witten theory, conformal field theory, Calabi/Yau manifolds, mirror symmetry and duality, integrable systems. S/U grading.


237B. String Theory. (4) Lecture, four hours. Requisite: course 237A. Topics may include toroidal compactification, t-duality and d-branes, supersymmetric strings, orbifolds, Calabi/Yau compactifications and physics in four dimensions, and strings at strong coupling and dualities. S/U or letter grading.


256C. Seminar: Propagation of Waves in Fluids. (2 to 4) Seminar, three hours. S/U or letter grading.

256D. Seminar: Spectroscopy. (2 to 4) Seminar, three hours. S/U or letter grading.

256A. Seminar: Nuclear Physics. (2 to 4) Seminar, three hours. S/U or letter grading.

256B. Seminar: Elementary Particle Physics. (2 to 4) Seminar, three hours. S/U or letter grading.

256C. Seminar: Accelerator Physics. (2 to 4) Seminar, three hours. Physics principles governing design and performance analysis of particle accelerators, using existing accelerators as examples and emphasizing its role in component component performance, and operational experience. S/U grading.

256E. Advanced Plasma Laboratory. (4) Lecture, two hours; laboratory, four hours. Requisites: courses M122, 180E. Laboratory experiments on behavior of plasmas in magnetic fields. Study of basic physics of particle motions, distribution functions, and fluid dynamics. Plasma waves and nonlinear phenomena. Advanced probe, microwave and plasma diagnostics.

256F. Foundations of Physics. (4) Lecture, three hours. Historical development and philosophical sources of classical and modern physics. Concurrently scheduled with course C185.

260. Research Tutorial: Plasma Physics. (2 or 4) Three terms required of each graduate student doing research in this field, ordinarily during second or third year. Seminar and discussion by staff and students on current problems in experimental plasma physics. May be repeated for credit. S/U grading.

261. Seminar: Special Problems in Theoretical Physics. (4) Seminar, four hours. Interdisciplinary seminar on topics at interface between physics and mathematics M217.) Lecture, three hours. Interdisciplinary seminar, ordinarily during second or third year. Seminar and discussion by staff and students on current topics in physics. Discussion of current research and literature in research specialty of faculty member teaching course. May be repeated for credit. S/U grading.

M279. Research Tutorial: Astroparticle Physics. (2 or 4) (Same as Astronomy M297.) Lecture, one hour; discussion, two hours. Required of each graduate student doing research in this field. Seminar and discussion by faculty, postdoctoral fellows, and graduate students on topics of current interest in astroparticle physics. May be repeated for credit. S/U grading.

279. Research Tutorial: Experimental Elementary Particle Physics. (2 or 4) Limited to six students. Required of each graduate student doing research in this field, ordinarily during second or third year. Seminar and discussion by staff and students on current problems in experimental elementary particle physics. May be repeated for credit. S/U grading.

289. Research Tutorial: Nuclear Physics. (2 or 4) Required of each graduate student doing research in this field, ordinarily during second or third year. Seminar and discussion on nuclear physics by staff and students, in both experiment and theory. May be repeated for credit. S/U grading.

M309A. Integrated Science Instruction Methods. (4) (Same as Chemistry M370A and Earth and Space Sciences M370A.) Lecture, two hours; discussion, one hour; laboratory, one hour. Preparation: one introductory lower division year (including laboratory) of each of chemistry, life sciences, and physics and at least two Earth science courses, preferably one with field experience. Classroom management, lesson design, assessment, history of science education. S/U or letter grading.

M309B. Integrated Science Instruction Methods. (4) (Same as Chemistry M370B and Earth and Space Sciences M370B.) Lecture, two hours; discussion, one hour; laboratory, one hour. Requisite: course M309A or Chemistry M370A or Earth and Space Sciences M370A. Application of learning theory to science instruction and classroom management, including use of technology, collaborative learning, laboratory safety, ethical issues, field experiences, and professional development. S/U or letter grading.

295. Teaching Apprentice Practicum. (4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching College Physics. (2) Seminar/discussion (five or more one-hour meetings during term, plus intensive training week at beginning of Fall Quarter). Required of all new teaching assistants. Special course for teaching assistants designed to deal with problems and techniques of teaching college physics. Ideas and techniques learned are applied and evaluated in the sections of each teaching assistant. May be repeated for credit. S/U grading.

596. Directed Individual Studies. (2 to 12) Tutorial, to be arranged. May be repeated for credit. S/U grading.

597. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examinations. (4) Tutorial, to be arranged. May be repeated twice for credit. S/U grading.

599. Master's Thesis Research and Writing. (4) Tutorial, to be arranged. May be repeated twice for credit. S/U or letter grading.
Scope and Objectives

The cornerstone of the physiological science curriculum is vertebrate physiology, with emphases on integrative functions. The research and educational programs focus on integrative physiology at several levels of organization from molecules to living organisms, microscopic structures to macroscopic organization, and cellular properties to organ functions. Students receive comprehensive instruction in all areas of physiological science, while elective courses reflect faculty research expertise, including developmental neurobiology, gene regulation/neural development, cellular neurobiology, molecular neurobiology, neuromuscular physiology, neuroendocrine physiology, cardiac physiology, diet and degenerative disease, auditory and visual behavior, biomechanics of rehabilitative medicine, muscle cell biology, inflammatory cell biology, vascular biology, cardiac electrophysiology, neuromotor control, and social control of neuronal plasticity.

Applicants interested in pursuing graduate study may apply directly to the interdepartmental Molecular, Cellular, and Integrative Physiology Ph.D. Program (http://www.mcip.ucla.edu) or the interdepartmental Neuroscience Ph.D. Program (http://www.neuroscience.ucla.edu).

Undergraduate Study

Physiological Science B.S.

Preparation for the Major

Life Sciences Core Curriculum

Required: Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C, or 6AH, 6BH, and 6CH.

All core curriculum courses must be passed with a grade of C– or better and must be completed with an overall grade-point average of 2.0 or better. Students receiving a grade of D or F in two core curriculum courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.

Transfer Students

Transfer applicants to the Physiological Science major with 90 or more quarter units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory for majors, preferably equivalent to Life Sciences 1 and 2, one year of calculus, one year of general chemistry with laboratory for majors, and one semester of organic chemistry with laboratory. A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission.

Transfer credit for UCLA Extension coursework and for any departmental courses is subject to prior approval by the department; consult the undergraduate counselor before enrolling in any courses for the major.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Physiological Science 107, 111A (or M180A), 111B, 111C, 111L, Chemistry and Biochemistry 153A, 153L.

A total of four upper division physiological science electives (16 units) is required. Either three units of course 199 and one letter-graded unit of course 193 OR four units of course 198 may be applied toward the elective requirement. Courses 189HC, 191H, 192, 195, 196, and graduate courses at the 300, 400, or 500 level may not be applied toward this requirement. One graduate course at the 200 level may be applied toward the elective requirement by petition.

All required and elective courses must be taken for a letter grade, and a C average must be maintained in all upper division courses taken for the major. Additionally, a grade of C– or better in each of the core courses (Physiological Science 107, 111A or M180A, 111B, 111C) is required to enroll in the next course in the series.

Honors Program

The honors program provides exceptional students with the opportunity for individual research culminating in an honors thesis. Requirements for admission include a 3.0 overall grade-point average and a 3.2 GPA in the life sciences core curriculum. After completion of all requirements and with the recommendation of the faculty adviser, the undergraduate affairs committee confers departmental honors at graduation.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Department of Physiological Science offers the Master of Science (M.S.) degree in Physiological Science.

Physiological Science

Lower Division Courses

3. Introduction to Human Physiology. (5) Lecture, three hours; laboratory, two hours. Not open to Physiological Science majors. Courses 3 and 5 may be taken independently, concurrently, or in either sequence. Understanding of human body, its organization from molecular to cellular to tissues and organs, and how component parts function in integrated manner to permit life as we know it. P/NP or letter grading.
107. Systems Anatomy. (5) Lecture, three hours; laboratory, 90 minutes. Not open to Physiological Science majors. Basic introduction to principles of human biology, with special emphasis on roles that exercise and nutrition play in health, and prevention and management of such illnesses as hypertension, diabetes, and heart disease. P/NP or letter grading.


13. Introduction to Human Anatomy. (5) Lecture, four hours; laboratory, five hours. Not open to Physiological Science majors. Structural survey of human body, including skeletal, muscular, nervous, circulatory, respiratory, digestive, and genitourinary systems. Laboratory includes examination of human cadaver specimens. Letter grading.

90. Introduction to Physiological Science. (2) Lecture, one hour; discussion, one hour. Limited to freshmen/sophomores. Introduction to current topics in physiological science by a team of departmental faculty members. P/NP grading.

Upper Division Courses

100. Experimental Statistics. (4) (Formerly numbered C100.) Lecture, four hours. Introduction to statistics with focus on computer simulation instead of formulas. Bootstrap and Monte Carlo methods used to analyze physiological data. P/NP or letter grading.

CM102. Basic Human Biology for Biomedical Engineers I. (4) (Same as Biomedical Engineering CM102.) Lecture, three hours; laboratory, two hours. Preparation: human molecular biology, biochemistry, and cell biology. Not open for credit to Physiological Science majors. Broad overview of basic biological activities and organization of human body in system (organ/tissue) to system basis, with particular emphasis on molecular basis. Modeling/simulation of functional aspect of biological system included. Actual demonstration of biomedical instruments, as well as visits to biomedical facilities. Concurrently scheduled with course CM204. Letter grading.

CM103. Basic Human Biology for Biomedical Engineers II. (4) (Same as Biomedical Engineering CM103.) Lecture, three hours; laboratory, two hours. Preparation: human molecular biology, biochemistry, and cell biology. Not open for credit to Physiological Science majors. Molecular-level understanding of human anatomy and physiology in selected organ systems (digestive, skin, musculoskeletal, endocrine, immune, urinary, reproductive). System-specific modeling/simulations (immune regulation, wound healing, muscle mechanics and energetics, acid-base balance, excretion). Functional basis of biomedical instrumentation (dialysis, artificial skin, pathogen detectors, ultrasound, birth-control drug delivery). Concurrently scheduled with course CM203. Letter grading.

107. Systems Anatomy. (5) Lecture, four hours; laboratory, two hours. Preparation: Life Sciences 2, Physics 1A or 6A or 6AH. Students must receive a grade of C– or better to proceed to next course in series. Systems anatomy focused primarily on human anatomy. Topics include cardiovascular, reproductive, nervous, and skeletal systems, with introduction to biomechanical principles. Letter grading.

111A-111B-111C. Foundations in Physiological Science. (5-6-6) Lecture, four hours; laboratory, two hours. Letter grading. 111A. Requisites: course 107, Chemistry 14C or 30A, Life Sciences 1 2, 3, 4, Physics 1B or 6B or 6CH. Not open for credit to students with credit for course M180A. Students must receive a grade of C– or better to proceed to next course in series. Introduction to principles of neurophysiology: cellular and systems neuroscience, including factors controlling membrane excitability, neuronal circuits, sensory receptor mechanisms, special senses, cortical functions, and neuronal plasticity. 111B. Requisites: course 111A or M180A, Chemistry 14D or 30B. Students must receive a grade of C– or better to proceed to next course in series. Principles of muscular, cardiovascular, and pulmonary physiology. 111C. Requisites: course 111A or M180A, Chemistry 153A. Students must receive a grade of C– or better to proceed to next course in series. Principles of gastrointestinal, renal, endocrine, and reproductive physiology.

111L. Physiological Science Laboratory. (3) Laboratory, four hours. Requisites: courses 111A, 111B, 111C (111C may be taken concurrently). Required of Physiological Science majors. Designed to illustrate physiological principles studied in courses 111A, 111B, 111C. Letter grading.

C126. Biological Clocks. (4) (Formerly numbered 126B.) Lecture, three hours; discussion, one hour. Requisites: courses 111A, 111B, and 111C, or M180A, M180B, and M180C. Most organisms, including humans, exhibit daily rhythms in physiology and behavior. In many cases these rhythms are generated from within organisms and are called circadian rhythms. Biological basis of these daily rhythms or circadian oscillations. Exploration of molecular, cellular, and system-level organization of these timing systems. Temporal role of these variations in maintaining homeostatic mechanisms of body and impact on nervous system. Concurrently scheduled with course C226. Letter grading.

133. Exercise Physiology. (5) Lecture, three hours; laboratory, two hours. Requisites: course 111B. Physiological responses and adaptations to acute and chronic exercise. Letter grading.

134. Advanced Exercise Endocrinology and Metabolism. (4) Lecture, four hours. Requisite or corequisite: course 111C. Effects of exercise training, physical inactivity, and aging on various hormone axes and their physiological consequences. Hormonal perturbations that occur in disease states associated with activity levels, including diabetes, obesity, and sarcopenia. Effects of hormone therapy on physiological function. Letter grading.

135. Dynamical Systems Modeling of Physiological Processes. (5) (Formerly numbered C135.) Lecture, four hours; laboratory, two hours. Examination of art of making and evaluating dynamical models of physiological systems and of dynamical principles inherent in physiological systems. Letter grading.


144. Neural Control of Physiological Systems. (5) Lecture, four hours. Requisite: course 111B or M180B. Role of central nervous system in control of responses to exercise, heart rate, blood pressure, sweating, and bladder control. Material for each section to be developed by combination of lecture and open discussion. Concurrently scheduled with course C1244.

M145. Neural Mechanisms Controlling Movement. (5) (Formerly numbered CM145.) (Same as Neuroscience M145.) Lecture, four hours. Requisite: course 111A or M180A or Neuroscience M101A. Examination of central nervous system organization required for production of complex movements such as locomotion, mastication, and swallowing. Letter grading.

146. Principles of Nervous System Development. (4) Lecture, four hours. Requisites: courses 107 (or Neuroscience 102) and 111A (or M180A or Neuroscience M101A). Examination of construction of vertebrate nervous system as series of steps beginning with several embryonic cells and culminating as complex highly ordered system. Topics include neurulation, regionalization, neurogenesis, migration, axonal outgrowth, and synapse formation. Letter grading.

147. Neurobiology of Learning and Memory. (5) Lecture, four hours; research demonstration, one hour. Requisite: course 111A or M180A. Changes in central nervous system that accompany learning, with emphasis on cellular mechanisms.

M148. Neuronal Signaling in Brain. (4) (Same as Neuroscience M148.) Lecture, three hours; discussion, one hour. Requisites: courses 111A (or M180A or Neuroscience M101A), M180B (or Neuroscience M101B or Chemistry 153A). Consideration of brain function, with focus on cellular physiology and functional neuroanatomy. Topics include neuronal excitability and synaptic transmission and function of specific neuronal circuits in auditory pathway, basal ganglia, cerebellum, hippocampus, and neocortex. Letter grading.

149. Mechanisms of Major Human Diseases. (4) (Formerly numbered 197C.) Lecture, three hours. Integration of principles gained through basic science curriculum with presently understood mechanisms of selected human diseases. Progressive developments of these diseases presented in terms of changes in cell biology and function, and changes in regulation of intercellular interactions. Letter grading.


153. Dissection Anatomy. (4) Lecture, two hours; laboratory, six hours. Requisite: course 111B. Departmental application required. Study and dissection of upper and lower extremities of human cadavers; dissection of thorax and abdomen limited to musculature and neurovascular supply.
154. Cellular Communication and Regulation of Physiological Processes. (4) (Formerly numbered 197Y.) Lecture, limited to physiological science majors. Signal transduction concepts, with focus on role of receptors, G proteins, and intracellular messengers such as cyclic AMP and calcium. Integration of these concepts with variety of physiological processes, including stimuli-secretion coupling, vascular smooth muscle contraction, and role of growth factors in cell proliferation. Contemporary scientific research articles used as basis for material presented. Students required to present journal article for discussion. Letter grading.

155. Development and Structure of Musculoskeletal System. (4) (Same as Ecology and Evolutionary Biology M158.) Lecture, three hours; laboratory, six hours. Requisites: Chemistry 14A, 14B, and 14BL, or 20A, 20B, 20L, and 30AL, Life Sciences 1, 3, 4, Cell biology of eukaryotic cells, with emphasis on correlation of structure and function at molecular, organellar, and cellular levels. Letter grading.

156. Comparative Animal Physiology. (4) Lecture, three hours; discussion, one hour. Requisites: Life Sciences 1, 2, 3. Physiological response and function at molecular, cellular, system, and whole organism levels of variety of animals to range of environmental conditions. Major topics include neural and muscular structure and function, exchange of gases, energy, and thermoregulation. Examination of wide variety of vertebrates and invertebrates to understand how animals solve physiological challenges presented by physical environment. Letter grading.

157. Animal Physiology. (Formerly numbered M166.) Lecture, three hours; laboratory, five hours. Requisites: Chemistry 14B and 14BL, or 20B and 30AL, 153A, Life Sciences 1, 2, 3, Physics 1C and 4BL, or 6C or 6CH. Not open for credit to students with credit for Ecology and Evolutionary Biology 170 or former Organismic Biology M166 or 167 or 170 or to Physiological Science majors. Introduction to physiological principles, with emphasis on organ systems and intact organisms. Letter grading.

158. Physiology of Nutrition. (4) Lecture, four hours. Limited to senior Physiological Science majors. Topics include physiological adaptation to starvation and physiological responses to oxidants/antioxidants, vitamins, minerals, photochemicals, and their relationship to common chronic diseases and physiology of fuel utilization during aerobic and anaerobic exercise. Letter grading.

159. Ideas and Experiments in History of Physiology. (4) (Same as Neurobiology M168.) Lecture, three hours. Interaction of concepts and experimental techniques in physiology from the early 19th to latter 20th centuries, including heart and circulation, hormones, nutrition and vitamins, brain, spinal cord, and peripheral nervous system, as well as development of physiology as scientific discipline. Discussion of weekly readings and presentations by students. Letter grading.

177. Neuroethology. (5) Lecture, four hours; discussion, one hour. Requisite: course 111A. Physical properties of animal signals and physiological mechanisms underlying their generation. Topics include classical neuroethological models: acoustic and vibrational communication in vertebrates, sound localization in owls, electrosensing and electrocommunication in electric fish, and neuroethology of birdsong. Letter grading.


M180A. Cellular and Systems Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: Chemistry 14C or 30A (14C may be taken concurrently), Life Sciences 2, Physics 1B or 18B or 6B or 68H. Not open for credit to students with credit for Physiological Science 111A. For Physiological Science majors only, a grade of C- or better is required to proceed to Physiological Science 111B. Cellular neurophysiology, membrane potential, action potentials, and propagation of action potentials in transmitter and motor system; how assemblies of neurons process complex information and control movement. P/NP or letter grading.

M180B. Molecular and Developmental Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: course 111A or M180A (or Molecular, Cell, and Developmental Biology M175A or Neuroscience M101A or Psychology M117A) or Psychology 115. Life Sciences 3, 4. Molecular biology of channel proteins and receptors: focus on voltage dependent channels and neurotransmitter receptors. Molecular biology of supramolecular assemblies: transmembrane, axonal transport, cytoskeleton, and muscle. Classical experiments and modern molecular approaches in developmental neurobiology. P/NP or letter grading.

M180C. Behavioral and Cognitive Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: course 111A or M180A (or Molecular, Cell, and Developmental Biology M175A or Neuroscience M101A or Psychology M117A) or Psychology 115. Neural mechanisms for learning, motivation, learning, and cognition. P/NP or letter grading.

M181. Biological Bases of Psychiatric Disorders. (4) (Same as Molecular, Cell, and Developmental Biology M181, Neuroscience M130, Psychiatry M181, and Psychological Science M181.) Lecture, four hours. Requisites: course 111A or M180A (or Molecular, Cell, and Developmental Biology M175A or Neuroscience M101A or Psychology M117A) or Psychology 115. Understanding brain in psychiatric symptoms and neurological disorders, including schizophrenia, depression, bipolar disorder, obsessive/compulsive disorder. Provides basic understanding of brain dysfunctions that contribute to disorders and rationales for pharmacological treatments. P/NP or letter grading.

191. Variable Topics Advanced Seminar: Physiologica- (1) Seminar, one hour. Requisite: course 111A. Focused reading in single subdiscipline of physiology, with focus on critical analysis of primary research literature. Emphasis on understanding methods for researching physiology and interpretation of experimental results, and how they bear on concepts of physiology, development of culminating paper. P/NP grading.

191H. Honors Seminars: Current Topics in Physiology. (4) (Formerly numbered 195H.) Seminar, four hours. Requisites: or corequisites: courses 198A, 198B. Limited to neuroscience and physiological science honors program students. Designed for juniors/seniors required of departmental honors students. Presentation of primary paper from physiology literature. Reading and critical evaluation of current research literature. Presentation of student laboratory research hypothesis, approach, and results in form of oral and poster presentations. Letter grading.

192. Practicum in Systems Anatomy for Undergraduate Assistants. (3) (Formerly numbered 196.) Seminar, two hours; additional hours in laboratory, may be arranged. Limited to juniors/seniors. Training and supervised practicum in systems anatomy for undergraduate assistants. Consult Undergraduate Office for further information. May not be applied toward elective requirements and may not be repeated for credit. Departmental application required. P/NP or letter grading.


194. Research Group Seminars: Physiological Science. (2) Seminar, two hours. Required of undergraduate students in research traineeships as MARC and UC Leads programs. Discussion of research methods and current literature in field or of review of faculty members or students. May be repeated for credit. Letter grading.

195. Field Studies in Physiological Science. (4) (Formerly numbered 193.) Tutorial, one hour; fieldwork, eight hours. Supervised field studies in specific careers related to physiological science. May not be repeated for credit and may not be applied toward elective requirements for the major. Individual contract with supervising faculty member required. P/NP grading.

196. Research Apprenticeship in Physiological Science. (2 to 4) Tutorial, three hours per week per unit. Limited to juniors/seniors. Entry-level research apprenticeship for upper division students under guidance of faculty mentor. May be repeated; consult department. Individual contract required. P/NP grading.

198A. Honors Research in Physiological Science. (4) (Formerly numbered 190A.) Tutorial, 12 hours. Requisites: courses 111A, 111B. Corequisite: course 193. Limited to junior/senior physiological science honors program students. Directed independent research for departmental honors with faculty member, involving development of research topic and extensive reading and research in field of proposed honors thesis. Individual contract required. In Progress grading (credit to be given only on completion of course 198B).

198B. Honors Research in Physiological Science. (4) (Formerly numbered 190B.) Tutorial, 12 hours. Requisite: course 198A. Corequisite: course 193. Limited to junior/senior physiology science honors program students. Continued reading and research that culminate in final honors thesis. Only 4 units of course 198A and 1 unit of course 198B may be applied toward elective requirements for the major. Individual contract required. Letter grading.

198C. Advanced Studies for Honors Research in Physiological Science. (4) (Formerly numbered 190C.) Tutorial, 12 hours. Requisite: course 198B. Corequisite: course 193. Limited to junior/senior physiological science honors program students. Additional course to provide further research opportunities for departmental honors students. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

199. Directed Research or Senior Project in Physiological Science. (2 to 4) Tutorial, 12 hours. Requisites: courses 111A, 111B. Corequisite: course 193. Limited to junior/senior physiological science honors program students. Additional course to provide further research opportunities for departmental honors students. Development and completion of honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.
Graduate Courses

M200. Advanced Experimental Statistics. (4) (Formerly numbered CM200.) (Same as Biostatistics M220.) Lecture, four hours. Introduction to statistics with focus on computer simulation instead of formulas. Bootstrap and Monte Carlo methods used to analyze univariate and multivariate data. Preparation: Statistics knowledge. Letter grading.

M202. Cellular Neurophysiology. (4) (Same as Neurobiology M200F and Neuroscience M202.) Lecture, three hours; discussion, two hours. Requisites: course 111A or M180A or Physics 6B, and course 166 or Molecular, Cell, and Developmental Biology 171. Advanced course in cellular physiology of neurons. Action and membrane potentials, channels and channel blockers, gates, ion pumps and neuronal homeostasis, synaptic transmission, transmitter release, modulation by second messengers, and sensory transduction. Letter grading.

CM203. Basic Human Biology for Biomedical Engineers II. (4) (Same as Biomedical Engineering CM203.) Lecture, three hours; laboratory, two hours. Preparation: human molecular biology, biochemistry, and cell biology. Not open for credit to Physiological Science majors. Not open for credit to students with credit in course CM200. (Same as Biostatistics M200.) Lecture, four hours; laboratory, two hours. Emphasis on computer simulation instead of formulas. Preparation: Statistics knowledge. Letter grading.

CM204. Basic Human Biology for Biomedical Engineers I. (4) (Same as Biomedical Engineering CM202.) Lecture, three hours; laboratory, two hours. Preparation: human molecular biology, biochemistry, and cell biology. Not open for credit to Physiological Science majors. Not open for credit to students with credit in course CM200. Letter grading.


M215. Molecular and Cellular Foundations of Physiology. (5) (Formerly numbered 215.) (Same as Molecular, Cellular, and Integrative Physiology M215.) Lecture, three hours; discussion, two hours. Application of molecular and cellular approaches to systems level questions. Basic foundation for study of major physiological systems, with emphasis on levels of organization from molecular to macroscopic. Letter grading.

C226. Biological Clocks. (4) Lecture, three hours; discussion, one hour. Requisites: courses 111A, 111B, and 111C, or M180A, M180B, and M180C. Most organismal functions depend on cyclical oscillations, e.g., food intake, sleep/wake cycles, circadian rhythms, and other such rhythms. In this course, we introduce the biological clock and explore the relationship between the biological clock and the function of the organism. Letter grading.

C227. Neuroendocrinology of Reproduction. (4) (Same as Neurobiology M227.) Lecture, three hours; discussion, one hour. Preparation: undergraduate life sciences and chemistry courses. Structural, functional, and developmental aspects of neuroendocrine and reproductive organs, with emphasis on feedback regulatory mechanisms between hypothalamic-pituitary and gonadal functions and on functional integration of neuroendocrine-reproductive axis at cellular and molecular levels. Letter grading.


C237. Growth and Adaptation in Cardiovascular System. (4) Lecture, three hours. Requisite: course 111B. Discussion of principles of operation of cardiovascular system with systems physiology approach. Introduction to biochemistry, physiological, and physical principles, with emphasis on animal physiology. Examination of methods of observation and experimentation, applicable to experimental animals and human subjects. Concurrently scheduled with course C137. Letter grading.

C241. Neural Plasticity and Repair. (4) Lecture, four hours. Preparation: basic neuroscience background. Progress in basic and clinical neuroscience provides new insights to understand mechanisms of cell repair and strategies to promote neural healing. Focus on physiologic, molecular, and anatomical basis governing repair processes in brain and spinal cord and their clinical implications. Letter grading.

C244. Neural Control of Physiological Systems. (5) Lecture, four hours. Requisites: course 111B or M180A. Role of neural control system in control of respiratory, circulatory, sexual function, and bladder control. Material for each section to be developed by combination of lecture and open discussion. Concurrently scheduled with course C144. Letter grading.

C245. Neural Mechanisms Controlling Movement. (5) Formerly numbered C245. Lecture, four hours. Requisite: course 111A or M180A or Neuroscience M101A. Examination of central nervous system organization required for production of complex movements such as locomotion, mastication, and swallowing. Letter grading.

250A. Muscle Dynamics. (4) Lecture, four hours. In-depth study of electrical and mechanical parameters of muscle action, including topics in tension-length relationship and force-velocity relationships; critical analysis of electromyographic and digital computer techniques to characterize and evaluate kinematic and kinetic components of movement. Topics include biomechanics, bio-dynamics, and modeling. Concurrently scheduled with course C150. Letter grading.


C263. Neuronal Mechanisms of Motor Behavior. (4) (Same as Neuroscience M263.) Requisite: course M145. Advanced topics on brainstem mechanisms responsible for controlling cyclic and stereotypic movements such as mastication and locomotion. Emphasis on cellular neuromusiology and mechanism of interconnection between neuronal networks. Introduction to primary literature and techniques used in these areas. Students expected to critically evaluate data and conclusions drawn.

270A-270B-270C. Modern Concepts in Physiological Psychology. (4-4-4) Lecture, two hours; discussion, two hours. Study and evaluation of primary research literature. Study of foundations of modern techniques in physiological psychology, analysis of research design. Letter grading. Letter grading.

C270A. Seminar: Comparative Physiology. (2) (Same as Neuroscience M270 and Psychology M213.) Seminar, three hours. Requisites: courses M220, Neuroscience M201. Theory, methods, applications, assumptions, and limitations of neuroimaging. Techniques, biological questions, and results. Brain structure, brain function, and their relationship discussed with regard to imaging. Letter grading.

C290. Seminar: Comparative Physiology. (2) (Same as Ecology and Evolutionary Biology M290.) Seminar, two and one-half hours. Discussion of specific topics in comparative physiology of animals. Topics vary from year to year, with emphasis on systems physiology, neuroethology, or behavioral physiology. S/U or letter grading.

C291A-291B-291C. Seminars: Cardiovascular Function and Adaptation. (2 to 4 each) Seminar, two to four hours. Selected topics on cardiovascular function and adaptation. Students required to present two-hour seminar. Letter grading.

C292. Evolution and Development of Auditory System. (2 or 4) Seminar, two hours. Discussion of specific topics related to evolution, embryology, morphogenesis, cytodifferentiation, and onset of function of auditory system, with special attention to centrifugal pathways. Emphasis on measurement of auditory function in animal species as well as current methodological approaches. Two-hour seminar presentation required for 2 units; seminar paper and two-hour seminar presentation required for 4 units. S/U or letter grading.
PHYSIOLOGY

David Geffen School of Medicine

UCLA

53-231 Center for the Health Sciences

Box 95175

Los Angeles, CA 90095-1751

(310) 825-5882

fax: (310) 206-5661

e-mail: dmoorehead@mednet.ucla.edu

http://www.physiology.ucla.edu

Chair

Kenneth D. Phillips, Ph.D., Chair

Thomas J. O’Dell, Ph.D., Executive Vice Chair

John McD. Tormey, M.D., Vice Chair, Instruction

Scope and Objectives

Physiology is the science of the functional activities of the human body. This covers a wide range, including observations on humans and experiments on animals and model systems in order to understand principles. Physiology is the science most directly relevant to human medicine in all its specialties and to understanding all environmental factors affecting human life. It is also a pure science of great challenge because of the complexity of its problems and its extensive interaction with mathematical, physical, biochemical, and engineering sciences, as well as with other branches of biology.

Within the prescribed curriculum, students may specialize in cellular and molecular physiology, theoretical and mathematical physiology, and organ systems and integrative phenomena, including neuroscience and behavioral physiology.

In the last survey conducted by the Conference Board of the Associated Research Councils, UCLA’s Physiology Department was judged fourth best in the nation in terms of the quality of its faculty. The department offers postdoctoral training in research and welcomes students interested in articulated M.D./Ph.D. programs.

Applicants interested in pursuing graduate study may apply directly to the interdepartmental Molecular, Cellular, and Integrative Physiology Ph.D. Program. See http://www.mcip.ucla.edu or UCLA ACCESS to Programs in Molecular, Cellular, and Integrative Life Sciences at http://www.uclaccess.ucla.edu.

Physiology

Upper Division Courses

100. Elements of Human Physiology. (6) Designed for first-year dental students. Major organic body functions. With special supplementation, a suitable introduction to the field for graduate students for whom the 201A, 201B course sequence is too extensive.

199. Directed Research in Physiology. (2 to 4) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

Graduate Courses

M210. Molecular and Cellular Mechanisms of Neural Integration. (5) (Same as Neuroscience M230 and Physiological Science M210.) Lecture, four hours; discussion, one hour. Requisite: Neuroscience M202. Introduction to mechanisms of synaptic processing. Selected problems of current interest, including regulation and modulation of transmitter release, molecular biology and physiology of receptors, cellular basis of integration in sensory perception and learning, neural nets and oscillators, and molecular events in development and sexual differentiation. Letter grading.

220. Methods in Cell Physiology. (6) Linear circuit analysis, including admittance, transfer admittance, transfer function, and filters using transform methods. Application of these concepts to electronic analog circuits in lectures and laboratory, with emphasis on operational amplifiers. Applications to electrophysiology include microelectrode amplifiers, voltage clamp and patch clamp techniques, with circuit analysis and noise considerations. Digital electronics cover logic gates, sequential circuits, and A/D and D/A conversion, with introduction to sampling theory.

221. Cell Physiology: Excitability. (6) Requisite: course 220. In-depth coverage of general properties of excitable cells, linear cable properties, nonlinear conductance changes, and generation and propagation of the nerve impulse. Voltage gating and gating currents, as well as relationship between macroscopic conductance and single channel properties discussed in analytical detail using original publications.

M223. Membrane Molecular Biology. (4) (Same as Biological Chemistry M223.) Lecture, two hours; discussion, two hours. Requisite: Biological Chemistry CM253. Advanced course in molecular aspects of membrane physiology and biochemistry covering lipids and physical chemistry of biological membranes; membrane biogenesis and targeting of proteins to membranes; pumps, carriers, and channels; receptors and transmembrane signaling. S/U or letter grading.

298. Current Topics in Physiology. (2 to 4) Lecture, one hour; discussion, one hour. Designed for graduate students. Students read primary literature in a specified area and conduct or participate in discussions on these papers. May be repeated for credit. S/U or letter grading.

596. Directed Individual Study or Research. (2 to 12) Tutorial, to be arranged. S/U grading.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 12) Tutorial, to be arranged. S/U grading.


Assistant Professors
James A. Honaker, Ph.D.
Barbara Koremenos, Ph.D.
Jeffrey B. Lewis, Ph.D.
Lynn Vavreck-Lewis, Ph.D.
Robert Trager, Ph.D., Acting
Adjunct Assistant Professor
James A. Desseaux, Ph.D.

Scope and Objectives
The undergraduate major in Political Science aims to provide understanding of basic political processes and institutions as these operate in different national and cultural contexts. It also covers the interaction between national states, the changing character of the relations between citizens and governments, and the values and criteria by which the quality of political life is judged. The program may be individually focused to serve the needs of the liberal arts major, student seeking preparation for graduate work in political science, public administration, law, and other professional fields, and the student preparing for specialized roles in political and public organizations.

The graduate program leads to the Ph.D. degree in Political Science (a master's degree may be earned in the process of completing Ph.D. requirements). It is designed to give students a strong foundation in the discipline while enabling them to acquire additional skills for advancing their professional careers.

Undergraduate Study
Political Science B.A.

Prepolitical Science Major
All students intending to major in Political Science must enroll as Prepolitical Science majors. After completion of preparation for the major courses, they need to petition to enter the major in the Undergraduate Office, 4269A Bunche Hall.

Preparation for the Major
Required: Four lower division courses from Political Science 10, 20, 30, 40, 50. These lower division courses are requisites to upper division courses and are required in those fields designated as the concentration or distribution field. Students must also take Political Science 6 or 6R.

Field Concentration Requirements

The lower division course is requisite to upper division courses in those fields designated as the concentration field and the two distribution fields for majors. Specific requirements for the field concentration are as follows:

I. Political Theory: Political Science 10 and any four courses in Field I

II. International Relations: Course 20 and any four courses in Field II. Courses 118 and 151C may also be applied toward concentration or distribution in Field II

III. American Politics: Course 40 and any four courses in Field III. Courses 114A through 114D, 115A, 120A, and 121A may also be applied toward concentration or distribution in Field III

IV. Comparative Politics: Course 50 and any four courses in Field IV. Courses 118, 128A, 128B, 130, 131, 132A, M132B, and 135 may also be applied toward concentration or distribution in Field IV

V. Methods and Models: Courses 6 or 6R (Statistics 10 and related courses may not
be substituted), 30, and any four courses from 104A, 104B, M105, M106, 124, 142D, 149 (collective action; congress, institutions, and collective choice; legislative strategy), 153B, 156D, 166, 169 (political economy of development), 170A, 191B (international negotiation)

Courses 119, 139, 149, 169, and 179 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

Courses 191H, 198A, 198B, and 199 may not be applied toward either the concentration or distribution requirement.

Political Science majors should be aware that the upper division course requirements in the major (56 units) do not meet the upper division requirement of 60 units for graduation. Additional upper division units must be taken to reach the 60-unit total.

Undergraduate Seminars
Each term the department offers a series of seminars (Political Science 191A through 191E) in each field. The requisites are two upper division courses in the field in which the seminar is offered, a 3.25 average at the upper division level in political science, or discretion of the instructor. These courses may be applied toward either the concentration or distribution requirement, and students who qualify are encouraged to take them.

Honors Program
The department honors program is open to seniors and to students who (1) have completed five upper division political science courses (two of which are in one field), (2) have a 3.5 grade-point average in upper division political science courses, and (3) are eligible for College of Letters and Science honors. Students should have substantial experience in writing research papers and take at least one seminar course in the Political Science 191 series before they enter the honors program or course 191H.

Students wishing to qualify for graduation with departmental honors must complete the following: (1) courses 191H, 198A, 198B, in which a senior thesis is written; (2) eight upper division courses (excluding courses 119, 139, 149, and 169) distributed as follows: four courses in one field and four additional courses, two in each of two other fields; (3) four upper division courses in one or two of the social sciences other than political science.

Political Science Minor
The Political Science minor introduces students to political processes and institutions.

To enter the minor, students must have an overall grade-point average of 2.0 or better and file a petition in the Undergraduate Office, 4269A Bunche Hall.

Required Lower Division Courses (10 units):
- Any two lower division political science courses.

Required Upper Division Courses (20 units): Any five upper division political science courses.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmgrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Department of Political Science offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Political Science.

Political Science
Lower Division Courses

- 6. Introduction to Data Analysis. (5) Lecture, three or four hours; discussion, one hour (when scheduled). Not open for credit to students with credit for course 6R. Introduction to collection and analysis of political data, with emphasis on application of statistical reasoning to study of relationships among political variables. Use of computer as aid in analyzing data from various fields of political science, among them comparative politics, international relations, American politics, and public administration. P/NP or letter grading.
- 6R. Introduction to Data Analysis — Research Version. (5) Lecture, three or four hours; discussion, one hour (when scheduled). Corequisite: course 50R. Not open for credit to students with credit for course 6. Introduction to collection and analysis of political data, with emphasis on application of statistical reasoning to study of relationships among political variables. Use of computer as aid in analyzing data from comparative politics. P/NP or letter grading.
- 10. Introduction to Political Theory. (5) Lecture, three hours; discussion, one hour. Exposition and analysis of selected political theorists and concepts from Plato to the present. P/NP or letter grading.
- 20. World Politics. (5) Lecture, three hours; discussion, one hour. Required of all students concentrating in Field II. Introduction to problems of world politics. P/NP or letter grading.
- 30. Politics and Strategy. (5) Lecture, three or four hours; discussion, one hour (when scheduled). Introduction to study of strategic interaction in political applications. Use of game theory and other formal modeling strategies to understand politics. P/NP or letter grading.
- 40. Introduction to American Politics. (5) Lecture, three hours; discussion, one hour. Basic institutions and processes of democratic politics. Treatment of themes such as constitutionalism, representation, participation, and leadership coupled with particular emphasis on the American case. P/NP or letter grading.

50. Introduction to Comparative Politics. (5) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 50R. Comparative study of constitutional principles, governmental institutions, and political processes in selected countries. P/NP or letter grading.
- 50R. Introduction to Comparative Politics — Research Version. (5) Lecture, three or four hours; discussion, one hour (when scheduled). Corequisite: course 6R. Not open for credit to students with credit for course 50. Comparative study of constitutional principles, governmental institutions, and political processes in selected countries, with emphasis on presentation and evaluation of quantitative evidence. P/NP or letter grading.

88A-88D. Lower Division Seminars. (4 each) Seminar, three hours. Limited to freshmen/sophomores. Opportunity to enhance writing, verbal, and reasoning skills. General introduction to a subfield of a major area, or intensive exploration of a particular theme or topic. Variable topics; consult Schedule of Classes for topics to be offered in a specific term. May not be repeated for credit except by students who receive a grade of C- or better in letter grading. 88A. Political Theory; 88B. International Relations; 88C. Politics; 88D. Comparative Politics.

Upper Division Courses


M105. Economic Models of Political Choice. (4) (Same as Economics M135.) Lecture, three or four hours; discussion, one hour (when scheduled). Preparation: any lower division political science course. Enforced requisite: Economics 11. Designed for juniors/seniors. Analysis of methods and consequences of arriving at collective decisions through political mechanisms. Topics include free-rider problem, voting and majority choice, demand revelation, and political bargaining.


M107. Women and Politics. (4) (Same as Women’s Studies M117.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to rapidly growing body of empirical and theoretical scholarship on women and politics in both national and international contexts. Topics may include women’s movement in the U.S. and globally; women’s electoral participation; representation of women in Congress and in legislatures worldwide; women as heads of government and state; feminist critiques of political science; women and human rights; ERA; struggle for suffrage; mothers as political actors; women and the military; women, development, and globalization. May be applied toward Field I, III, or IV. P/NP or letter grading.
Field I: Political Theory

M111A-111B-111C. History of Political Thought. (4-4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Exposition and critical analysis of major political philosophies of Western thought. P/NP or letter grading.

M111A. Ancient and Medieval Political Theory from Plato to Machiavelli. (Same as Classics M121.)

M111B. Early Modern Political Theory from Hobbes to Bentham; 111C. Late Modern and Contemporary Political Theory from Hegel to the Present.

112A. Democratic Theory. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Critical analysis of selected major authors, issues, and arguments in contemporary democratic theory.

M112B. Invention of Democracy. (5) (Same as Classics M125.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Democracy was invented in ancient Greece. Political form grounded on equality before law, citizenship, and freedom, it came into existence as a struggle by a " demos," the people, aware of its excellence and proud of its power, "kratos." It became only regime capable of including all members of community while disregarding wealth, status, and diverging interests. Examination of history and theory of ancient democracy. P/NP or letter grading.

113A. Problems in 20th-Century Political Theory. (4) (Formerly numbered 113.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study and interpretation of theorists who have focused their analyses on social and political problems of the 20th century. P/NP or letter grading.

113B. Politics, Theory, and Film. (4) Seminar, four hours. Recommended requisite: course 10. Designed for juniors/seniors. Intense and individualized examination of politically significant films with respect to central issues in political theory such as power and truth in light of relevant political theorists. P/NP or letter grading.

114A-114B. American Political Thought. (4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. P/NP or letter grading. 114A. Exposition and critical analysis of American political thinkers from the Puritan period to 1865. 114B. Exposition and critical analysis of American political thinkers to the present.

M114C. African American Political Thought. (4) (Same as Afro-American Studies M114C.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Development of law and legal systems; representation of groups; influence of political institutions on law and government. P/NP or letter grading.

115A. Ethics and Governance. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study of applied ethics and governance. Each topic will be approached from a normative and positive perspectives. Is action X morally right or wrong? How do people reason about whether action X is morally right or wrong? How can we design governance structures that encourage people to act ethically, to contribute to public goods, and lead productive and fulfilling lives? May be applied toward Field I or III. P/NP or letter grading.

M115B. Political Ethics. (4) (Same as Public Policy CM126.) Lecture, three or four hours; discussion, one hour (when scheduled). Course 115A is not requisite to M115B. Designed for juniors/seniors. Study of major issues in morality, or lack thereof, of political life. Coverage of both readings in moral and political theory and real-world examples such as Watergate, terrorism, civil rights politics, and presidential campaigns. Topics include basic ethical theory, role-relative ethics, Machiavellian amorality, democratic responsibility, Hobbesian socialism, and contractarianism. P/NP or letter grading.

115C. Citizenship and Public Service. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Recommended requisite: course 10. Designed for juniors/seniors. Study of ways in which political thinkers have conceived of ideas of citizenship and public service, how these ideas have changed over time, and frameworks for thinking about citizenship in era of markets and globalization. P/NP or letter grading.

116A. Marxism. (4) (Formerly numbered 116.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Critical analysis of origins, nature, and development of Marxist political theory. P/NP or letter grading.

116B. Continental Political Thought. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study of important text in continental political theory, including relationship between politics and reason, skepticism, and political freedom. P/NP or letter grading.

117. Jurisprudence. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study of important issues in morality, or lack thereof, of political life. Coverage of both readings in moral and political theory and real-world examples such as Watergate, terrorism, and various political issues. P/NP or letter grading.

118. Political Violence. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Examination of one or several different uses of violence in revolutionary process: demonstrations, mass uprisings, coup d'état, assassination, and terrorism. May be applied toward Field I or II.

119. Special Studies in Political Theory. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Preparation: one course in Field I. Required: course 10. Designed for juniors/seniors. Intensive and individualized examination of selected special topics in political theory. P/NP or letter grading.

Field II: International Relations

120A. Foreign Relations of the U.S. (4) (Formerly numbered 120.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of U.S. foreign policy, with special emphasis on contemporary problems. P/NP or letter grading.

120B. World Politics and U.S. Foreign Policy after September 11. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Video lectures by leading scholars as well as live lectures and discussions on complex problems such as terrorism, nuclear proliferation, and Arab-Israeli conflict. P/NP or letter grading.

121A. Studies in Formulation of American Foreign Policy. (4) (Formerly numbered 121.) Lecture, three or four hours; discussion, one hour (when scheduled). Recommended requisite: courses 1120, 137A, 137B. In-depth look at theory and practice of U.S. foreign policy-making. Assessment of competing theories of international relations and application to specific case studies. Weekly role plays of foreign policy simulations and final crisis simulation exercise. Letter grading.

122A. World Order. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Required: course 20. Designed for juniors/seniors. Study of problems of international system as seen as community capable of cooperation and development. P/NP or letter grading.

M122B. Global Environment and World Politics. (4) (Same as Environment M161.) Lecture, three or four hours; discussion, one hour (when scheduled). Recommended requisite: course 20. Designed for juniors/seniors. Study of problems of international system as seen as community capable of cooperation and development. P/NP or letter grading.

123A-123B. International Law. (4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Required: course 20. Course 123A is requisite to 123B. Designed for juniors/seniors. Study of nature and place of international law in conduct of international relations. Letter grading.

124. International Political Economy. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study of problems of international system as seen as community capable of cooperation and development. P/NP or letter grading.

125. Arms Control and International Security. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Arms control in context of international security in the nuclear age. Nuclear arms race; relationship between deterrence doctrines and nuclear war; roles of technolog y and ideology in international relations space.

126. Peace and War. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Required: course 20. Designed for juniors/seniors. Theory and research on causes of war and conditions of peace.

127A-127B. Atlantic Area in World Politics. (4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. 127A. Western Europe. External relations of the United Kingdom, West Germany, France, Italy, and other European members of NATO, in regard to European security in context of the Atlantic Alliance. 127B. U.S. and Europe. Required: course 127A. Relations between the U.S. and Western European members of the Atlantic Alliance, in context of U.S./Soviet relations.
138A. International Relations of Japan. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Interaction of international and domestic factors in political and economic evolution of Japan. 138B. International Relations of Latin America. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Major problems of Latin American international relations and organization in recent decades. 132A-M132B. International Relations of Middle East. (4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Contemporary regional issues and conflicts, with particular attention to inter-Arab politics, Arab-Israeli problem, and Persian Gulf area. M132B. (Formerly numbered 132B.) (Same as Honors Collegium M157.) Role of great powers in Middle East, with emphasis on American, Soviet, and West European policies since 1945. 133. International Relations of Sub-Saharan Africa. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Contemporary regional issues and conflicts; foreign policies of African states; role of external powers. 134. Foreign Policy Decision Making and Tools of Statecraft. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 120. Designed for juniors/seniors. Contrasts purposes and processes of foreign policy decision making, impact of strategic interaction and situational factors on foreign policy decision making, implications for policy choice of tools of statecraft (i.e., threats/promises, military/economic/diplomacy). P/NP or letter grading. 135. International Relations of China. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Relations of China with its neighbors and the other powers, with emphasis on contemporary interests and policies of China vis-à-vis the U.S. and Soviet Union. 136. International Relations of Japan. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 20. Designed for juniors/seniors. Foreign policies of Japan and interests and policies of other countries, particularly the U.S., as they relate to Japan. 137A-137B. International Relations Theory. (4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. 137A. International Relations Theory I. Introduction to international relations. P/NP or letter grading. 137B. Alternative approaches to analysis of international politics and their application to historical and contemporary cases.

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138A. International Politics, 1815 to 1914. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Classic period of European great power politics, beginning with contemporary society. 138B. International Politics, 1914 to the Present. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. First World War, failure of peace settlement, origins of Sec- ond World War, Cold War, and post-Cold War period. P/NP or letter grading. 139. Special Studies in International Relations. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisites: two courses in Field II, or course 20 and one course in Field II. Designed for juniors/seniors. Intensive examination of one or more special problems appropriate to international relations. Sections offered on regular basis, with topics announced in preceding term. Courses 119, 139, 149, 169, and 179 may be applied no more than twice toward field concentration requirement. No more than three of these courses may be applied toward major. P/NP or letter grading. M139B. Nuclear Weapons: Critical Decisions. (4) Same as Economics M165, Honors Collegium M119, and Political Policy M111.) Lecture, three hours. Examination of critical decisions regarding nuclear weapons, starting with President Roosevelt's decision to build the atomic bomb and both current policies on containing nuclear proliferation and on avoiding nuclear catastrophe. Letter grading.

Field III: American Politics

140A-140B-140C. National Institutions. (4-4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 40. Designed for juniors/seniors. 140A. Congress. Study of those fac- tors which affect character of the legislative process and capacity of representative institutions to govern in contemporary society. 140B. The Presidency. Study of nature and problems of presidential leadership, emphasizing impact of the bureaucracy, Congress, public opinion, interest groups, and party system on the presidency and national policy-making. 140C. Supreme Court. Study of decision-making by American constitutional development and role of Supreme Court as interpret- er of the U.S. Constitution. Reading of Supreme Court cases as well as various historical and current commentaries. M141A-M141D. Electoral Politics. (4 each) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors: M141A. Political Psychology. (4) (Same as Psycholo- gy M138.) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 40. Designed for juniors/seniors. Examination of political behavior, political socialization, personality and polit- ics, racial conflict, and psychological analysis of pub- lic opinion on these issues. 141B. Public Opinion and Voting Behavior. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors: M141A. Political Psychology. (4) Same as Psycholo- psy M138.) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 40. Designed for juniors/seniors. Examination of political behavior, political socialization, personality and polit- ics, racial conflict, and psychological analysis of pub- lic opinion on these issues. 141C. Political Behavior Analysis. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisites: courses 6, 40, 141B. Designed for juniors/ seniors. Advanced course in use of quantitative meth- ods in study of political behavior. Requisites: three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Specific topics including changes in voting patterns, political participation, and tech- niques of political action. Students conduct computer- aided analyses of issues and problems treated in course 141B and similar courses.

144A-M144B. Ethnic Politics. (4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. 144A. Chicano/Latino Politics. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Preparation: one 140-level course or one upper divi- sion course in race or ethnicity from history, psychol- ogy, or sociology. Requisite: course 40. Designed for juniors/seniors. Introduction to political economy of racial domination in the U.S., concentrating on study of Mexican origin communities. Emphasis on identify- ing and explaining historically changing relationship between mass, race, and power by studying interac- tion between state policies and practices, class and racial stratification systems, and cultural codes and modes of ideological discourse in each historical peri- od. Letter grading.
157. Government and Politics in the Middle East. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Comparative study of government in the Arab States, Turkey, Israel, and Iran. P/NP or letter grading.

158. Southeast Asian Politics. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 50. Designed for juniors/seniors. Survey of political environment in major Southeast Asian states. Use of comparative analysis to address major problems confronting region, including democratization, economic growth, drug trade, deforestation, and security threats. Letter grading.

159A-159B. Government and Politics of China. (4-4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors: 159A. Chinese Revolution and Age of Mao Zedong. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of modern Chinese politics from decline of Manchu dynasty and rise of revolutionary nationalism to death of Mao Zedong, with emphasis on socioecononic foundations and political dynamics of revolution in modern China. 159B. China in Age of Reform. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Survey of China’s political and ideological transformation in post-Mao era. Assessment of impact of changing socioeconomic conditions on revolutionary policies and programs of Chinese Communist Party. Exploration of etiology of 1989 Tiananmen crisis and consequences for China of collapse of Communism in East Europe and the Soviet Union.

160. Government and Politics of Japan. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 50. Designed for juniors/seniors. Structure and operation of contemporary Japanese political system, with special attention to domestic political forces and problems.

164. Comparative History of Government from Earliest Times to Present Day. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Recommended requisite: course 50. Designed for juniors/seniors. Historical diversity of forms of government: archetypal politics, great empires, major innovations, notable variants. P/NP or letter grading.

165. Islam and Politics. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Religious and spiritual foundations of Islamic legal and political institutions; legitimacy, hierarchy, and contemporary Islamic regimes, movements, and ideologies; political strategies of Islamic activism. P/NP or letter grading.

166. Comparative Analysis of Government Institutions. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Comparison of major institutional structures such as presidentialism vs. parliamentarianism, unicameralism vs. bicameralism, two-party vs. multiparty systems, federal vs. unitary systems, plurality vs. proportional electoral systems, etc. Method of analysis is rational choice (political actors are assumed to optimize their results given institutional constraints and action of other actors). Result is that institutions affect political outcomes in systematic ways. P/NP or letter grading.

167A. Ideology and Development in World Politics. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Comparative study of major modes of political and economic development in the world today. Relations between industrial and nonindustrial societies in light of current debate about imperialism.

167B. Comparative Development and Administration. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 50. Designed for juniors/seniors. Comparative analysis of bureaucratic structures and function in the U.S., other industrialized, and less developed countries, primarily at national level. Special attention to methods of comparative analysis and utility of various methods. P/NP or letter grading.

M167C. Political Economy of Development. (4) Formerly numbered M197G. (Same as International Development Studies M167C.) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 50. Designed for juniors/seniors. Political economy approach to puzzle of why some countries are rich and others are poor, why, among latter, some have been able to achieve rapid rates of economic growth and others have not. Explanation and review of logic behind most important arguments that have been advanced to account for differences across countries in rates and levels of economic development. May be applied toward either Field IV or V. Letter grading.

168. Comparative Political Analysis. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisites: two courses in Field IV, or course 50 and one course in Field IV. Designed for juniors/seniors. Major approaches to study of comparative politics. Concepts and methodology of comparative analysis. Letter grading.

169. Special Studies in Comparative Politics. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Preparation: two courses in Field IV. Designed for intensive examination of one or more special problems appropriate to comparative politics. Sections offered on regular basis, with topics announced in preceding term. Courses 119, 139, 149, 169, and 179 may be applied no more than twice toward field concentration requirement. No more than three of these courses may be applied toward major. P/NP or letter grading.

Field V: Methods and Models

170A. Studies in Statistical Analysis of Political Data. (4) Formerly numbered 102.) Lecture, three or four hours; discussion, one hour (when scheduled). Enforced requisite: course 6 or 6F. Designed for juniors/seniors. Use of statistical methods to interpret data and test theories from various fields in political science and use quantitative evidence in construction of convincing and truthful arguments related to world of politics. Consult Schedule of Classes for topics to be offered in specific term. May be applied toward Field II, III, IV, or V. P/NP or letter grading.

171A. Applied Political Analysis: Collective Action and Social Movements. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 30. Designed for juniors/seniors. How do social and political movements convince people to participate? Consideration of various theoretical perspectives, including game-theoretic, social network, structural, and ‘identity’ approaches, illustrated by case studies. May be applied toward Field III, IV, or V. P/NP or letter grading.

171B. Collective Choice and Majority Rule. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 30. Designed for juniors/seniors. How do different ways of counting and casting votes affect political decisions? When can voting rules be manipulated by leaders and voters? Examples from legislative, electoral, and judicial politics. May be applied toward Field III or V. P/NP or letter grading.

171C. Legislative Strategy. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 30. Designed for juniors/seniors. How do politicians get policy changes passed by legislatures, city councils, and other voting bodies? Applications of game-theoretic reasoning to common strategies and tactics in policy settings. May be applied toward Field III or V. P/NP or letter grading.
Graduate Courses

Formal Theory and Quantitative Methods


200AL. Statistical Methods Laboratory I. (4) Laboratory, three hours. Corequisite: course 200A. Letter grading.


200D. Quantitative Methods in Politics. (4) Seminar, three hours. Preparation: knowledge of calculus and matrix algebra. Recommended requisite: course 200C. Designed to build on foundations set in course 200C. Focus on logical and mathematical structure underlying some statistical methods that are frequently used in political science. Emphasis on understanding structure rather than on gaining added experience using them to analyze data. Applied data analysis. Letter grading.

200E. Advanced Topics in Quantitative Methods. (4) Formerly numbered M200E.) Seminar, three hours. Topics vary each year and have included instrumental variables principal components and scaling, models of selection, models of duration, ecological inference, and hierarchal models. Student-led presentations on relevant statistical theory and applications. Monte Carlo simulations and replications of well-known studies used to demonstrate how various models work and how they are applied in practice. S/U or letter grading.

201A. Introduction to Formal Political Analysis. (4) Seminar, three hours. Survey of formal political theory to enhance literacy and provide analytical tools without presupposing mathematical background. Models used include preference aggregation, unanimity and the social contract, voting rules, paradoxes and impossibility theorems, stability, individual liberty and decentralization, strategic manipulation, representation, voting theory.

201B. Theory of Collective Choice. (4) Seminar, three hours. Recommended preparation for political science students: course 201A. Open to any student of politics, economics, philosophy, or mathematics with ability for deductive reasoning. Introduction to abstract, deductive study of voting systems and other collective-choice processes. Axiomatic method applied to politics and political economy, concept of rationality, and agenda control, choice-set or solution concepts.


203A. Economic Theory and Methods for Political Science I. (4) Discussion, three hours. Preparation: knowledge of elementary calculus. Introduction to techniques of economic analysis and survey of major topics in formal political economy. Investigation of models of regulation, trade production, collective bargaining, and economic growth as time permits.

203B. Economic Theory and Methods for Political Science II. (4) Discussion, three hours. Requisites: course 203A. Continuing survey of microeconomic techniques used in formal political science, with focus on market failures and on modeling individual choice in nonmarket situations. Specific topics include externalities, public goods and allocation mechanisms, collective action, spatial models, structurally-induced equilibrium, and information asymmetries.

204. Game Theory in Politics. (4) Seminar, three hours. Survey of game theory, with emphasis on utilizing mathematical methods to understand political and economic phenomena. Applications concern political participation, public goods, labor markets, industrial regulation, bureaucracies, interest groups, and party competition. Designed to help students become informed consumers of game-theoretical literature in political science.

M208A. Game Theory. (4) (Same as Economics M214B and Mathematics M281.) Lecture, three hours. Preparation: knowledge of calculus. Designed for graduate economics and political science students. Study of variety of qualitative techniques used in formal political science, with focus on development and execution of original empirical research based on experiences from Washington, DC-based field placements. Study of variety of qualitative methods (observation, interviewing, etc.), with comparison to quantitative analysis. Examination of features of solid and significant research; intensive writing. Letter grading.

195. Community or Corporate Internships in Political Science. (2 or 4) (Formerly numbered 195L.) Tutorial, to be arranged. Preparation: 3.0 overall grade-point average. Limited to juniors/seniors. Supervised jointly by Center for Community Learning and undergraduate studies committee faculty members. Further supervision to be provided by organization for which student is doing internship. Students meet on regular basis with instructor and provide periodic reports of their experience. No more than 8 units may be applied toward major; units applied must be taken for a letter grade. May not be applied toward concentration or distribution requirements. May be repeated for a maximum of 16 units. Individual contract with supervising faculty member required. P/NP or letter grading.

M194DC. CAPPP Washington, DC, Research Seminars. (4) (Same as History M194DC and Sociology M194DC.) Seminar, three hours. Limited to CAPPP Program students in Winter Quarter. Seminars for undergraduate students in Center for American Political and Public Policy's program in Washington, DC. Focus on development and execution of original empirical research based on experiences from Washington, DC-based field placements. Study of variety of qualitative methods (observation, interviewing, etc.), with comparison to quantitative analysis. Examination of features of solid and significant research; intensive writing. Letter grading.
261B. Mass Attitudes and Political Behavior. (4) (Formerly numbered C261B.) Seminar, three hours. Requisites: courses 260A and 204A. Analysis of development and change of political attitudes in mass publics and their relationship to voting, protest, and violence. S/U or letter grading.

261C. Political Communication. (4) Discussion, three hours. Broader research bearing on role of mass media in the American political process. Topics include theories of persuasion, evolution of "media effects" research, reporting and advertising as determinants of election outcomes, adversarial versus deferential journalism, and analyses of media bias.

M261D. Seminar: Political Psychology. (4) (Same as Psychology M228B.) Discussion, three hours. Requisite: course M261A or Psychology 220A. Examination of political behavior, political socialization, racial conflict, mass political movements, and public opinion. S/U or letter grading.

M261E. Critical Problems in Political Psychology. (4) (Same as Psychology M226C.) Discussion, three hours. S/U or letter grading.

262. Political Parties. (4) (Formerly numbered C262.) Seminar, three hours. Critical examination of literature on party systems and organization. Special attention to political parties, electoral campaigns, and party cadres. S/U or letter grading.

264. Politics and Society. (4) (Formerly numbered C264.) Seminar, three hours. Application of selected classical and contemporary sociological theories to politics. S/U or letter grading.


266. Group Theories of Politics. (4) Discussion, three hours. Critical appraisal of "group theory" approaches to study of political decision making, with special attention to empirical research problems and findings. S/U or letter grading.


M268B. Electoral Democracy: Theory and Behavior. (4) (Same as Public Policy M246.) Seminar, three hours. Examination of both empirical and normative questions from the point of view of perspectives for scholars in all subfields of political science as well as policy students and others interested in these issues. Consideration of topics fundamental to both democratic theory and study of American politics -- public opinion; nature and purpose of elections; representation; parties; and purpose of democracy as whole -- through both classic political theory treatments and modern research in American political behavior. Letter grading.


270. Legislative Behavior. (4) (Formerly numbered C270.) Seminar, three hours. Analysis of major approaches to study of representative institutions, with special emphasis on assumptions, concepts, methods, and theoretical implications associated with each approach. S/U or letter grading.

271. Executive Politics and Presidency. (4) (Formerly numbered C271.) Seminar, three hours. Analysis of executive organization and leadership, with emphasis on American Presidency. Special attention to theories of organized personality and relationship between executive and other institutions and groups. S/U or letter grading.


284. Seminar: Bureaucracy and Organization. (4) Seminar, three hours. Exploration of topics in analysis of public and private bureaucracies and organizational theory. Topics include empirical theories of bureaucratic behavior; bureaucratic growth; bureaucratic behavior and political culture; organizational structures and strategies; and function of executive. S/U or letter grading.

Race, Ethnicity, and Politics

289A. Approaches to Study of Race, Ethnicity, and Politics. (4) Seminar, three hours. Analysis of alternative theoretical, methodological, and empirical approaches to study of race, ethnicity, and politics. S/U or letter grading.

289B. Current Research on Race, Ethnicity, and Politics. (4) Seminar, three hours. Exploration of current research on race, ethnicity, and politics. S/U or letter grading.

Special Studies

290. Modern Political Economy. (4) Discussion, three hours. Discussion of implications for understanding politics of thinking of politicians, bureaucrats, producers, consumers, and nations as utility maximizers. Topics include microfoundations for macro models, forms of political participation, state government regulation, growth of government, bureaucracy elections, public policy, inflation, S/U or letter grading.

M291A-M291B. Social Theory and Comparative History. (4-4) (Same as History M203A-M203B and Sociology M296A-M296B.) Seminar, three and one-half hours every other week. Introduction to historically rooted social theory and theoretically sensitive history, following program of Center for Social Theory and Comparative History. Each course may be taken independently for credit. S/U or letter grading.

292A-292B. Introduction to Political Inquiry. (4-4) Seminar, three hours; discussion, one hour (when scheduled); laboratory, one hour (when scheduled). 292A: Problems of Scientific Inquiry and Normative Discourse; 292B: Research Design. Requisite: course 292A. Major conceptual frameworks and approaches to political science.

293. Great Ideas in Social Sciences. (2) Seminar, two hours. Vehicle for faculty and visitors to teach research seminars of variable length. Special training opportunities on advanced quantitative methods, including complexity theory, agent-based modeling, experimental economics, social cognitive neuroscience, and evolutionary psychology, to be offered at irregular intervals. May be repeated for credit. S/U grading.

275. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

495. Teaching Political Science. (4) Seminar, to be arranged. May be repeated for credit. S/U grading.

PSYCHIATRY AND BIOBEHAVIORAL SCIENCES

David Geffen School of Medicine

UCLA
C8-238 Semel Institute
Box 951759
Los Angeles, CA 90095-1759
(310) 206-5110
http://www.psychiatry.ucla.edu

Professors

Lori L. Altsusher, M.D., in Residence (Julia S. Gouw Professor of Mood Disorders)
M. Douglas Anglin, Ph.D., in Residence
Joan R. Asarnow, Ph.D., in Residence
Robert F. Asarnow, Ph.D., in Residence (Delta Martin Professor of Psychiatry)
Thomas R. Belin, Ph.D.
Robert M. Bilder, Ph.D., in Residence
Sally M. Blower, Ph.D., in Residence
Susan Y. Bookheimer, Ph.D., in Residence
Kyle B. Boone, Ph.D., in Residence
James R. Boulter, Ph.D., in Residence
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Carole H. Browner, Ph.D., in Residence
Alexander Bystritsky, M.D., Ph.D., in Residence
Anthony T. Campagnoni, Ph.D., in Residence (Vincent and Stella Coates Professor of Molecular Neurobiology)
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Michelle Craske, Ph.D.
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Kym F. Faul, Ph.D., in Residence
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L. Jaime Fitten, M.D., in Residence
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Bruce L. Kagan, M.D., Ph.D., in Residence
Harley I. Kornblum, M.D., Ph.D., in Residence (Eleanor I. Leslie Professor of Pioneering Brain Research)
Anand Kumar, M.D., in Residence
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Emeran Mayer, M.D.
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Stephen R. Marder, M.D., in Residence
Emeran Mayer, M.D.
James T. McCracken, M.D. (Joseph Campbell Professor of Child Psychiatry)
Mario F. Mendez, M.D., in Residence
M. Jeanne Miranda, Ph.D., in Residence
Claudia I. Mitchell-Kernan, Ph.D.
Stanley F. Nelson, M.D., in Residence
Thomas F. Newton, M.D., in Residence
Keith H. Nuechterlein, Ph.D., in Residence
Robert N. Pechnick, Ph.D., in Residence
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Mary Jane Rotheram-Borus, Ph.D., in Residence
Dana Bat-Yaacov Endowed Professor of Childhood Psychiatry and Behavioral Sciences)
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Kenneth B. Wells, M.D., M.P.H., in Residence
Peter C. Whybrow, M.D. (Judson Braun Professor of Biological Psychiatry)
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Cui-Wei Xia, M.D., Ph.D., in Residence
Alexander S. Young, M.D., in Residence
Lonnie K. Zeltzer, M.D.
Bonnie T. Zima, M.D., M.P.H., in Residence
Associate Professors
Joel T. Braslow, M.D., Ph.D., in Residence (Francis M. O’Malley Administrative Professor of Neuroscience History)
Ellen M. Carpenter, Ph.D., in Residence
Steven W. Cole, Ph.D., in Residence
Christopher S. Colwell, Ph.D., in Residence
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David J. Kopelowicz, M.D., in Residence
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Kelsey C. Martin, M.D., Ph.D., in Residence
Donna A. Wrzishing, M.D., in Residence
Cindy M. Yee-Bradbury, Ph.D.
Assistant Professors
Carrie E. Bearden, Ph.D., in Residence
Julienne H. Bower, Ph.D., in Residence
Jamie D. Feusner, M.D., in Residence
Dorothy A. Glover, Ph.D., in Residence
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Barr H. Guze, M.D.
James J. McCaughey, M.D.
Andrew T. Russell, M.D.
James E. Spar, M.D.
Associate Professor of Clinical Psychiatry
Suzie M. El-Saden, M.D.
Scope and Objectives
The Department of Psychiatry and Biobehavioral Sciences offers interdisciplinary courses related to the mental health professions of the biobehavioral sciences in addition to its programs for psychiatry interns and residents and for medical students.
Enrollment in department courses is limited to registered UCLA students, students registered in programs officially affiliated with UCLA, and students enrolled concurrently through UCLA Extension. Students who meet these requirements, but who are not affiliated with a departmental training program, must also meet all required course requisites determined by specified educational programs. Additional information is available from the department office.
Clinical Psychological Internship
The department offers a 12-month Clinical Psychological Internship. Students enrolled in clinical psychology programs at APA-approved universities are eligible to apply. Applications are accepted through November 1. The primary goals of the internship are to provide a year of intensive exposure to a wide variety of clinical and human service experiences and to maximize the personal growth of each professional. Students interested in this certificate program should contact David Crawford, CB-746 Semel Institute, (310) 206-8100, e-mail: dcrawford@mednet.ucla.edu.
Information on clinical practicums which are offered in conjunction with other educational institutions and UCLA departments may be obtained from the department office.

Psychiatry and Biobehavioral Sciences

Upper Division Courses

M180. Contemporary Problems in Developmental Disabilities. (4) (Formerly numbered M180A.) (Same as Psychology M180.) Seminar, three hours, Corequisites: course M181A. Limited to Developmental Disabilities Program students. Examination of broad spectrum of issues related to mental retardation, intelligence and IQ, genetics, neurobiology, and other developmental disabilities. P/NP or letter grading.

M181. Biological Bases of Psychiatric Disorders. (4) (Formerly numbered M191.) (Same as Molecular, Cell, and Developmental Biology M191, Neuroscience M130, Physiological Science M181, and Psychology M117J.) Lecture, three hours. Requisite: Neuroscience M101A (or Molecular, Cell, and Developmental Biology M175A) or Physiological Science M180A or Psychology M117A) or Physiological Science M111A or Psychology 115. Underlying brain systems involved in psychiatric symptoms and neurologic disorders, including schizophrenia, depression, bipolar disorder, obsessive-compulsive disorder. Provides basic understanding of brain dysfunctions that contribute to disorders and rationales for pharmacologic treatments. P/NP or letter grading.

M181A. Research in Contemporary Problems in Developmental Disabilities. (4) (Same as Psychology M181A.) Lecture, one hour; laboratory, eight hours. Corequisite: course M180. Limited to Developmental Disabilities Program students. Research experience. In Progress grading (credit to be given only on completion of course M181B).


197. Individual Studies in Psychology. (2 to 4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be taken for letter grade once only. May be repeated for credit. Individual contract required. Additional information and contract forms are available in Office of Education, C8-237/238/237 Semel Institute. P/NP or letter grading.

199. Directed Research in Psychiatry and Biobehavioral Sciences. (2 to 6) Tutorial, two hours Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Cullminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

Graduate Courses

207A-207B-207C. Hypnosis Seminars. (2-2-2) Experiential seminars to prepare mental health professionals for adult and child clinical applications, involving didactics, demonstrations, training practice, and feedback. Following training in inductions and development of classic hypnotic phenomena (e.g., age regression, hypnoanalysis, self-hypnosis), focus on psychotherapeutic applications, including directed symptom removal, behavioral methods, and hypnosis. Emphasis on acquiring skills for clinical practice. S/U grading.


M222. Transcultural Psychiatry. (4) Same as Anthropology M222. Lecture, three hours. Preparation: consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, “culture specific” syndromes, non-Western psychiatry, and questions of “sick” societies. May be repeated for credit.


M234. Affective Disorders. (2 or 4) Same as Psychology M280. Seminar, two hours. General topics related to primary affective disorders (depression, manic depressive illness), including diagnosis, pharmacology, epidemiology, etiology, psychopathology, family, memory, and treatment. Students enrolled for 4 units are assigned a more intensive reading list and required to make a presentation or prepare a research paper.


237. Seminar: Behavioral Neuroimmunology. (1) Seminar, one hour per month; discussion, 30 minutes per month. Series of lectures presented the second Wednesday of each month throughout academic year by invited speakers. S/U grading.

M238. Survey Research Techniques in Psychocultural Studies. (4) Same as Psychology M238. Seminar, three hours. Designed for graduate students. Techniques for conceptualizing, conducting, and analyzing survey data; instruction in qualitative strategies for enhancing survey research on psychocultural problems.

M240. Assessment and Treatment of African American Families. (3) Same as Afro-American Studies M240A. Seminar, two hours. Designed for graduate students. Course aids mental health professionals and trainees in evaluation and treatment of African American families in terms of their cultural milieu, historical background, and economic status. Didactic presentations by instructors and invited guests form basis for supervised evaluation and case management with an African American child and family.


M251. Mental Health Services. (4) Same as Health Sciences M249U. Lecture, three hours. Requisites: Health Services 200A, 200B. Designed for doctoral students. Survey of contemporary American delivery of mental health services to emotionally and mentally ill and retarded. Analysis of characteristics of such services, with historical background of their evolution and projections of their future prospects. Letter grading.


257A-257B-257C. Communication Disorders Associated with Developmental Disabilities and Psychiatric Disorders. (3-3-3) Laboratory, 90 minutes; didactic, 90 minutes. Didactic and practical training in communication and its dysfunction as these relate to language disabilities seen in interdisciplinary medical setting. Provides background for graduate and postdoctoral students who plan to engage in clinical work and/or clinical research in which language disturbances of childhood and adulthood are relevant.

259. Legal and Ethical Issues with Vulnerable Populations. (3-3-3) Three and one-half hours. Discussion of current laws dealing with vulnerable populations (e.g., children, developmentally disabled people, elderly people), philosophies, ethics, legal bases, issues, and how to resolve them. Use of videotapes and discussion of cases.


M263. Clinical Pharmacology. (2) Same as Biomathematics M263 and Medicine M263. Lecture, two hours. Preparation: completion of professional health sciences degree (M.D., D.D.S., Ph.D., or Ph.D.). Overview of principles of clinical pharmacology, especially as they relate to clinical and translational medicine and to advances in contemporary medicine such as targeting, gene therapy, and genomics. Letter grading.

264. Health and Mental Health Disparities from Psychosocial and Cultural Perspectives. (3) Seminar, three hours. Designed for graduate and medical students, resident physicians, and junior/senior (with consent of instructor) interested in learning about general, sexual, and mental health disparities. Survey course to introduce students to health disparities that exist for ethnic minorities and factors that may contribute to disproportionate prevalence rates. Review and discussion of research literature, with focus on specific diseases such as HIV/AIDS, substance abuse, depression, and breast and prostate cancer. Discussion of stereotypes and myths about healthcare of ethnic populations. Examination of psychosocial and cultural contexts as potential or contributing factors. S/U grading.

M266. Advanced Magnetic Resonance Imaging. (4) Same as Biomedical Physics M266 and Neurosciences M267. Lecture, four hours. Starting with basic principles, presentation of magnetic resonance imaging (MRI), with emphasis on developing advanced applications in biomedical imaging, including both structural and functional studies. Instruction more intuitive than mathematical. Letter grading.

M270. Neural Basis of Memory. (4) Same as Neuroscience M273. Lecture, two hours; discussion, one hour. Anatomical, physiological, and neurochemical data integrated into models for how behavioral phenomena of memory arise. Discussion of invertebrate memory, cortical conditioning, hippocampus and declarative memory, and frontal lobes and primary memory. Letter grading.

M272. Psychosocial Anthropology. (4) Same as Anthropology M224Q. Lecture, three hours. Various psychological issues in anthropology, both theoretical and methodological. Areas of interest include such things as culture and theory, culture and personality, and culture psychiatry. Discussion of questions relating to symbolic and unconsciousness process as they relate to culture. Topics vary from term to term. May be repeated for credit.

M273. Advanced Seminar: Medical Anthropology. (2 to 4) Same as Anthropology M224Q. Seminar, three hours. Limited to 15 students. Examination of interrelationships between society, culture, ecology, health, and illness. Bases for written critical analysis and class discussion provided through key theoretical works. S/U or letter grading.

287. Small Group Cognitive/Behavioral Interventions. (4) Lecture, three hours. Presentation of brief therapeutic interventions for adults and children at risk for suicide, depression, conduct problems, and HIV, with didactic and experiential techniques.

288. Social and Behavioral Factors of HIV/AIDS: Global Perspective. (4) (Same as Community Health Sciences M294.) Lecture, four hours. Requisites: Community Health Sciences 100 and Epidemiology 100, or prior social sciences courses. Overview of social and behavioral factors which influence both transmission and prevention of HIV/AIDS throughout the world. Letter grading.

289. Intervention to Reduce HIV and Its Consequences. (4) (Same as Community Health Sciences M299.) Lecture, three hours. Examination of interventions toward prevention and dissemination of theory and research supporting efficacy of HIV interventions for a variety of high-risk populations. Letter grading.


295A. Principles of Neuroimaging I. (4) Lecture, one hour; laboratory, seven hours. Exploration of various ways that power, as it is structured and enacted in everyday activities, shapes human reproductive behavior. Case materials from diverse cultures illuminate how competing interests within households, communities, states, and institutions influence reproductive arrangements in society. Letter grading.

281A-281B-281C. Behavioral Therapy in Educational Settings. (4-4-4) Lecture, one hour; laboratory, seven hours. Supervised experience in classroom working with exceptional children in conducting systematic observation, formal assessments, and developing and carrying out individualized educational and behavioral programs. Theoretical background furnished through one-hour weekly lecture. S/U or letter grading.

M286A-M286B-M286C. Statistics in Psychiatric and Biobehavioral Research. (2-2-2) (Same as Biostatistics M206A-M206B-M206C.) Seminar, 90 minutes; lecture, 90 minutes. Designed for graduate students. Examples from psychiatric literature used to illustrate statistical ideas and analysis strategies. Topics include experimental designs, sample size calculations, parametric versus nonparametric tests, regression, ANOVA, factor analysis, defining composite variables, causal inference. Computer used to illustrate basic data analysis. S/U or letter grading.

286A. Politics of Reproduction. (2 to 4) (Same as Anthropology M269P.) Seminar, three hours. Examination of various ways that power, as it is structured and enacted in everyday activities, shapes human reproductive behavior. Case materials from diverse cultures illuminate how competing interests within households, communities, states, and institutions influence reproductive arrangements in society. Letter grading.


M288A. Anthropology of the Human Body. (2 to 4) (Same as Anthropology M234T.) Seminar, three hours. Exploration of how sociocultural and political dynamics shape perceptions of and understandings about the human body, and how, reciprocally, those perceptions and understandings influence social processes. Includes materials from both non-Western and Western societies. Letter grading.

M289. Anthropology of Genetic Knowledge. (2 to 4) (Same as Anthropology M265P.) Seminar, three hours. Exploration of how sociocultural and political dynamics shape our understandings of genetic discoveries and how genetic information is used to create conceptions of the self and society. Letter grading.

284A. Principles of Neuroimaging I. (4) Lecture, four hours; laboratory, two hours. Preparation: competence in integral calculus, electricity and magnetism, computer programming (any language), generalistics. Requisite: course 292. Factors common to neuroimaging in multiple modalities, including physiological contrast mechanisms and biophysics, signal and image processing, transform approaches, statistical modeling and inference, time-series statistics, detection theory, contrast agents, experimental design, electrical detection methods, electrophenecaphrophy, optical methods, microscopy. Letter grading.

284B. Principles of Neuroimaging II. (4) Lecture, four hours; laboratory, two hours. Preparation: competence in integral calculus, electricity and magnetism, computer programming (any language), generalistics. Requisite: course 292. Instrumental imaging methods for study of nervous system, with emphasis on quantitative understanding and data interpretation and features common to modalities. X-ray computed tomography, magnetic resonance imaging, positron emission tomography, magnetoencephalography, transcranial magnetic stimulation, near infrared imaging. Letter grading.

M285. Functional Neuroimaging: Techniques and Applications. (4) (Same as Biomedical Physics M285.) In-depth examination of activation imaging, including PET and MRI methods, data acquisition and analysis, experimental design, and results obtained thus far in human systems. Strong focus on understanding technologies, how to design activation imaging paradigms, and how to interpret results. Laboratory visits and design and implementation of a functional MRI experiment. S/U or letter grading.

292A. Neurobiology and psychopharmacology of drug abuse, as well as epidemiology and prevention. Discussion of pros and cons of various treatment modalities of drug abuse research. S/U grading.

295B. (2) Drug use patterns and treatment issues in specific populations such as women, adolescents, the homeless, the multiply diagnosed, as well as different ethnic populations. Exploration of relationship between drug abuse, sexuality, and HIV/AIDS. S/U grading.

295C. (2) Theoretical perspectives on drug use and abuse as well as policy and ethical aspects of drug abuse research. Research design and analysis issues pertinent to drug abuse research. S/U grading.


298. Current Topics in Biobehavioral Sciences. (1 to 4) Current issues in biobehavioral sciences offered on selective basis depending on instructor interest and topical relevancy of problems. Consult Schedule of Classes for topics and instructors. May be repeated for credit.

402. Journal Club. (1) Seminar, two hours; outside study, four hours. Preparation of participants' current research. Critical review of recent articles on drug abuse. Training sessions included in areas in which fellows believe they have a recognized need. S/U grading.

403. Individual Case Supervision. (1 to 4) Preparation: submission of written proposal to be structured by instructor and student prior to enrollment; additional information and proposal forms available in Office of CE, CR-217/CR-288 Semel Institute. One- to one supervision of individual therapy cases, including analyses of patient data, supervision of ongoing treatment, informal didactic sessions on personality theory, and applications to patient management. S/U or letter grading.

405. Trauma and Sexual Abuse Research Seminar. (3) Seminar, three hours. Designed for graduate and medical students and resident physicians interested in learning about biobehavioral trauma research. Introduction to DSM-IV TR diagnostic criteria for post-traumatic stress disorder (PTSD), as well as biopsychosocial models of trauma and child and adult sexual abuse in context of being causative precursors of acute and chronic causes of PTSD. Evaluation of allostatic load, among other bio- logical variables, within context of physiological markers for PTSD. Review of current modes of treatment, including therapeutic and pharmacological interventions. Discussion of research methods particularly important for trauma research. S/U or letter grading.

M224. Functional Magnetic Resonance Imaging Journal Club. (2) (Same as Biomedical Physics M242.) Discussion, 90 minutes. Limited to 10 students. Current topics in functional neuroimaging, with emphasis on novel applications, analysis, and acquisition methods. Presentation and critique of student papers. Overall emphasis on magnetic resonance imaging. Example areas include tractography through diffusion tensor imaging, jittered event-related experimental designs, parallel receiver MR imaging, integrated electrophysiological and image acquisition. S/U grading.


434. Seminar: Addiction Psychiatry. (1) Seminar, one hour. Cutting-edge information on basic and applied aspects of addiction psychiatry (neurobiology, pharmacology, genetics, and evidence-based medical and behavioral therapies) and opportunities for participants to collaborate with established scientists in addiction research. S/U grading.

449. Parent Training Intervention Workshop. (2) Lecture, 90 minutes; discussion, one hour. Advanced clinical trainees learn behavioral techniques of assessment and treatment of parent/child problems. Lectures, case presentations, and workshops on various skills necessary.

454. Advanced Topics in Neuropsychology. (1) Seminar, one hour. Coverage of topics in even years that involve interface of neuropsychology with other disciplines, such as cognition and psychopharmacology, cognitive remediation, parietal versus occipital versus neuropsychological assessment, cognition and genomics, and psychometrics/test development. Focus in odd years on current models of human neuropsychology, such as models of working memory, neuropsychology of emotion and social cognition, models of implicit versus explicit learning, types of attention, and models of executive processes. S/U grading.
Semel Institute. Directed individual research and facilitation. Additional information and course proposal written by instructor and student at time of initial enrollment. Weekly clinical teaching session on patients seen in preceding genetics clinic. In-depth discussion on genetics of each disorder.

Analysis of Human Chromosome Studies. (1) Chromosome karyotypes prepared in cytogenetics laboratory during preceding week presented and discussed with reference to clinical findings. Teaching includes interpretation of abnormal karyotypes and technical aspects of routine and special chromosome stains.

Clinical Practicum in Childhood Anxiety and Related Disorders. (3) Clinic, two hours. Training in cognitive/behavioral assessment and treatment of children and adolescents with anxiety and related disorders. Didactic and experiential training, including direct patient care, clinical supervision, and participation in weekly team meetings. Letter grading.

Human Genetics Seminar. (No credit) Seminar, one hour. Preparation: introductory genetics course. Weekly lecture series intended for those interested in human genetics or in specific topic to be presented. Speakers are invited for their expertise or research in some special area related to human genetics and may be from UCLA or elsewhere. No grading.

Mathematical Approach to Investigating Drug Addiction. (1) Lecture, one hour. Designed for graduate students. Students need cross-disciplinary knowledge to understand drug abuse etiology, behavior, consequences, and treatment. Coverage of major topics in drug addiction by emphasizing use of animal models to understand human addiction and to disclose how findings derived from human studies can be used to expand development of animal models. S/U grading.

Genetics Clinic Presentation. (No credit) Weekly clinical teaching session on patients seen in preceding genetics clinic. In-depth discussion on genetics of each disorder.

Analysis of Human Chromosome Studies. (1) Chromosome karyotypes prepared in cytogenetics laboratory during preceding week presented and discussed with reference to clinical findings. Teaching includes interpretation of abnormal karyotypes and technical aspects of routine and special chromosome stains.

Clinical Practicum in Childhood Anxiety and Related Disorders. (3) Clinic, two hours. Training in cognitive/behavioral assessment and treatment of children and adolescents with anxiety and related disorders. Didactic and experiential training, including direct patient care, clinical supervision, and participation in weekly team meetings. Letter grading.

Human Genetics Seminar. (No credit) Seminar, one hour. Preparation: introductory genetics course. Weekly lecture series intended for those interested in human genetics or in specific topic to be presented. Speakers are invited for their expertise or research in some special area related to human genetics and may be from UCLA or elsewhere. No grading.

M490. Educational Advocacy. (2) Lecture, one hour. Designed for graduate students. Students need cross-disciplinary knowledge to understand drug abuse etiology, behavior, consequences, and treatment. Coverage of major topics in drug addiction by emphasizing use of animal models to understand human addiction and to disclose how findings derived from human studies can be used to expand development of animal models. S/U grading.

Psychology / 529
degrees in Cognitive Science and in Psychobiology. While the majors overlap in certain fundamental and basic knowledge bases, they differ considerably in their focus (i.e., the extent to which certain areas of psychology and related disciplines are studied) and in terms of the different student interests and needs they satisfy. For nonmajors, the department offers many courses that can give them new and valuable insights into the understanding of human behavior, including their own.

At the graduate level, the department offers training leading to the Ph.D. degree with emphases in the areas of behavioral neuroscience, clinical, cognitive, cognitive neuroscience, developmental, learning and behavior, social, and quantitative psychology. The program is designed to prepare future psychologists for careers as scientific investigators, college and university teachers, and professional psychologists.

**Undergraduate Study**

**Psychology B.A.**

The Psychology major is the most general of the three majors and offers both broad and in-depth coverage of the fundamental and traditional areas of psychology. It provides students with a strong foundation for postgraduate education in psychology and can serve as excellent background to prepare them for further training in such fields as law, education, government, and public policy, business, and many of the health-related professions. Its basic liberal-arts orientation also provides excellent foundation for immediate postbaccalaureate careers in many areas, particularly ones in which an understanding of human behavior and its diversity of expression would be an asset.

The requirements described below represent the minimum requirements in satisfaction of the preparation and the major. Additional courses in psychology, statistics, and related sciences, as well as other types of research and fieldwork experiences, are highly recommended if students plan to pursue graduate work in psychology and related fields. Under special circumstances, graduate-level courses can be taken by undergraduate students, although such courses may not be applied toward degree requirements for the major. For additional information, contact the Undergraduate Advising Office, 1531 Franz Hall.

**Prepsychology Major**

Students need to file a petition in the Undergraduate Advising Office to declare the Prepsychology major. They are then identified as Prepsychology majors until they (1) satisfy the preparation for the major requirements and (2) petition to enter the Psychology major at the Undergraduate Advising Office. Questions about the requirements described below include sufficient preparation if students plan to pursue graduate work in cognitive science or related fields; however, they may want to include additional advanced courses in psychology and fields related to cognitive science (e.g., computer science, linguistics, mathematics, philosophy, and statistics) as well as other types of research and fieldwork experiences. Under special circumstances, graduate-level courses can be taken by undergraduate students, although such courses may not be applied toward degree requirements for the major. For additional information, contact the Undergraduate Advising Office, 1531 Franz Hall.

**Precognitive Science Major**

Students need to file a petition in the Undergraduate Advising Office to declare the Precognitive Science major. They are then identified as Precognitive Science majors until they (1) satisfy the preparation for the major requirements and (2) file a petition to declare the Cognitive Science major. Questions about the major should be directed to the Undergraduate Advising Office, 1531 Franz Hall.

**Preparation for the Major**

The following required courses must be taken for a letter grade (C or better in Psychology 10, 100A, and 100B, C– or better in the remaining courses, and a 2.5 overall grade-point average in the preparation courses) before students reach 110 total units (transfer students must complete all remaining preparation courses by the end of the first year of enrollment): Anthropology 7 or 12; Life Sciences 1 or 15 or Physiological Science 3; Chemistry and Biochemistry 2 or 14A or 20A (if students have completed one year of high school chemistry with a C or better, this requirement is waived); one course from Computer Science 2, Mathematics 2, Program in Computing 10A, Statistics 10, or one term of calculus; Physics 10 or 1A or 6A; one course from Philosophy 1, 2, 3, 4, 5, 6, 7, 8, 9, 21, 22, 22W, 31, 32; Psychology 10, 100A, 100B. Students cannot take Psychology 100B until they have passed course 100A with a grade of C or better. Psychology 100A and 100B should be taken early in the career; these courses are open only to students who have declared the Prepsychology major before the term in which they plan to enroll. It is recommended that students with no background in introductory statistics take Statistics 10 before enrolling in course 100A.

Students who repeat more than two preparation courses or any preparation course more than once are denied admission to the major.

**Transfer Students**

Transfer applicants to the Psychology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one human evolution course, one biology course equivalent to Life Sciences 1 or 15 or Physiological Science 3, one general chemistry course (or one year of high school chemistry with a C or better), one general physics course, one philosophy course, one introduction to psychology course, and one course from statistics (recommended), finite mathematics, calculus, computer science theory, or computer programming in C++.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/ adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

After satisfying the preparation for the major requirements, students need to petition to enter the major at the Undergraduate Advising Office. Required:

1. Five core courses selected from Psychology 110, 115 (or M117A, M117B, and M117C), 120A, 120B, 127 or 128, 130 (or one course from 133A through 133L), 135; (2) one laboratory/fieldwork course from 101, 111, 116, 121, 126, 131, 136A through 136D, 186A through 186D; (3) four additional upper division elective courses (16 units) in psychology.

Students who complete Psychology M117A, M117B, M117C receive equivalent credit for course 115 and two upper division psychology electives. All of the three courses must be completed to receive psychology elective credit.

All upper division courses must be taken for a letter grade. A C– or better is required in each core course and in at least one laboratory/fieldwork course. Students must have a 2.0 grade-point average in all upper division courses selected to satisfy major requirements.

**Cognitive Science B.S.**

The Cognitive Science major focuses on the study of intelligent systems, both real and artificial. While including a strong foundation in the traditional areas of psychology, the major is interdisciplinary in nature and emphasizes subject matter within cognitive psychology, computer science, mathematics, and related disciplines.

The requirements described below include sufficient preparation if students plan to pursue graduate work in cognitive science or related fields; however, they may want to include additional advanced courses in psychology and fields related to cognitive science (e.g., computer science, linguistics, mathematics, philosophy, and statistics) as well as other types of research and fieldwork experiences. Under special circumstances, graduate-level courses can be taken by undergraduate students, although such courses may not be applied toward degree requirements for the major. For additional information, contact the Undergraduate Advising Office, 1531 Franz Hall.
Students who repeat more than two preparation courses or any preparation course more than once are denied admission to the major.

**Transfer Students**

Transfer applicants to the Cognitive Science major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one biology course, one general chemistry course (or one year of high school chemistry with a C or better), two calculus/analytical geometry courses, one general physics course, one philosophy course, one introduction to psychology course, one introduction to cognitive science course, one psychological statistics course, one psychology research methods course, one computer programming course in C++, and one other computer programming course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

After satisfying the preparation for the major requirements, students need to petition to enter the major at the Undergraduate Advising Office.

**Required:** (1) Psychology 115 (or M117A, M117B, and M117C), 120A or 120B, and one course from 124A through 124J; (2) one course from 186A through 186D and one course from 121, 186A through 186D, or Computer Science 161; (3) three upper division elective courses (12 units) from Psychology 110, 112A through 116, M117J through M119X, 124A through 124J (if taken for the major, may not be applied as an elective), 130, 133B, 135, 142H, 160, 187A, 191CH (if content is approved by the Undergraduate Advising Office and course has not been applied toward the Psychology 195B or 196B requirement), Computer Science 111 through CM186B, Ethnomusicology 172A, Linguistics 103 through 185B, Mathematics 110A through 171, Neuroscience 102, Philosophy 124 through 136, Statistics 100A, 100B, 100C, 120A, 120B; (4) two terms of Psychology 195B or 196B (may be fulfilled by taking any two courses from 191CH, 195B, or 196B, provided content is approved by the Undergraduate Advising Office).

Students who complete Psychology M117A, M117B, M117C receive equivalent credit for course 115 and two upper division cognitive science electives. All of the three courses must be completed to receive cognitive science elective credit.

Students must have a 2.0 grade-point average in all upper division courses selected to satisfy major requirements. With the exception of Psychology 195B and 196B, each course must be taken for a letter grade.

**Psychobiology B.S.**

The Psychobiology major is designed for students who plan to go on to postgraduate work in physiological psychology, neuroscience, behavioral aspects of biology, or the health sciences. Psychobiology involves the study of brain-behavior relations and laboratory training in standard brain research techniques. The requirements described below include sufficient preparation if students plan to pursue graduate work in any of the above fields; however, they may want to include additional advanced courses in psychology and related sciences as well as other types of research and fieldwork experiences. Under special circumstances, graduate-level courses can be taken by undergraduate students, although such courses may not be applied toward degree requirements for the major. For additional information, contact the Undergraduate Advising Office, 1531 Franz Hall.

**Prepsychobiology Major**

Students need to file a petition in the Undergraduate Advising Office to declare the Prepsychobiology major. They are then identified as Prepsychobiology majors until they (1) satisfy the preparation for the major requirements and (2) file a petition to declare the Psychobiology major.

**Preparation for the Major**

**Life Sciences Core Curriculum**

**Required:** Life Sciences 1, 2, 3, 4; Chemistry and Biochemistry 14A, 14B, 14BL, 14C, 14CL, and 14D, or 20A, 20B, 20L, 30A, 30AL, 30B, and 30BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 1A, 1B, 1C, 4AL, and 4BL, or 6A, 6B, and 6C.

Also required are Psychology 10, 100A, 100B. Students cannot take Psychology 100B until they have passed course 100A with a grade of C– or better. Psychology 100A and 100B should be taken early in the career; these courses are open only to students who have declared the Prepsychobiology major before the term in which they plan to enroll. Students with no background in introductory statistics should take Statistics 10 before enrolling in course 100A.

All core curriculum courses must be taken for a letter grade (a C– or better in each course and a 2.0 overall grade-point average in the core curriculum) before students reach 150 total units. Students who repeat more than two preparation courses or any preparation course more than once are denied admission to the major.

**Transfer Students**

Transfer applicants to the Psychobiology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of general biology with laboratory, one year of general chemistry with laboratory for majors, one semester of organic chemistry with laboratory, one introduction to psychology course, one psychological statistics course, and one psychology research methods course.

A second semester of organic chemistry or one year of calculus-based physics is strongly recommended but not required for admission. Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

After satisfying the preparation for the major requirements, students need to petition to enter the major at the Undergraduate Advising Office.

**Required:** (1) Ecology and Evolutionary Biology 100 or 129 or Psychology 118 or Anthropology 128A and 128B, and Psychology 110, 115 (or M117A, M117B, and M117C), 116 or Neuroscience 101L, 120A or 120B; (2) one course from Psychology 127 or 128, 130, 133A through 133I, 135; (3) 16 units of graded elective courses from the following list: Ecology and Evolutionary Biology 112, 113A, 114A (no more than one from this group), Psychology 111, 112A, 112B, 112D, M117A, M117B, M117C, M117J, 119A through M119X, 160, 186D, 191CH (only if content is approved by the Undergraduate Advising Office), Chemistry and Biochemistry M153A, 153L, Computational and Systems Biology M186C, Ecology and Evolutionary Biology 100, 102, 105, 106, 110, 111, 115, 117, C119, 120, 121, 122, 124 (only 4 units may be applied toward the major), 129, 135, 146, M158, 164, 170, Microbiology, Immunology, and Molecular Genetics 185A, Molecular and Medical Pharmacology M110A, 110B, Molecular, Cell, and Developmental Biology 100, 104, 138, C139, M140, CM156, 171, Neuroscience 102, Physiological Science C144, 146, 147, M148, 166, 173.

Students who complete Psychology M117A, M117B, M117C receive equivalent credit for course 115 and 10 units of upper division psychobiology electives. All of the three courses must be completed to receive psychobiology elective credit.

Students must have a 2.0 grade-point average in all upper division courses selected to satisfy major requirements, and each must be taken for a letter grade.

**Honors**

**Honors Courses**

Each year the department offers a selection of honors courses, designated with an H suffix. The courses provide close contact with faculty members, emphasize readings in the original literature, student reports, and small group discussions, and may include field or research experience. Enrollment priority in honors courses is given to students in the departmental honors program. Consult the College of Letters and Science for information on requirements for College Honors.

**Honors Program**

Psychology, Cognitive Science, and Psychobiology majors intending to continue study at the
graduate level are encouraged to apply for the departmental honors program. Students work for one year with a faculty sponsor on a research project that is the basis of a formal honors thesis. During that year they also participate in a weekly seminar (Psychology 191AH, 191BH, 191CH) in which thesis projects are presented and discussed and other topics of interest are explored with invited faculty members and other guests. Other requirements may apply. Consult the Undergraduate Advising Office during Spring Quarter for further information and application forms. Satisfactory completion of the program and the other requirements for the major leads to awarding of the degree with honors or highest honors.

Computing Specialization

Majors in Psychology, Psychobiology, and Cognitive Science may select a specialization in Computing by (1) satisfying all the requirements for a bachelor's degree in the specified major, (2) completing Program in Computing 10A, 10B, and at least one course from 10C, 15, 20A, 30, 40A, or 60, and (3) completing at least three courses from Psychology 85, 121, 142H, 186A through 186D (one 199 course may be substituted for one of these courses provided project has been approved by vice chair). A grade of C or better is required in each course. Students graduate with a bachelor's degree in their major and a specialization in Computing. Students planning to enter this specialization should consult the Undergraduate Advising Office.

Applied Developmental Psychology Minor

The Applied Developmental Psychology minor is designed to (1) provide a coherent academic program with focus on issues central to improving the well-being of children and their families, (2) teach undergraduates how to apply theoretical, research methods, and research findings to practical concerns, and (3) prepare students to join or receive further training in various child-related professions.

The minor is open to all enrolled UCLA students (including Cognitive Science, Psychobiology, and Psychology majors) who have an overall grade-point average of 2.0 or better and have been accepted into an approved applied developmental psychology internship program. For further information about applying to the internship program, contact the director of the Infant Development Program, 1615 Franz Hall, (310) 825-2896. For questions about additional course requirements for the minor, contact a counselor in the Undergraduate Advising Office, 1531 Franz Hall, (310) 825-2730.

Required Lower Division Course (4 units): Psychology 10.

Required Upper Division Courses (24 units):
- Psychology 134A (must be taken concurrently with course 134D), 134B (must be taken concurrently with course 134E), and four additional courses, of which at least three must be upper division, from Education 120, 121, 132, Psychology 129F, 130, 131, 132A, 133B through 133I, 199A or 199B (content must be approved by the Undergraduate Advising Office), Sociology M174. One of the four additional courses must include either Psychology 150 or one course from 133B through 133I.

Internship Requirement/Fieldwork Component (4 units): Psychology 134D (must be taken concurrently with course 134A), 134E (must be taken concurrently with course 134B). Students work as interns for two consecutive academic terms at an approved daycare center/school. The internship provides hands-on experience working with young children as teacher's aides and opportunities for observing children.

No more than two courses may be applied toward both this minor and a major or minor in another department or program. All minor courses, except for the fieldwork component of the internship course, must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Cognitive Science Minor

The Cognitive Science minor is designed to introduce students to cognitive science topics as addressed in a number of different disciplines, such as biology, computer science, engineering, linguistics, mathematics, philosophy, and psychology, while allowing them to pursue a more in-depth study of cognitive science topics within specific areas of their own choice.

The minor consists of two parts. In the first part students complete background courses and satisfy a computer programming experience requirement. In the second part they select a primary cluster from four clusters of upper division courses that have been organized to reflect different aspects of cognitive science. Students take three courses within their primary cluster and two additional courses from the remaining clusters (secondary clusters).

The minor is open to all enrolled UCLA students, other than Cognitive Science majors, who have an overall grade-point average of 2.0 or better. Students must make an appointment with a counselor in the Undergraduate Advising Office, 1531 Franz Hall, (310) 825-2730, to enter the minor and receive counseling on how to select a primary cluster.

Required Courses (28 units):
- Psychology 85 and one course from 15, 100B, Computer Science 2, Linguistics 1, 20.
- The computer programming experience requirement is satisfied by petition based on coursework (e.g., completion of Program in Computing 10A) or other relevant programming experience.

Students must also select (with approval of the Undergraduate Advising Office) and complete one of the following four primary clusters: (1) biological basis of cognition cluster — three courses from Linguistics C135, Neuroscience 102, Psychology 115, 116, M117C (or Molecular, Cell, and Developmental Biology M175C or Neuroscience M101C or Physiological Science M180C), 119B, 119F, M119L, M119N, 160; (2) computation and modeling cluster — three courses from Biomathematics 108, Computer Science 161, Psychology 186A through 186D (at least one course must be from Computer Science 161, Psychology 186A through 186D); (3) human cognition cluster — Psychology 121 and two courses from 120A or 120B, 124A through 124J, 133B, 133C, 133E; (4) mind and language cluster — three courses from Linguistics 120A, 120B, 125, 130, 132, C135, 185A, Philosophy 124, 125, 126, 127A, 127B, 129, 170, 172, Psychology 124A.

Students must also fulfill a secondary cluster requirement of two additional courses from one or more of the clusters not selected as the primary cluster.

No more than two courses may be applied toward both this minor and a major or minor in another department or program. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Fieldwork and Research Opportunities

Many research and fieldwork opportunities are open to students who wish to expand their knowledge and broaden their background in the field of psychology. These experiences can be enriching and help bring undergraduates closer to understanding research and its applications in the everyday world. At least one of the following courses is recommended for students planning postgraduate study: Psychology 99, 192, 193, 194A, 194B, 194C, 195A, 195B, 196A, 196B, 199A, or 199B. Information about these courses and programs is available from the Undergraduate Advising Office, 1531 Franz Hall.

Only one 4-unit 199 course may be taken per term, and only 16 units of course 199 may be applied toward the degree. Only one 199 course may be taken for a letter grade (additional 199 courses may be taken on a P/NP basis). If approved in advance by the Undergraduate Advising Office, 4 units of course 199 may be applied toward the elective course requirements for the Psychology major and toward the Psychology 195B/196B requirement for the Cognitive Science major.

Psychology Research Opportunity Programs

The Psychology Research Opportunity Programs (PROPS) represent a vital effort to identify and mentor underrepresented minority and/or low-income students. The purpose of
PROPS is to encourage such students to participate in research and pursue graduate studies leading to careers in academia. The recruitment and application process for PROPS takes place each Fall Quarter. Students selected to participate are awarded stipends for Winter and Spring Quarters, during which time they do research under the mentorship of a psychology faculty member. In addition, students are required to attend weekly seminars covering such topics as graduate school, careers in academia, and research opportunities in various fields of psychology. Prior research experience is not required. This is an excellent opportunity for students to begin their research careers and acquire the needed experience to pursue advanced studies.

**Clinic for the Behavioral Treatment of Children**

The Clinic for the Behavioral Treatment of Children carries out diagnosis, treatment, and research on children with severe psychological problems, such as children with autism and those with severe developmental disorders. The treatment philosophy is largely behavioral/educational, with emphasis on language acquisition, peer and school integration, and parent training. Students are taught behavioral treatment procedures and work in an apprentice-like relationship to senior staff. Prior research has focused on variables controlling self-destructive behavior, perceptual deficits, language acquisition, and emotional/social attachments. The clinic serves as a teaching and research environment for both graduate and undergraduate students.

**Infant Development Program**

The Megan E. Daly Infant Development Program (IDP) is designed as a teaching and research facility for the department and is set up to accommodate both cross-sectional and longitudinal investigation of infants, toddlers, their families, and caregivers. In addition, the program provides an opportunity for undergraduate students in developmental psychology and other areas to acquire firsthand experience working with infants and toddlers on an individual basis or in a group setting. The program has two primary functions: (1) to offer quality group care for infants and toddlers of the students, staff, and faculty of the Psychology Department and other UCLA departments and (2) to serve as a teaching and research facility for the Psychology Department and the UCLA community.

Since the program was established in May 1983, it has served approximately 15 children and their parents each year and has trained an average of 15 students per term. The program is located in Franz Hall and accommodates children from three months to three years old, operating year-round from 7:30 a.m. to 5:30 p.m.

**UCLA Psychology Clinic**

The UCLA Psychology Clinic in the Department of Psychology is a major training center for students in the clinical psychology Ph.D. program, one of the top-ranked programs in the country. It provides a broad range of psychological services to children and adults, including assessment and individual, couples, family, and group therapy. Clients cover the entire age range and represent diverse populations in the community.

Student therapists receive very close supervision and utilize research-based cutting-edge psychological interventions. Students and faculty members are also involved in a variety of research projects through the clinic.

**Graduate Study**

Official, specific degree requirements are detailed in *Program Requirements for UCLA Graduate Degrees*, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Psychology offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Psychology.

**Psychology**

**Lower Division Courses**

10. Introductory Psychology. (4) Lecture, four hours. General introduction including topics in cognitive, experimental, personality, developmental, social, and clinical psychology; six hours of psychological research and a grade of C or better required of all departmental majors. P/NP or letter grading.


85. Introduction to Cognitive Science. (4) Lecture, three hours. Exploration of computer metaphor of mind as an information-processing system, focusing especially on perception, knowledge representation, and thought based on research in cognitive psychology, neuropsychology, and artificial intelligence. Many examples from visual information processing.

88A-88Z. Lower Division Seminars. (4 each) Seminar, three hours. Enforced requisite: course 10. Limited to freshmen/sophomores. Intensive analysis in seminar situations of selected topics of current psychological interest. Consult *Schedule of Classes* for topics and instructors. May be repeated for credit.

88A. Stress, Adaptation, and Coping. Limited to freshmen. Physiological and psychological processes related to stresses and strains of daily living and potential relation of these processes to disease states. Examination of multifaceted nature of coping with stressors and exploration of strategies for stress management. P/NP or letter grading.

97. Variable Topics in Psychology. (4) Seminar, three hours. Enforced requisite: course 10. Study of selected topics in psychology at introductory level; seminar format designed for freshmen/sophomores. P/NP or letter grading.

**Upper Division Courses**

100A. Psychological Statistics. (4) Lecture, four hours. Requisites: courses 10 with a grade of C or better, and one course from Computer Science 2, Mathematics 2, Programming in Computer 10A, Statistics 10, or one term of calculus. Designed for premajors. Basic statistical procedures and their application to research and practice in various areas of psychology. Letter grading.

100B. Research Methods in Psychology. (6) Lecture, two hours; laboratory, four hours. Enforced requisites: courses 10 and 100A, with grades of C or better. Introduction to research methods and critical analysis in psychology. Lecture and laboratory topics include experimental and nonexperimental research methods, statistical design and analysis as applied to a broad range of basic and applied research issues. P/NP or letter grading.

101. General Psychology Laboratory. (4) Lecture, one hour; laboratory, three hours. Requisites: courses 10, 100A, 100B. General laboratory course for psychology students to acquaint them with psychological concepts in psychology through active participation in enriched environment. Use of current technologies (e.g., Web-based teaching, interactive computer demonstrations) in challenging atmosphere to learn how mind works. Letter grading.


110. Fundamentals of Learning. (4) Lecture, three hours; discussion, one hour. Requisites: courses 10, 100A. Designed for juniors/seniors. Experimental findings on animal and human conditioning; retention and transfer of training; relation of learning and motivation. Intended to provide empirical basis for theory and research in this area. P/NP or letter grading.

111. Learning Laboratory. (4) Lecture, two hours; laboratory, three hours. Requisites: courses 10, 100A, 100B, 110. Designed for departmental majors. Laboratory experience with techniques in study of learning, especially with animals. Letter grading.

112A. Basic Processes of Motivated Behavior. (4) Lecture, 90 minutes; discussion, 90 minutes. Requisites: courses 10, 100A, 110. Designed for juniors/seniors. Examination of some basic processes underlying motivated behavior, stressing environmental determinants of behaviors such as feeding, drinking, and reproduction-related behavior. Discussion of physiological mechanisms that contribute to such behaviors. Consideration of topics such as reinforcement, acquired motivation, and drug addiction. Evaluation of evidence obtained in laboratory studies conducted with animals. P/NP or letter grading.

112B. Psychobiology of Fear and Anxiety. (4) Lecture, three hours. Requisites: courses 10, 100A, 110. Recommended: course 115. Designed for juniors/seniors. Presentation of biological and behavioral approaches to fear and anxiety, taken from laboratory and applied research. In addition to overview of major principles from each approach, emphasis on areas in which significant research advances have recently occurred. Examination of concordance and discordance between results from laboratory and applied research. P/NP or letter grading.
112D. Animal Cognition. (4) Lecture, 90 minutes; discussion, 90 minutes. Requisites: courses 10, 100A, 110B, 115. Designed for juniors/seniors. Investigation of scientific study of cognition and behavior in animals. Topics include perception and attention, working and reference memory, spatial cognition, timing and counting, concept formation, and abstract reasoning. Most discussions focus on laboratory findings with animals, as viewed from evolutionary framework concerned with natural histories of animals. P/NP or letter grading.

115. Principles of Behavioral Neuroscience. (4) Lecture, three hours; discussion, one hour. Requisites: course 100A, Life Sciences 2 or 15. Not open to students with credit for course M117A. Designed for juniors/seniors. Nervous system anatomy, physiology and pharmacology, and their relationship to behavior. P/NP or letter grading.

116. Behavioral Neuroscience Laboratory. (4) Lecture, one hour; laboratory, three hours. Requisites: courses 10, 100A, 100B, 115. Designed for Psychobiology and Psychology majors. Laboratory experience with various topics in behavioral neuroscience. P/NP or letter grading.


M117A. Cellular and Systems Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: Chemistry 14C or 30A (14C may be taken concurrently). Life Sciences 2, Physiology 1B or 1B-H or 6B or 6B-H. Not open for credit to students with credit for Physiological Science 111A. For Physiological Science majors only, a grade of C- or better is required to proceed to Physiological Science 111B. Cellular neurophysiology, membrane potential, action potentials, and synaptic transmission. Sensory systems and motor systems; how assemblies of neurons process complex information and control movement. P/NP or letter grading.

M117B. Molecular and Developmental Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: courses 115 or M117A (or Molecular, Cell, and Developmental Biology M175A or Neuroscience M101A or Physiological Science M180A) or Physiological Science M111A, Life Sciences 3, 4. Molecular biology of channels and receptors: focus on voltage dependent channels and G-protein coupled receptors. Molecular biology of supramolecular mechanisms: synaptic transmission, axonal transport, cytoskeleton, and muscle. Classical experiments and modern molecular approaches in developmental neurobiology. P/NP or letter grading.

M117C. Behavioral and Cognitive Neuroscience. (5) Lecture, four hours; discussion, 90 minutes. Requisites: course 115 or M117A (or Molecular, Cell, and Developmental Biology M175A or Neurosciences M101A or Physiological Science M180A) or Physiological Science M111A. Neural mechanisms underlying motivation, learning, and cognition. P/NP or letter grading.

M117J. Biological Bases of Psychiatric Disorders. (4) (Same as Molecular, Cell, and Developmental Biology M181, Neuroscience M130, Physiological Science M181, and Psychiatry M181.) Lecture, three hours. Requisite: course 115 or M117A (or Molecular, Cell, and Developmental Biology M175A or Neuroscience M101A or Physiological Science M180A) or Physiological Science M119A. Underlying brain systems involved in psychiatric symptoms and neurological disorders, including schizophrenia, depression, bipolar disorder, obsessive/compulsive disorder. Provides basic understanding of brain dysfunctions that contribute to disorders and rationales for pharmacological treatments. P/NP or letter grading.


119A. Neuropsychopharmacology. (4) Lecture, three hours. Requisite: course 115. Designed for juniors/seniors. Analysis of basic pharmacologic principles to include interactions with neurochemically significant substances in brain.


119C. Cognitive Neuroscience. (4) Lecture, three hours. Requisite: course 115 or M117C. Understanding complex mental functions depends on interplay of cognitive psychology and behavioral neuroscience. Designed to provide advanced undergraduate students with current perspectives on how complex processes of mind are regulated by neuro-science techniques. P/NP or letter grading.


119F. Neural Basis of Behavior. (4) Lecture, three hours. Requisite: course 115. Designed for juniors/seniors. Presentation of current data and theory concerning how neuron circuits produce behavior. Mechanisms of perception, response selection, motor pattern generation, learning, and motivation, with emphasis on operation of these processes in well-defined neural circuits in animals and humans. P/NP or letter grading.

119L. Human Neurophysiology. (4) (Same as Neuroscience M119L.) Lecture, three hours. Recommended requisites: courses 115 or (M117A and M117C), 120A or 120B. Designed for juniors/seniors. Survey of experimental and clinical human neurophysiology; neural basis of higher cognitive functions. P/NP or letter grading.


119N. The Visual System. (4) (Same as Neuroscience M119N.) Lecture, three hours. Requisites: course 115 or Molecular, Cell, and Developmental Biology 171 or Neuroscience M101A or Physiological Science M111A. The ability to image and analyze the visual world is a truly remarkable feat. Coverage of anatomy and physiology of visual processing from the retina to visual cortex through lectures, extensive reading, and discussions.

119Q. Psychology of Aging. (4) (Same as Gerontology M119Q.) Requisite: course 115. Designed for juniors/seniors. Aging refers to developmental changes occurring at end stages of life. Some alterations that occur represent improvement, others are detrimental. Examination of impact of aging process on mental phenomena and exploration of ways in which positive changes can be maximally utilized and impact of detrimental alterations minimized. P/NP or letter grading.

119P. Mapping Mind through Its Molecules. (4) Lecture, four hours. Requisite: course 15 or 115. Designed for juniors/seniors. Explanation of how neural molecules provide unique window into mind. Topics include neurotransmitters, ion channels, and signal transduction molecules. Roles these molecules play in information processing, consciousness, learning, memory, neural plasticity, degeneration, and psychiatric disorders. P/NP or letter grading.

119Q. Psychobiology of Sleep and Dreams. (4) Lecture, three hours. Requisite: course 115. Designed for juniors/seniors. Review of measurement and comparison of sleep in mammals and submammalian species, circadian rhythms and circadian control of sleep, development and aging of sleep, neural and neurochemical control of sleep, effects of sleep deprivation, sleep in psychiatric disorders, human sleep disorders, and function of dreams. P/NP or letter grading.


119T. Psychobiology of Sex and Aging. (4) Lecture, three hours. Requisite: course 115. Sexuality in aging from psychobiological and psychological perspectives. Topics include physical and cognitive changes in aging that affect sexual response, with emphasis on differences between females and males concerning age-related changes, emotional well-being, and human sexual response. P/NP or letter grading.

M119X. Biology and Behavioral Neuroscience of Aging. (4) (Same as Gerontology M119X.) Lecture, three hours. Designed for juniors/seniors. Biologic mechanisms of aging process and its terminal phase, death, have been increasingly studied in recent years. Establishment of what is known experimentally about biology and behavioral neuroscience of aging and evaluation of theories developed to account for this knowledge. P/NP or letter grading.

120A. Cognitive Psychology. (4) Lecture, three hours; discussion, one hour. Requisites: courses 10, 100A, 110B. Designed for juniors/seniors. Survey of cognitive psychology: how people acquire, represent, transform, and use verbal and nonverbal information. Perception, attention, imagery, memory, representation of knowledge, language, action, decision making, thinking. P/NP or letter grading.

120B. Sensation and Perception. (4) Lecture, three hours; discussion, one hour. Requisites: courses 10, 100A, 110B. Designed for juniors/seniors. Acquisition of information about physical world through basic sensory mechanisms and perceptual processes. Perception of objects, surfaces, space, motion, and events. Connections between information, computations, and biological mechanisms in vision, audition, and other systems. P/NP or letter grading.

121. Laboratory in Cognitive Psychology. (4) Laboratory, four hours. Requisites: courses 10, 100A, 100B, 120A or 120B. Designed for Psychology and Cognitive Science majors. Laboratory experience with methods and phenomena from research on human perception, memory, and cognition. P/NP or letter grading.

124A. Advanced Topics in Sensation and Perception. (4) Lecture, three hours. Requisites: courses 10, 100A, 120A or 120B. Designed for juniors/seniors. Contemporary research in visual and auditory perception. Topics include physiological mechanisms, psychophysical studies and models, and computational approaches. P/NP or letter grading.
133G. Culture and Human Development. (4) Lecture, three hours; discussion, one hour. Requisites: courses 10, 100A. Role of culture in human development through psychology, anthropology, and autobiography. Students relate material from lectures and readings, through empirical research projects, to diverse cultural backgrounds in class, at UCLA, and in the broader community. P/NP or letter grading.

133I. Applied Developmental Psychology. (4) Lecture, three hours. Requisites: courses 10, 100A. Application of developmental psychology to issues pertaining to improving the lives of children and their families. Topics include quality of child care, patterns and ranges of normal child behaviors, developmental disabilities, safety, legal, and public policy issues, child-rearing practices. P/NP or letter grading.

134A. Applied Developmental Psychology: Infant/Toddler Care and Education. (4) Lecture, three hours. Designed for Applied Developmental Psychology minors. Coverage of children zero to three years old. Topics include physical, cognitive, social, and emotional development of children, developmentally appropriate practices, child care quality, role of educator/caregiver, and other related issues. Letter grading.

134B. Applied Developmental Psychology: Preschool/School-Age Care and Education. (4) Lecture, three hours. Designed for Applied Developmental Psychology minors. Coverage of children three to eight years old. Topics include physical, cognitive, social, and emotional development of children, developmentally appropriate practices, child care quality, role of educator/caregiver, and other related issues. Letter grading.


134D. Fieldwork in Applied Developmental Psychology. (2) Fieldwork, 86 hours per term. Enforced corequisite: course 134A. Designed for Applied Developmental Psychology minors. Fieldwork in applications of developmental psychology to support and illustrate, in applied setting, theories and research findings presented in lecture. P/NP grading.

134E. Advanced Fieldwork in Applied Developmental Psychology. (2) Fieldwork, 86 hours per term. Enforced corequisite 134B. Designed for Applied Developmental Psychology minors. Fieldwork in advanced applications of developmental psychology to support and illustrate, in applied setting, theories and research findings presented in lecture. P/NP grading.

134F. Infant Care and Development. (4) Lecture, three hours. Requisites: course 10, one course from 130 or 133B through 133I; one statistics course. In-depth study of research methods, current research findings, and theories used to understand infant development from conception through second year of life, including cross-cultural application of this knowledge to various populations. P/NP or letter grading.

134G. Early Childhood Curriculum. (4) Lecture, three hours. Requisites: course 10, one course from 130 or 133B through 133I; one statistics course. Examination of methods, materials, and philosophies that enhance development of children in context of childcare settings. Topics include issues of multiculturalism, antisocial curricula, and special needs adaptations. P/NP or letter grading.

134I. Child, Family, and Community. (4) Lecture, three hours. Requisites: course 10, one course from 130 or 133B through 133I; one statistics course. Exploration of role of early childhood educators within context of early childhood education/career, family, economic, and cultural backgrounds and impact of these dynamics on children's development. P/NP or letter grading.

135. Social Psychology. (4) Lecture, three hours; discussion, one hour. Requisites: courses 10, 100A. Designed for juniors/seniors. Interrelationships between the individual and his social environment. Social influences on motivation, perception, and behavior. Development and change of attitudes and opinions. Psychological analysis of small groups, social stratification, and mass phenomena. P/NP or letter grading.

136A. Social Psychology Laboratory. (4) Lecture, one hour; laboratory, four hours. Requisites: courses 10, 100A, 100B, 135. Designed for Psychology majors. Research experience with nonexperimental methods for study of social attitudes or behavior, including fieldwork with survey research, naturalistic observation, or questionnaires. P/NP or letter grading.

136B. Nonexperimental Methods in Social Psychology. (4) Lecture, two hours; laboratory, two hours. Requisites: courses 10, 100A, 100B. Designed for Psychology majors. Research experience with nonexperimental methods for study of social attitudes or behavior, including fieldwork with survey research, naturalistic observation, or questionnaires. P/NP or letter grading.

1366. Survey Methods in Psychology. (4) Lecture, two hours; laboratory, three hours. Requisites: courses 10, 100A, 100B. Designed for Psychology majors. Survey research in psychology, with particular emphasis on surveys of social and political attitudes. Actual experience in telephone interviewing techniques, market research companies, and academic survey research centers. Topics include survey design, sampling, interviewing techniques, response rates, questionnaire design, data coding, and analysis. Training in telephone interviewing techniques in laboratories. P/NP or letter grading.

136D. Research Methods in Health Psychology. (4) Lecture, two hours; laboratory, two hours. Requisites: courses 10, 100A, 100B, 135. Research methods used in health psychology, including experimental, quasi-experimental, and nonexperimental methods. Examples and projects from health psychology. Letter grading.

137A. Sport Psychology. (4) Lecture, three hours. Designed for junior/senior Psychology majors. Introduction to field of sport psychology. Coverage of research and applied aspects of a range of topics, including youth sport participants as well as world-class performers. P/NP or letter grading.

137C. Close Relationships. (4) Lecture, three hours. Requisites: courses 10, 100A, 135. Examination of research and theory about friendship, dating, and marriage, with emphasis on how these relationships are affected by gender and changing sex roles. P/NP or letter grading.

137D. Introduction to Health Psychology. (4) Requisite: course 10. Areas of health, illness, treatment, and delivery of treatment that can be elucidated by understanding of psychological concepts and research. Psychological perspective on these problems, and how psychological perspective might be enlarged and extended in the medical area.

137E. Work Behavior of Women and Men. (4) (Same as Women's Studies M137E.) Lecture, two and one-half hours. Requisite: course 10 or Women's Studies 10. Designed for seniors. Examination of work behavior of women and men. Topics include antecedents of career choice, job findings, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence of work and family roles. P/NP or letter grading.

137F. Introduction to Sport Psychology. (4) Lecture, three hours. Designed for juniors/seniors. Survey of topics in sport psychology, including leadership and team dynamics, moral development and aggression, personality, motivation, fan behavior, and performance enhancement in sport. Examination of youth sport through world-class athletics. P/NP or letter grading.

137I. Interpersonal Influence and Social Power. (4) Lecture, three hours. Requisite: course 135. Theory and research focusing on how people influence one another and resist such influence, and on the bases of social power. Motivations and effects of influence for the powerholder and target of influence. Applications to such problems and issues as power and leadership in organizations, interpersonal influence and health, power relationships in the family, interpersonal influence in everyday life, social power of political figures.

1376. Electoral Politics: Political Psychology. (4) (Same as Political Science M141A.) Lecture, three or four hours; discussion, one hour (when scheduled). Requisite: course 10. Designed for juniors/seniors. Examination of political behavior, political socialization, personality and politics, racial conflict, and psychological analysis of public opinion on these issues.

1340. Introduction to Study of Aging. (4) (Same as Gerontology M140 and Social Welfare M140.) Lecture, three hours. Designed for juniors/seniors. Perspectives on major features of human aging — biological, social, psychological, and humanistic. Introduction to information on the range of influences on aging to prepare students for subsequent specialization. P/NP or letter grading.

142H. Advanced Statistical Methods in Psychology (Honors). (4) Lecture, three hours; laboratory, two hours. Requisites: courses 100A, 100B. Survey of statistical techniques commonly used in psychology, education, and behavioral and social sciences: correlational techniques, analysis variance, and multiple regression. P/NP or letter grading.

144D. Measurement and Its Applications. (4) (Formerly numbered 144H.) (Same as Statistics M144D.) Lecture, three hours. Requisites: course 100A. Statis- tics 10, 11, M12, 13, 14. Selected theories for quanti- fication of psychological, educational, social, and be- havioral science data. Classical test, factor analysis, generalizability, item response, optimal scaling, ordi- nal measurement, computer-adaptive, and related theories: Construction of tests and measures and their reliability, validity, and bias. P/NP or letter grading.

1417A. Psychology of Lesbian Experience. (4) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M147A and Women's Studies M147A.) Lecture, two hours; discussion, one hour. Requisite: course 10 or Lesbian, Gay, Bisexual, and Transgender Studies M114 or Women's Studies 114. Designed for juniors/seniors. Review of research and theory in psychology and women's studies to examine various aspects of lesbian experience, impact of heterosexism/stigma, gender role socialization, minority status of women and lesbians, identity development within a multicultural society, changes in psychological theo- ries about lesbians in sociohistorical context. P/NP or letter grading.

160. Genetics of Human Cognition and Behavior. (4) Lecture, three hours. Requisites: courses 10, 127. Limited to juniors/seniors. Survey of field behavior genetics, including methods for determining genetic and environmental influences and for locating and characterizing genes impacting these traits, as well as current knowledge of genetic contributions to cog- nition and behavior and disorders thereof. P/NP or let- ter grading.
M163. Death, Suicide, and Trauma. (4) (Same as Sociology M138.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Definition and taxonomy of death; new permissiveness and taboos related to death; romanticization of death; role of the individual in his own demise; modes of death; development of ideas of death through life span; ways in which ideas of death influence conduct of lives; impact of dying on social structure surrounding the individual; preventive, interventional, and postventive practices; psychological and sociological impact. P/NP grading recommended (letter grade required for use as an elective course to be applied toward Psychology or Sociology major).

M165. Psychology of Gender. (4) (Same as Women's Studies M165.) Lecture, three hours. Consideration of psychological literature relevant to understanding contemporary sex differences. Topics include sex-role development and role conflict, physiological and personality differences between men and women, and socialization differences in ability and achievement, and impact of gender on social interaction. P/NP or letter grading.

M172. The Afro-American Woman in the U.S. (4) (Same as Afro-American Studies M172 and Women's Studies M172.) Lecture, two and one-half hours. Designed for juniors/seniors. Impact of social, psychological, political, and economic forces which impact on interpersonal relationships of Afro-American women as members of a large society and as members of their biological and ethnic group. P/NP or letter grading.

173. Advanced Abnormal Psychology. (4) Lecture, three hours. Requisites: courses 10, 100A, 127. Examination of research and theory concerning origins, course, and outcomes of disordered behavior. Focus on continuity and change in patterns of behavior, assessment methods, and research approaches. Concentration on one following: childhood disorders, anxiety and stress, the schizophrenias, or mood disorders. P/NP or letter grading.

175. Community Psychology. (4) Designed for junior/senior Psychology majors. Application of psychological principles to understanding and solution of community problems. Topics include community development, community mental health problems, drugs, racism, and family disruption (e.g., separation and divorce).

M176. Communication and Conflict in Couples and Families. (4) (Same as Communication Studies M116.) Lecture, 90 minutes; discussion, 90 minutes. Requisites: courses 10, 100A, 127. Examination of (1) dyadic interpersonal communication and conflict in couples and families and (2) relationship of these processes to individual psychopathology, marital discord, and family disruption (e.g., separation and divorce). P/NP or letter grading.

177. Counseling Relationships. (4) Lecture, two hours; discussion, two hours. Requisites: courses 10, 100A, 127. Designed for junior/senior Psychology majors. Conceptual and empirical foundations of psychological counseling; comparison of alternative models of counseling processes. Emphasis on counseling approaches in community mental health areas such as mental health, suicide prevention, and crisis intervention. P/NP or letter grading.

178. Human Motivation. (4) Lecture, three hours. Designed for juniors/seniors. Examination of theories of human motivation, experimental findings supporting the theories, and history of study of motivation. Topics include sociobiology, conflict, aspiration level, achievement strivings, and causal attributions.

179A. Health Behavior and Health Status of Ethnic Groups: Behavioral Perspective. (4) Lecture, three hours; laboratory, one hour. Requisites for juniors/seniors. Survey course of psychological aspects of health behavior and health status in major ethnic groups in the U.S. Emphasis on major diseases outlined by the U.S. Public Health Service (USPHS).

179B. Biomedical and Psychosocial Aspects of AIDS/HIV. (4) Lecture, three hours. Requisite: course 137D or 179A or Health Services 100. Designed for juniors/seniors. Basics of epidemiology of the disease, routes of transmission, clinical characteristics of AIDS, neurological and psychosocial aspects of coping with HIV infection and AIDS. Presentation of behavioral, biological, and therapeutic interventions.

M180. Contemporary Problems in Developmental Disabilities. (4) (Formerly numbered M180A.) (Same as Psychiatry M180A.) Seminar, three hours. Corequisites: courses 1 and 180B. Introduction to Developmental Disabilities Program students. Examination of broad spectrum of issues related to mental retardation, intelligence and IQ, genetics, neurobiology, and other developmental disabilities. P/NP or letter grading.

181A. Research in Contemporary Problems in Developmental Disabilities. (4) (Same as Psychology M181A.) Lecture, one hour; laboratory, eight hours. Corequisite: course 181B. Limited to Developmental Disabilities Program students. Research experience. In Progress grading (credit to be given only on completion of course M181B).


185. Research Practicum in Psychology. (3) Laboratory, seven hours. Corequisite: course 194D. Limited to juniors/seniors. Practical applications of psychology through research under guidance of faculty mentor. Only 12 units of credit awarded for courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

186A. Cognitive Science Laboratory: Introduction to Theory and Simulation. (4) Lecture, two and one-half hours; discussion, 30 minutes; laboratory, three hours. Requisites: courses 10, 85, 100A, 100B, Program in Computing 15. Designed for junior/senior Psychology majors. Models in several psychological domains (e.g., visual perception, categorization, reasoning, and problem solving). Types of models include semantic networks, search, production systems, connectionist models, and mathematical models. Lectures and discussions interwoven with computer simulations written in common Lisp. P/NP or letter grading.

186B. Cognitive Science Laboratory: Neural Networks. (4) Lecture, two and one-half hours; discussion, 30 minutes; laboratory, three hours. Recommended preparation: knowledge of calculus. Requisites: courses 10, 85, 100A, 100B. Program in Computing 10A, 10B (or Pascal). Designed for junior/senior departmental majors. Lectures and laboratory work in neural network modeling of perception and cognition. Specific topics include essential neurophysiology, basic architectures, learning, and programming techniques. Principles illustrated and discussed in context of models of specific perceptual and cognitive processes. Simulations written in Pascal. P/NP or letter grading.

186C. Cognitive Science Laboratory: Psycho-physical Theories and Methods. (4) Lecture, laboratory, two hours; discussion, two hours. Requisites: courses 10, 85, 100A, 100B, 100D, 100E, 100F, Psychology 115. Designed for junior/senior departmental majors. Lectures and laboratory work that examine perceptual measurement procedures (psycho-physical methods) and cognitive processing and decision models. Models are based with particular emphasis on signal detection theory and its applications. Letter grading.

186D. Neuroinformatics Studio. (4) Laboratory, four hours. Requisites: courses 10, 100A, 100B, 115. Limited to departmental majors. Neuroinformatics is application of informatics methods to study of neuroscience and behavior. In digital studio environment, application of such methods to problems in neuron electrophysiology, neural networks, neuroanatomy, and neurogenetics.

187A. Psychology and Law. (4) Lecture, two hours; discussion, two hours. Designed for juniors/seniors. Study of new topics on legal psychology, including subjects such as identification, expert witness, and police interrogation procedures. Outside speakers utilized in presentation of these materials. Students participate in presentations and/or discussions.

187B. Advanced Psychology and Law. (4) Lecture, three hours; discussion, two hours. Requisite: course 187A. Designed for juniors/seniors. Study of additional topics on legal psychology, including gang violence, theories of crime, corrections, repeat offenders, community policing, and interrogation. Outside speakers utilized in presentation of these materials. P/NP or letter grading.

187C. Sex and Law. (4) Lecture, three hours. Limited to juniors/seniors. Examination of Constitutional foundations for sexual rights in protection of individual freedom of speech and press, right to privacy, and Ninth Amendment rights reserved by the people. P/NP or letter grading.

188A. Special Seminars: Psychology. (4) Seminar, three hours. Limited to juniors/seniors. Departmentally sponsored experimental or temporary seminars on selected topics in psychology, such as those taught by visiting faculty members. Reading, discussion, and development of culminating project. P/NP or letter grading.

188B. Special Courses in Psychology. (4) Lecture, three hours. Designed for junior/senior majors. Departmentally sponsored experimental or temporary courses on topics of psychological interest, such as those taught by visiting faculty members. Consult Schedule of Classes for topics and instructors. P/NP or letter grading.

190. Research Colloquium in Psychology. (1) Seminar, one hour. Designed to bring together students undertaking supervised tutorial research in seminar setting with one or more faculty members to discuss their own work or related work in discipline. Led by one supervising faculty member. P/NP grading.


191AH-191BH-191CH. Departmental Honors Research Seminars. (2-2-2) (Formerly numbered 190AH-190BH-190CH.) Seminar, two hours. Enforced corequisite: course 198. Course 191AH is required to 191BH, which is required to 191CH. Limited to psychology honors program students. Opportunity for students in psychology honors program to discuss their own research or related work in discipline. Led by one supervising faculty member. P/NP grading.

191D. Psychology / 537. Departmental Honors Research Seminars. (2-2-2) (Formerly numbered 190AH-190BH-190CH.) Seminar, two hours. Enforced corequisite: course 198. Course 191AH is required to 191BH, which is required to 191CH. Limited to psychology honors program students. Opportunity for students in psychology honors program to discuss their own research or related work in discipline. Led by one supervising faculty member. P/NP grading.

192. Education Practices in Psychology. (4) Seminar, three hours. Limited to juniors/seniors. Training and supervised practicum for advanced undergraduate students to assist in courses related to psychology. Students assist in psychological assessment and development of innovative programs under guidance of faculty members and teaching assistants. Only 12 units of credit awarded for courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.
193. Journal Club Seminars: Psychology. (1) Seminar, one hour. Limited to undergraduate students. Discussion of readings selected from current literature of particular field or attendance at and write-ups of speakers series. P/NP grading.

194A. Internship Seminars: Psychology. (2) Seminar, two hours. Corequisite: course 195A. Study of research methods, applications, and current literature through group discussion, presentation, and papers. Research fields and topics vary by instructor. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

194B. Research Group Seminars: Psychology. (1) Seminar, one hour. Corequisite: course 196A (3-unit option). Limited to juniors/seniors who are part of research group. Discussion of research methods and current literature in field or of research of faculty members or students. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

194C. Research Group Seminars: Cognitive Science. (1) Seminar, one hour. Corequisite: course 196B (3-unit option). Limited to junior/senior Cognitive Science majors who are part of research group. Discussion of research methods and current literature in field or of research of faculty members or students. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

194D. Research Group Seminars: Practicum. (1) Seminar, one hour. Corequisite: course 185. Designed for undergraduate students who are part of research group. Discussion of research methods and current literature in field or of research of faculty members or students. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

195A. Community Internship in Psychology. (2) Tutorial (approved community setting), six hours. Corequisite: course 194A. Limited to juniors/seniors. Internship in applications of psychology in supervised setting in community agency or business. Students meet on regular basis with sponsor and provide periodic reports of their experience. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required with supervising placement sponsor required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

195B. Corporate Internship in Cognitive Science. (4) Formerly numbered 188B. Tutorial, eight hours. Limited to junior/senior Cognitive Science majors. Practical applications of cognitive science through internships in supervised setting. Students meet on regular basis with supervisor and provide periodic reports of their experience. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May be applied toward course requirements for Cognitive Science major. Individual contract required with supervising supervisor required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

195C. Internship in Developmental Disabilities. (2) Formerly numbered 151B. Tutorial, two hours every other week; internship, 10 hours. Requisites: courses 151B, 151A. Limited to Developmental Disabilities Program students. Integration of theory and practice through academic internship in supervised setting. Students work with staff at off-campus locations, providing wide variety of meaningful services to persons with developmental disabilities. Students write weekly reflective journals and present them for review at biweekly meetings with faculty sponsor. Final research paper required. Individual contract with supervising faculty member required. P/NP grading.

196A. Research Apprenticeship in Psychology. (3 to 4) Formerly numbered 152B. Tutorial, eight hours. Corequisite: course 194B. Limited to juniors/seniors. Practical applications of psychology through research under guidance of faculty mentor. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

196B. Research Apprenticeship in Cognitive Science. (2) Formerly numbered 152A. Tutorial, eight hours. Corequisite: course 194C. Limited to junior/senior Cognitive Science majors. Practical applications of cognitive science through research under guidance of faculty mentor. Only 12 units from any combination of courses 185, 192, 194, 195, and 196 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.


198D. Fear and Anxiety. (4) Lecture, four hours. Corequisite: course 185 or 204A. Limited to juniors/seniors. Supervised individual research under guidance of psychology faculty mentor. Culuminating paper required. Only one 4-unit 199 course may be taken per term. May be repeated for credit. Individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. P/NP grading.

198B. Senior Project in Psychology. (4) Tutorial, to be arranged. Limited to juniors/seniors. Supervised individual research under guidance of psychology faculty mentor. Culuminating paper required. Only one 4-unit 199 course may be taken per term. May be taken only once for individual contract required. Information and contracts may be obtained from Undergraduate Advising Office, 1531 Franz Hall. Letter grading.

Graduate Courses

200A. Pavlovian Processes. (4) Lecture, three hours. Topics include animal learning and conditioning and application of learning principles to goal-directed action, motivational processes, and goal selection in nonhuman animal behavior. P/NP grading.

200B. Instrumental Conditioning. (4) Lecture, three hours. Topics include animal learning and conditioning and application of learning principles to goal-directed action, motivational processes, and goal selection in nonhuman animal behavior. P/NP grading.


201. Current Issues in Learning and Behavior. (1) Discussion, 90 minutes. Designed for graduate students. Required of learning and behavior students a minimum of four times (entire first year and winter of second year). Presentation of papers of current interest in learning, behavior, and related phenomena. May be repeated for credit. S/U or letter grading.

202. Research in Learning and Behavior. (2) Forum in which graduate students discuss the literature and methodological, analytical, and interpretational issues related to specific topics of research in learning and behavior. S/U grading.

204A. Basic Motivational Processes. (4) Lecture, three hours. Designed for graduate students. Analysis, using behavioral systems approach, of basic motivated behavior such as feeding, drinking, foraging, and reproduction. Social approach also applied to phenomena such as acquired motivation, reinforcement, and drug addiction. Historical survey of behavioral analyses of motivation and goal-directed behavior. S/U grading.

204B. Theories of Learning. (4) Discussion, three hours. Requisite: course 200A. Critical discussion and in-depth analysis of current major theoretical approaches to associative learning, with emphasis on recent experimental analyses of conditioning phenomena.

204C. Evaluative Processes. (4) Lecture, three hours. Designed for graduate psychology students. Lectures and discussion on current research in application of learning principles to issues in applied social problems such as alcohol and drug abuse, aggression, fear management, mental retardation, behavioral medicine, autism/schizophrenia, etc. S/U or letter grading.

204D. Fear and Anxiety. (4) Lecture, three hours. Preparation: graduate training. Presentation of theoretical and empirical advances, from biological and behavioral perspectives, in the area of fear and anxiety. Integration of animal and human research.

205A. Cortical Plasticity and Perceptual Learning. (2) Lecture, three hours. Designed for graduate students. Examination of neural basis of perceptual learning. Overview of literature on cortical plasticity and how it relates to different forms of perceptual learning in visual, auditory, and somatosensory modalities. Review of mechanisms of cortical plasticity, including basic features of long-term synaptic plasticity and computational models of cortical processing. Letter grading.

205B. Human Neurophysiology. (2) Lecture, three hours. Designed for graduate students. Examination of higher cognitive processes in terms of neural mechanisms that underlie them. Topics include cortical modularity and organization, coordinated sensory representation, language, regional functional specialization, attention, and regulation of cortical function by extracortical systems. Letter grading.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Grading Format</th>
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<tbody>
<tr>
<td>205C.</td>
<td>Neurotransmitters in Human Disorders of Motor and Cognitive Function.</td>
<td>3</td>
<td>S/U or letter grading</td>
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<tr>
<td>205D.</td>
<td>Clinical Psychopharmacology.</td>
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<td>S/U or letter grading</td>
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<td>205E.</td>
<td>Psychobiology of Emotion and Stress.</td>
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<td>S/U or letter grading</td>
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<td>205F.</td>
<td>Physiology of Learning.</td>
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<td>205G.</td>
<td>Pain</td>
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<td>205L.</td>
<td>Cognitive Neuroscience.</td>
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<td>205N.</td>
<td>Functional Neuroimaging.</td>
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<tr>
<td>220A.</td>
<td>Social Psychology.</td>
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<tr>
<td>220B.</td>
<td>Research Methods in Social Psychology.</td>
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<td>220C.</td>
<td>Advanced Social Psychology.</td>
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<td>S/U or letter grading</td>
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<tr>
<td>220D.</td>
<td>Introduction to Social Psychology.</td>
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<td>S/U or letter grading</td>
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<td>220E.</td>
<td>Seminar: Attitude Formulation and Change.</td>
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<td>222A.</td>
<td>Interpersonal Relations.</td>
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<td>S/U or letter grading</td>
</tr>
<tr>
<td>222B.</td>
<td>Interpersonal Influence and Social Power.</td>
<td>3</td>
<td>S/U or letter grading</td>
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</tbody>
</table>

**Notes:**
- Courses 205C and 205D are limited to students who have completed the necessary prerequisites.
- Courses 220A and 220B are mandatory for students majoring in psychology.
- Course 220C is limited to graduate students.
- Course 220D is limited to psychology majors.
- Course 220E is limited to psychology majors and nonmajors who have completed the necessary prerequisites.
- Course 222A is limited to psychology majors.
- Course 222B is limited to psychology majors and nonmajors who have completed the necessary prerequisites.
- Course 222C is limited to psychology majors.
- Course 222D is limited to psychology majors.
- Course 222E is limited to psychology majors.
- Course 222F is limited to psychology majors.
- Course 222G is limited to psychology majors.
- Course 222H is limited to psychology majors.
- Course 222I is limited to psychology majors.
- Course 222J is limited to psychology majors.
- Course 222K is limited to psychology majors.
- Course 222L is limited to psychology majors.
- Course 222M is limited to psychology majors.
- Course 222N is limited to psychology majors.
- Course 222O is limited to psychology majors.
- Course 222P is limited to psychology majors.
- Course 222Q is limited to psychology majors.
- Course 222R is limited to psychology majors.
- Course 222S is limited to psychology majors.
- Course 222T is limited to psychology majors.
- Course 222U is limited to psychology majors.
- Course 222V is limited to psychology majors.
- Course 222W is limited to psychology majors.
- Course 222X is limited to psychology majors.
- Course 222Y is limited to psychology majors.
- Course 222Z is limited to psychology majors.
233. Seminar: Environmental Psychology. (4) Requisites: courses 235, 250A, 250B. Critical review of work in environmental psychology designed to identify basic dimensions for analysis of man/en-
vironment relationships. Use of human emotional respons-
es to environments as intervening variables linking specific stimulus qualities to a variety of approach-
avoidance behaviors. Individual differences and drug-
induced states as these relate to emotional response dimensions used to explain within-individual differ-
es in responses environment over time or be-
tween-individual differences to same situation. Re-
view of literature relating information rate from envi-
ronments to arousal and preferences for those envi-
ronments.

234. Social Psychological Aspects of Competitive Youth Sport. (4) Review of research concerning so-
cial psychological aspects of competitive sport for children. Sport is presented as a major achievement
and needs to develop personal psychological aspects to under-
stand interrelations of culture, brain, and develop-
ment, where development includes both human
ontogeny and human phylogeny. S/U or letter grad-
ing.

235. Personality. (4) Survey of cognitive, analytic, and learning theory approaches to study of personali-
ty. Emphasis on intensive exploration of selected con-
cepts and related research.

236. Interdisciplinary Research in Social Science, (4) Lecture, three hours. Limited to graduate students. Diverse approaches to relationship to the social science fields of anthropology, education, psychology, and sociology. Focus on theme of understanding biological, behav-
ioral, and social-cultural aspects related with the sci-
cific and theoretical and methodological approaches. Use of broad definition of interpersonal relationships, including relationships such as parent-child, teacher-
student, sibling, peer, kin, romantic relationships, marriages, and friendships. S/U or letter grad-
ing.

237. Special Topics in Psychology. (4) Seminar, 90 minutes. Limited to graduate stu-
dents. Current research and theory about personal relationships presented by members of seminar, fac-
ulty members, and guest speakers from diverse fields, including anthropology, education, psychology, and sociology. May be repeated for credit. S/U grad-
ing.

238. Survey Research Techniques in Psychocul-
tural Studies. (4) (Same as Psychiatry M238.) Semi-
ar, three hours. Designed for graduate students. Techniques for conducting and analyzing survey data; instruction in qualitative strategies for enhancing survey research on psychocultural problems.

239. Personality, Motivation, and Attribution. (4) (Same as Education M215.) Current research and theory relating personality variables (e.g., attributional styles, self-esteem) to motivational concerns such as persistence and intensity of behavior. Perceived causes of outcomes in achievement and attitudinal do-
 mains.

240A. Language and Cognitive Development. (4) Lecture, three hours. Preparation: one undergraduate
devotional psychology course in cognitive or ling-
guage development. Designed for graduate students. Consideration of major topics and concepts, key theo-
ories, latest methods, and research findings in develop-
ment of language and cognition. S/U or letter grad-
dering.

240B. Social and Emotional Development. (4) Le-
cature, three hours. Preparation: one undergraduate
devotional psychology course in social development or related topic. Designed for graduate stu-
dents. Consideration of major topics and concepts, key theories, latest methods, and research findings in social and emotional development. S/U or letter grad-
dering.

241. Current Developments in Developmental Psychology. (4) Discussion, 90 minutes. Designed for graduate developmental psychology students. Presentation of papers on current advances in devel-
opmental psychology and closely related areas by ex-
perts in the field. Emphasis on approaches to a prob-
lem, making it suitable to interweave presentations by graduate students. S/U grading.

242A-242G. Seminars: Developmental Psychol-
ogy. (4 each) Each course may be taken indepen-
dently and may be repeated for credit:

242A. Perceptual Development. (4) Seminar, three hours. Requisites: courses 240A, 240B. May be taken independently and may be repeated for credit. S/U or letter grad-
dering.

242B. Cognitive Development. (4) Seminar, three hours. Requisites: courses 240A, 240B. May be taken independently and may be repeated for credit. S/U or letter grad-
dering.

242C. Socialization. (4) Seminar, three hours. Requi-
sites: courses 240A, 240B. May be taken indepen-
dently and may be repeated for credit. S/U or letter grad-
dering.

242D. Social Development and Education. (4) (Same as Education M217A.) Seminar, four hours. Bi-
ological and familial, school, and other influences on the child's development. Current research and theory, research and theoretical models; consideration of theoretical and methodological research on family, peer group, and school; application of developmental theory and research to educational practice. S/U or letter grad-
dering.

242E. Development of Language and Communica-
tion. (4) Seminar, three hours. Requisites: courses 240A, 240B. May be taken independently and may be repeated for credit. S/U or letter grader.

242F. Adolescent Development. (4) (Same as Edu-
cation M217F.) Seminar, four hours. Designed for graduate students. Review of recent research on physical, cognitive, social, and psychological develop-
ment during second decade of life. Topics include pu-
beral development, changes in parent/adolescent re-
lationships, role of peers, identity development, high-
risk behaviors, stress and coping, and school adjust-
ment. Letter grading.

243A-243B. Seminars: Practical and Societal Is-
sues in Developmental Psychology. (4-4) Semi-
ar, three hours. Requisites: courses 240A, 240B. Socia-
tionalization processes in human development and implica-
tions for social/political, educational, research issues, values, and societal change. In Progress (243A) and S/U or letter (243B) grading.

244. Critical Problems in Developmental Psychol-
y. (4) Lecture, three hours. Requisites: courses 240A, 240B. Current problems; content varies de-
pending on interest of class and instructor. May be re-
peated for credit with consent of instructor.

245. Personality Development and Education, (4) (Same as Education M217C.) Review of research and theory of critical content areas in personality de-
velopment that bear on school performance: achieve-
ment motivation, self-concept, aggression, sex differ-
ences, empathy, and other social behaviors; review of status of emotional behavior in personality theory and development.

246. Psychological Aspects of Mental Retarda-
tion. (4) (Same as Psychiatry M246.) Lecture, 90 min-
utes. Discussion of psychological aspects of men-
tal retardation, including classification, description, etiology, theory, prevention, treatment, assessment, modern and future developments, and input from oth-
er disciplines (ethics, law, religion, welfare systems). S/U or letter grading.

247. Culture, Brain, and Development. (4) Semi-
ar, three hours. Designed for graduate students. In-
tegration of knowledge disciplines to understand interrelations of culture, brain, and develop-
ment, where development includes both human
ontogeny and human phylogeny. S/U or letter grad-
dering.

248. Culture, Brain, and Development Forum. (1) (Same as Anthropology M293. Applied Linguistics and TESL M252, Education M258, and Neuroscience M253.) Seminar, 90 minutes. Inter-
disciplinary seminar series to provide students with exposure to current research in understanding com-
plex relationship between culture, brain, and develop-
ment, with S/U grading.

249. Evaluation Research. (4) Requisites: courses 250A, 250B. Introduction to evaluation research in psychology, with emphasis on clinical, community, and school psychology applications. Survey includes policy and strategy issues, design of evaluative stud-
ies, data analysis, and utilization of findings.

250A. Advanced Psychological Statistics. (4) Re-
view of fundamental concepts. Basic statistical tech-
niques as applied to design and interpretation of ex-
perimental and observational research.

250B. Advanced Psychological Statistics. (4) Ad-
vanced experimental design and planning of investi-
gations.

251A-251B-251C. Research Methods. (4-4-4) Tuto-
rial, to be arranged. Designed for graduate psycholo-
gy students. Students design and conduct original re-
search projects under supervision of instructor in charge. It is anticipated that students will com-
plete their project in two terms (normally three terms allowed). S/U (251A, 251B) and S/U or letter (251C) grading.

252A. Multivariate Analysis. (4) Lecture, three hours. Requisites: courses 250A, 250B. Intro-
duction to analysis of data having multiple dependent vari-
ables. Topics include continuous multivariate distribu-
tions, multiple regression, multivariate analysis of variance, discriminant analysis, canonical correlation, principal component analysis. Applications from clini-
cal, cognitive, physiological, and social psychology.

252B. Discrete Multivariate Analysis. (4) Lecture, three hours. Requisites: courses 250A, 250B. Intro-
duction to analysis of frequency table data. Topics in-
clude categorical univariate and multivariate distribu-
tions, independence and conditional independence, log-linear models, multivariate categorial designs, and ordered categorical variables. Applications from various areas of psychology.

253. Factor Analysis. (4) Theory and practice of fac-
tor analysis in psychological research. Methods of factor exaction and rotation. Applications of comput-
ers to computations in factor analysis.

254A. Computing Methods for Psychology. (4) Lecture, three hours. Requisites: courses 250A, 250B. Use of MATLAB, but only basic programming knowl-
edge assumed; no prior knowledge of MATLAB re-
quired. Designed to teach basic computer methods rel-
vant to working in experimental psychology and cogni-
tive science. Topics include simulation/modeling, statistical data analysis, and stimulus presentation. S/U or letter grading.

254B. Cluster Analysis. (4) Lecture, three hours. Designed for graduate students. Quantitative meth-
ods for classification. Theories and assumptions un-
derlying major clustering methods. Use of methods in exploratory data analysis.

255A. Quantitative Aspects of Assessment. (4) (Formerly numbered 255.) Three hours. Requi-
sites: courses 250A, 250B. Introduction to issues con-
cerning empirical measurement of abstract con-
structs using both classical and modern empirical techniques. Hands-on approach allows students to de-
velop practical experience. In addition to discus-
sion of issues concerning reliability and validity, topics include exposure to analytic approaches, including item response theory, multiple regression, principal components analysis, exploratory factor analysis, confirmatory factor analysis, path analysis, and struc-
tural equation modeling. S/U or letter grading.


M257. Multivariate Analysis with Latent Variables. (4) (Same as Political Science M260D and Statistics M242.) Lecture, three hours. Introduction to models and methods for analysis of data hypothesized to be generated by unmeasured latent variables, including latent variable analogues of traditional methods in multivariate analysis. Causal modeling; theory testing via analysis of moment structures. Measurement models such as confirmatory, higher-order, and structural-means factory analytic models. Structural equation models, including path and simultaneous equation models. Parameter estimation, hypothesis testing, and other statistical issues. Computer implementation. Applications. S/U or letter grading.


259. Quantitative Methods in Cognitive Psychology. (4) Requisites: courses 250A, 250B. Number of nonstatistical mathematical methods and techniques commonly used in cognitive psychology. Topics include Markov chains, other stochastic processes, queuing theory, information theory, frequency analysis, etc.

260A-260B-260C. Proseminars: Cognitive Psychology. (1-1-1) Presentation of research topics by students, faculty, and visiting scholars. May be repeated for credit. S/U grading.

261. Perception. (4) Lecture, three hours. Concepts, theories, and research in study of perception. Considers the questions: Why do things look, sound, smell, taste, or feel as they do? What is the nature of perceptual systems? How do these systems process information?


265. Thinking. (4) Lecture, three hours. Contemporary theory and research in thinking, problem solving, inference, semantic memory, internal representation of knowledge, imagery, concepts.


M267. Seminar: Neuroeconomics. (4) (Same as Management M298E.) Seminar, three hours. Limited to graduate students. Analysis and discussion of research on cognitive and neural bases of decision making, S/U or letter grading.

268A-268E. Seminars: Human Information Processing. (4 each) Seminar, three hours. Topics vary with interests of instructor. Each course may be taken independently and may be repeated for credit. 268A. Perception; 268B. Human Learning and Memory; 268C. Judgment and Decision Processes; 268D. Language and Cognition; 268E. Human Performance.

268F. Human-Computer Interaction. (4) Lecture, three hours. Limited to graduate students. Concepts, theories, and pragmatics of human-computer interaction. Topics may include optimizing Web and product interfaces to enhance quality of user experience, with focus on applying principles of cognition, perception, learning, and memory to create human-computer interactions that are consonant with user needs and capabilities. Course projects include creating and using testing actual Web-based application. S/U or letter grading.

269. Seminar: Cognitive Psychology. (4) Seminar, three hours. Discussion of problems in cognitive psychology that encompass more than a single subfield of the area. May be repeated for credit.


271D. Clinical Research Laboratory. (2) Discussion, one hour; laboratory, one hour. Corequisites: courses 270A or 270B or 270C, and 271A or 271B or 271C. Designed for graduate clinical psychology students. Acquaints students with faculty research interests and involves them in course 251 research at an early stage to insure completion. S/U grading.

271E-271F. Clinical Research Laboratories. (2-2) Requisites: courses 270A, 270B, 270C. Required for graduate clinical psychology students. Designed for first-year clinical psychology students. S/U grading. 271E. Brief overview of research design issues in clinical psychology and current issues in research activities. 271F. Discussions of students’ particular research activities and issues, plus laboratories in computer analysis of statistical data.

272A-272G. Advanced Clinical Psychological Methods. (4 each) Each course may be taken independently for credit.


272D. Family Therapy and Family Dynamics. (4) Seminar, three hours. Requisite or corequisite: course 401 or 451. May be taken independently for credit.

272E. Special Problems. (4) Seminar, three hours. Requisite or corequisite: course 401 or 451. May be taken independently for credit.

272F. Behavior Modification with Adults. (4) Seminar, three hours. Requisite or corequisite: course 401 or 451. Designed for second-year graduate clinical psychology students. Current cognitive behavior modification principles and techniques. Major conceptual issues; specific techniques demonstrated and practiced by students to cover a range of adult problems such as depression, stress, anxiety, stranger management, assertion problems. May be taken independently for credit.

272G. Marital Therapies. (4) Lecture, two hours; discussion, one hour; laboratory, three hours. Requisites: courses 270A, 270B, 270C, 271A, 271B, 271C. Examination of assessment and treatment approaches for relationship problems in couples. Presentation, discussion, and illustration of techniques derived from social-learning, psychodynamic, and systems theories, with relevant research findings. May be taken independently for credit.

273A-273B-273C. Professional and Ethical Issues in Clinical Psychology. (2-2-2) Lecture, one hour; discussion, one hour. Designed for graduate clinical psychology students. Year-long course sequence covering variety of topics necessary for clinical psychologists, including legal and ethical issues, child abuse, suicide assessment, issues in empirically validated treatments, psychiatric consultation and psychoactive medications, working with diverse client populations. S/U grading.

M274. Health Status and Health Behaviors of Racial and Ethnic Minority Populations. (4) (Formerly numbered 274.) (Same as Health Services M274.) Lecture, two hours; discussion, one hour. Limited to graduate students. Overview of physical and mental health behaviors and status of major racial/ethnic groups in the U.S. Where appropriate, discussion of international issues as well. S/U grading.

275. Conceptual and Methodological Issues in Community Intervention. (4) Lecture, three hours. Limited to graduate students. Conceptualization of social problems from macrosociological perspective; discussion of multidimensional explanatory models for select illustrative problems; discussion and critical evaluation of both individual-focused and community-focused interventions with high-risk and impacted populations. S/U or letter grading.

276. Clinical Approaches to Children with Learning and Related Behavior Problems. (4) Lecture, three hours; discussion, one hour. Designed for Ph.D. students. Theoretical and research issues and problems related to purposes and methods involved in assessment and correction approaches for children with learning and behavior problems. Practical experiences to illustrate course content and provide opportunities to improve research and clinical competence. S/U or letter grading.

277. Advanced Clinical Assessment. (4) Lecture, four hours; laboratory, three hours. Designed for graduate clinical psychology students. Projective techniques, clinical interpretation, case studies, psychological test battery, psychopathology, and application of assessment to problems in psychotherapy. S/U or letter grading.


M280. Affective Disorders. (2 or 4) (Same as Psychiatry M234.) Seminar, two hours. General topics related to primary affective disorders (depression, mania, depressive illness), including diagnosis, pharmacology, epidemiology, psychology, phenomenology, biology, and treatment. Students enrolled for 4 units are assigned a more intensive reading list and required to make a presentation or prepare a research paper. S/U or letter grading.

283. Psychopathology. (4) Lecture, three hours. Survey of dominant psychological attributes of particular forms of psychopathology, including analysis of status of various theories concerned with etiology and mediating mechanisms of personality, neurotic, schizophrenic spectrum, and affective disturbances. S/U or letter grading.


289A-289B-289C. Current Issues in Clinical Psychology. (1-1-1) Discussion, two hours. Designed for first-year graduate clinical psychology students. Presentation of related topics relevant to clinical psychology. In Progress (289A, 289B) and S/U (289C) grading.


292. Biobehavioral Mechanisms of Stress and Disease. (4) Lecture, three hours. Designed for graduate psychology students. Behavior/physiology interactions of some major bodily systems: nervous, cardiovascular, gastrointestinal, and endocrine systems. Usual and altered states of these systems (e.g., stress) as these can promote permanent tissue injuries, disease, or improved bodily function, health enhancement. S/U or letter grading.

292B. Psychosocial Contributions to Ethnic Disparities in Health. (4) Seminar, three hours. Limited to graduate students. Role of social class, gender, and other psychosocial factors in accounting for disparities in psychological health in racial/ethnic groups. Attention to variety of specific disorders, with focus on explanatory models and approaches to intervention. S/U or letter grading.


M294. Seminar: Neural and Behavioral Endocrinology. (2) (Same as Neurobiology M255 and Psychological Science M255.) Seminar, one hour; discussion, one hour. Topics include hormonal biochemistry and pharmacology. Hypothalamus and pituitary control of hypophysial interactions, both hormonal and neural. Structure and function of hypothalamus. Hormonal control of reproductive and other behaviors. Sexual differentiation of brain and behavior. Assists in selection of topics of relevant, and neural aspects. Aging of reproductive behaviors and function. Letter grading.

296. Research Topics in Psychology. (1) Research group meeting, one hour. Limited to graduate students. Discussion of current literature, new ideas, methodology, and other research directions. Research presentations and opportunities for feedback on current and proposed research activity to encourage, support, and facilitate student research expertise. Assigned readings and S/U grading.

297. Issues in Social Development of Minority Child. (4) Seminar, three hours. Designed for graduate students. Critical evaluation and integration of existing research on social psychological development of minority child. Emphasis on socialization of cognitive and personality style, with goal of empirically clarifying issues raised in this area of developmental study. S/U or letter grading.

298. Special Problems in Psychology. (4) Discussion, three hours. Content depends on interests of particular instructor. May be repeated for credit. S/U or letter grading.


375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice person-enrollment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

401. Fieldwork in Clinical Psychology. (1 to 12) Fieldwork, to be arranged. Requisites: courses 271A, 271B, 271C. Students on practicum assignments are required to register for this course each term (except by consent of clinical program committee). S/U or letter grading.

402. Research Clinical Practicum. (2) Fieldwork, two hours. Faculty and graduate students who share interests discuss current literature, new ideas, methodological issues, and preliminary findings. Meetings include research presentations and opportunities for feedback on current and proposed research activity to encourage, support, and facilitate student research expertise. Assigned reading included. S/U grading.

403. Special Topics Study Course. (1 to 4) Discussion, one to four hours. Under faculty supervision, group of students meets each week for quarter in self-led study group to pursue specific topic of their choice that is not covered in other department courses. S/U grading.

410A-410B-410C. Clinical Teaching and Supervision. (4-4-4) Clinic, four hours. Preparation: completion of Ph.D. comprehensive examinations, advancement to candidacy or preparation for dissertation research actively under way. Study and practice of knowledge, concepts, and theories on teaching and supervision of applied clinical psychology. S/U or letter grading.

410D-410E-410F. Clinical Assessment Supervision. (4-4-4) Clinic, two hours; other, one hour. Designed for third-year graduate clinical psychology students. Study and practice of knowledge, concepts, and theories on teaching and supervision of psychological assessment. Letter grading.

420A-420B. Health Psychology Practicum. (2-2) Fieldwork, to be arranged. Designed for graduate students. Determination of what areas of health treatment, and delivery of treatment can be elucidated by understanding of psychological concepts and research; psychological perspective on these problems; how psychological perspective might be enlarged and extended in medical area. Through practical field placement, students apply knowledge acquired in class to research observation and/or clinical work in field. S/U or letter grading.

421. Research in Social Psychology. (2) Discussion, two hours; reading and group work, four to six hours. Forum for faculty and graduate students pursuing research on a common topic to share research ideas, make research presentations, and obtain feedback on study designs, procedures, and results to foster collaborative investigations in common research areas. S/U grading.

423. Social Survey Research Practicum. (4) Practicum, two hours; additional hours to be arranged. Methods of survey sampling, conduct and management of computer-assisted telephone interview surveys. S/U or letter grading.

425. Health Psychology Lecture Series. (2) Lecture, one hour. Clinicians and researchers in health psychology from Los Angeles area present their research, programs, and/or clinical work as part of training program in health psychology. May be repeated for credit. S/U grading.


454. Internship in Industrial Psychology. (2 to 4) Fieldwork, to be arranged. S/U grading.


501. Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate ad viser and graduate dean, and host campus advisor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Directed Individual Research and Study in Psychology. (2 to 12) Tutorial, to be arranged. One 596 course is required during second year of graduate study, and one 596 or 599 course is required during each succeeding year of graduate study. (Terminal M.A. candidates are exempt from this requirement.) S/U grading.

597. Individual Studies. (2 to 12) Tutorial, to be arranged. Designed primarily as preparation for Ph.D. qualifying examinations. May be required by some area committees as requisite for taking examinations. S/U grading.

599. Research for Ph.D. Dissertation. (2 to 12) Tutorial, to be arranged. Preparation: successful completion of qualifying examinations. One 599 course is required during each year following completion of qualifying examinations. S/U grading.

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**PUBLIC AFFAIRS SCHOOLWIDE PROGRAMS**

**School of Public Affairs**

**UCLA**

3357H School of Public Affairs Building

Box 951656

Los Angeles, CA 90095-1656

(310) 206-4613

e-mail: spaminor@spa.ucla.edu

http://www.spa.ucla.edu/minor/main2.cfm

**Scope and Objectives**

The School of Public Affairs offers an undergraduate minor in Public Affairs.
Public Health Schoolwide Programs

School of Public Health

UCLA
16-071 Center for the Health Sciences
Box 951772
Los Angeles, CA 90095-1772
(310) 825-5524
e-mail: info@ph.ucla.edu
http://www.ph.ucla.edu

Scope and Objectives

The profession of public health is responsible for the protection, preservation, and promotion of the health of communities and populations. Although the health problems of today differ from those of the past and of the future, the professionals who make up the field need to be trained to respond to broad community problems utilizing the basic ideas of prevention of disease and promotion of well-being. This goal can be achieved only with an understanding of the health status of the population through data gathering and analysis, as well as knowledge of the complex relationships between disease process in the social and biological environment of the community.

The field of public health today needs practitioners from many disciplines. Candidates for graduate study may come from a wide variety of academic backgrounds, training, or experiences, including both the natural and social sciences.

Undergraduate Study

Public Health Minor

The Public Health minor is designed for students who wish to learn more about core public health functions, including the assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities, the formulation of public policies designed to solve identified local and national health problems and priorities, the assurance that all populations have access to appropriate and cost-effective care, and the evaluation of the effectiveness of that care.

To enter the minor, students must be in good academic standing with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Required Upper Division Courses (28 units):

- Seven courses, including Biostatistics 100A, Community Health Sciences 100, Environmental Health Sciences 100, Epidemiology 100, Health Services 100, Public Health 150 (must be taken during the first term of enrollment in the minor), and one elective course to be selected from Biostatistics 100B, Community Health Sciences 90, 91, 130, 132, M140, 180, 181, Health Services M110, C121, Public Health 53, M106, or M151. Transfer credit for any of the above is subject to school approval.

All minor courses must be taken for a letter grade, with a minimum grade of C in each and an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The School of Public Health offers two schoolwide degrees, Master of Public Health (M.P.H.) and Doctor of Public Health (D.P.H.), and M.S. and Ph.D. degrees in Biostatistics, Environmental Health Sciences, Epidemiology, Health Services, and Public Health (offered through the Department of Community Health Sciences).

Two interdepartmental degree programs — the Doctor of Environmental Science and Engineering (D.Env.), housed in the Department of Environmental Health Sciences, and the Ph.D. in Molecular Toxicology — are also available.

The M.S. program in Preventive Medicine and Public Health is not admitting new students at this time. For information on the Preventive Medicine Residency program, see http://www.ph.ucla.edu/pmr.


Public Health

Lower Division Courses

10. Introduction to Public Health (4) Seminar, three hours. Designed for lower division students. Introduction to range of topics, issues, and frameworks to help students understand current public health issues and public health systems, policies, and practices. P/NP or letter grading.

Upper Division Courses

M106. Health in Chicano/Latino Population. (4) (Same as Chicana and Chicano Studies M106.) Lecture, four hours; discussion, one hour. Designed for juniors/seniors. Examination of Chicano/Latino health status through life expectancy, causes of death, reportable diseases, services utilization, provider supply, and risk behaviors within demographic/immigration changes. Binational review of health effects in the U.S. and Mexico. Letter grading.


M151. Healthcare in Transitional Communities. (4) (Same as Sociology M142.) Lecture, three hours; discussion, one hour. Analysis of social, cultural, economic, and political processes affecting organization and accessibility of healthcare in transitional and disadvantaged communities. Fieldwork required. Letter grading.

M160A. Health Outreach and Education for At-Risk Populations. (4) (Same as Medicine M160A.) Lecture, four hours; possible field observations. First in a series of courses to explore prevention of disease in at-risk populations, clinical services and referrals for disadvantaged, and effects of low socioeconomic status on academic achievement, career, and family. Lectures by faculty and practitioners, with field visits. P/NP or letter grading.

M160B. Health Outreach and Education for At-Risk Populations. (4) (Same as Medicine M160B.) Lecture, two hours; discussion, two hours. Requisite: course M160A. Second in series of courses to explore prevention of disease in at-risk populations, clinical services and referrals for disadvantaged, and effects of low socioeconomic status on academic achievement, career, and family. Lectures by faculty and practitioners, discussion groups, and field activities including health education. P/NP or letter grading.

Scope and Objectives

The Department of Public Policy is an interdisciplinary unit composed of faculty members from various disciplines, some of whom hold joint appointments in other UCLA departments. Its goal is to foster an understanding of the theory and practice of public policy in the many fields in which it applies. Examples include education, healthcare, unemployment and training, drug policy and crime, economic development, national security, and the environment. The department offers the Master of Public Policy (M.P.P.) degree and participates in the undergraduate minor in Public Affairs.

The M.P.P. degree program is designed to train professionals in both public- and private-sector policy analysis and implementation and provides coursework in such areas as microeconomics, statistics, political processes, and public and nonprofit management.

Concurrent degree programs allow students to combine study for an M.P.P. with work toward a J.D. in the School of Law, an M.B.A. in the John E. Anderson Graduate School of Management, or an M.S.W. in the Department of Social Welfare.

The undergraduate minor in Public Affairs familiarizes students with key issues in public policy. Both programs have a heavy applied orientation. For further information on the minor, see Public Affairs Schoolwide Programs earlier in this section of the catalog.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Department of Public Policy offers the Master of Public Policy (M.P.P.) degree. Three concurrent degree programs (Public Policy M.P.P./Law J.D., Public Policy M.P.P./Management M.B.A., and Public Policy M.P.P./Social Welfare M.S.W.) are also offered.

Public Policy

Lower Division Courses

10A. Introduction to Public Policy. (4) Lecture, three hours; outside study, nine hours. Overview of principal topics of contemporary policy analysis, developing their applications with examples from instructor’s own research, visitors, small student projects, or field trips.

10B. California Policy Issues. (4) Lecture, three hours; outside study, nine hours. Enforced requisite: course 10A. Application of policy analysis to California issues. Guest lectures from practitioners and academics along with readings and videos. Student written reports and oral presentations required. Letter grading.

Upper Division Courses

C101. Drug Abuse Control Policy. (4) Lecture, three hours; outside study, nine hours. Introduction to drug abuse as social problem and to drug abuse control as policy issue, with examination of both necessity and difficulty of making and executing wise policies around psychoactive substances. Concurrently scheduled with course C235. Letter grading.

102. Imperfect Rationality. (4) Lecture, three hours; outside study, nine hours. Idea that individuals are capable of acting rationally, in their own interest, is central to economic theory and to custom, law, and common sense thinking. Economics offers thorough account of ways in which such people should deal with choice, risk, and time. Casual observation and experimentation agree that actual behavior deviates in systematic ways from prescriptive model of rationality. Groups of rationally seeking individuals might fail to act as rationally self-seeking groups. Consideration of deviations between rational choices and actual behavior in public policies. Letter grading.

103. Ethics, Morality, and Public Life: Controversy. (4) Lecture, four hours; outside study, eight hours. Study of ethical and moral questions that arise in public life. Goal is not to imbue students with a given body of factual knowledge or to develop new quantitative or social science methodologies to analyze such questions, but to enhance their critical thinking skills. Letter grading.

104. Culture and Political Structure of Los Angeles. (4) Lecture, three hours; outside study, nine hours. Exploration of two pieces of the puzzle in modern urban life: the different communities that live here (and in most other major cities) and political structure that binds us all together. Who are the communities living here? How do they organize themselves and develop leaders? How does integration into mainstream take place? What is “mainstream” today? How does political structure help or impede the notion of a united city? Letter grading.
105. Leadership in Public Interest. (4) Lecture, three hours. Examination of prevailing models, theories, and approaches in public settings and application of them through case studies, films, and situational articles. Participation in group projects and discussions designed to improve understanding of role of leadership in mobilizing people groups to do difficult work. Introduction to literature and theory on leadership, examination of leadership and group dynamics, and challenge of leadership in times of stress and change. Letter grading.

112. Controversies in Education Policy. (4) Formerly numbered C112. Lecture, three hours; outside study, nine hours. Focus on several controversial topics in contemporary education. Topics vary each year and include multiculturalism, affirmative action, test score gap, bilingual education, and school choice. Introduction to major arguments for and against several important education policies and to encourage students to critically evaluate logic and evidence behind these policies. Letter grading.

C115. Environmental and Resource Economics and Policy. (4) Lecture, three hours. Requisites: Economics 11, 143. Survey of ways economics is used to define, analyze, and resolve problems of environmental management. Overview of analytical questions addressed by environmental economists which bear on public policies. Concurrently scheduled with course CM250. Lecture, three hours; discussion, one hour. Letter grading.

M116. Nuclear Weapons: Critical Decisions. (4) (Same as Environment M165, Honors Collegium M119, and Political Science M139B.) Lecture, three hours. Examination of critical decisions regarding nuclear weapons, starting with President Roosevelt's decision to build atomic bomb and ending with current policies on containing nuclear proliferation and on avoiding nuclear war. Letter grading.

CM117. Crisis Decision Making in U.S. Foreign Policy. (4) (Formerly numbered C117.) (Same as Political Science M121B.) Lecture, three or four hours; discussion, one hour (when scheduled). Recommended requisites: Political Science 120, 137A, 137B. In-depth look at theory and practice of U.S. foreign policy-making. Assessment of competing theories of international relations and application to specific case studies. Weekly role plays of foreign policymakers and final crisis simulation exercise. Concurrently scheduled with course C272. Letter grading.

118. U.S. Intelligence Agencies in Theory and Practice. (4) Lecture, three hours; discussion, one hour. Limited to juniors/seniors. Examination of U.S. intelligence agencies from Cold War to present. Particularly in light of 9/11 and Iraq war, few organizations are more mysterious and less understood. Course separates fact from fiction, comparing how intelligence agencies are portrayed in popular entertainment to how they operate in practice. Fundamentals of intelligence collection (from satellites to spies) and analytic tradecraft; key challenges such as role of ethics in intelligence; performance of U.S. intelligence agencies during Cold War; and intelligence community's ability to adapt to rise of terrorism. Application of general concepts to specific case studies of Cuban missile crisis, 2003 Iraq war, and September 11, 2001, terrorist attacks. Letter grading.


M120. Race, Inequality, and Public Policy. (4) (Same as Africana Studies M120.) Lecture, three hours. Background in economics, sociology, or urban studies preferred but not required. Survey course to examine major debates and current controversies in policy response to social problems in urban America. Letter grading.

C124. Budget Politics, Social Policy, and Entitlement Reform. (4) Lecture, three hours; outside study, nine hours. Examination of politics of public budgeting in the U.S., with emphasis on financing of social safety net. Exploitation of budgetary process as setting both for gaining substantive knowledge about how government really works and for developing political and analytical skills required to in understand the logic behind political decision making and assemble world in many different ways, and (3) be able to articulate patterns of flux, change, and movement in world space and history. Concurrently scheduled with course C239. Letter grading.

125. Rights and Wrongs of Affirmative Action. (4) Lecture, three hours; outside study, nine hours. Exploration of question of race-based affirmative action from moral, political, and social philosophy standpoint. Topics include defining discrimination, individual and group equality; differing conceptions of diversity; meritocracy and its critics; historical and future-based arguments; sociology of values; possibilities for moral compromise. Letter grading.

CM126. Political Ethics. (4) (Formerly numbered M126.) (Same as Political Science M115B.) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Study of major issues in morality, or lack thereof, of political life. Coverage of both readings in moral and political theory and real-world examples such as Watergate, terrorism, civil rights politics, and presidential campaigns. Topics include basic ethical theory, role-relative ethics, Machiavellianism, responsibility and representation, ethics of compulsion, “dirty hands” problems, international ethics. Concurrently scheduled with course C249. Letter grading.

141. Employment and Labor Policy: Survey. (4) Lecture, three hours; outside study, nine hours. Requisite: course 10A. Introduction to current public policy issues in employment, labor relations, labor markets. Historical context for current employment and labor policies in the U.S. Public and private, economic, social and political causes of problems in the labor market. Context of workplace policy, labor market, and government policy. Letter grading.

C142. Labor Markets and Public Policy. (4) Lecture, three hours; outside study, nine hours. Highly recommended preparation: prior microeconomics coursework. Examination of historical and contemporary economic analysis of labor markets and public policies toward labor market. Topics include labor force trends and measurement, compensation determination, productivity, inter- nal labor markets, human capital theory, unemployment, and minority and female labor-market experience. Concurrently scheduled with course CM230. Letter grading.

C144. Comparative Industrial Relations. (4) Lecture, three hours; outside study, nine hours. Requisite: course 10A. At national and international levels, historical and contemporary analytical comparison of political, social, and economic contexts influencing human resource systems of selected developed countries. In addition to discussing possible frameworks for analyzing human resource systems, examination of institutions and ideologies of labor, management, and government; the role of labor in economic activities; labor relations; substance and manner of determination of “web of rules” governing rights and obligations of the parties; and resolution of conflicts. Concurrently scheduled with course C240. Letter grading.

145. Labor Policies in the U.S.: Historical Perspective. (4) Lecture, three hours; outside study, nine hours. Requisite: course 10A. Insight into evolution of labor policy in the U.S. from 19th century to the present. Exploration of important policy areas such as child labor, labor standards, protective legislation for women workers, industrial relations, civil rights, occupational safety and health, and international labor standards in (1) historical context (economic, political, and social factors that shaped the debate), (2) motivation and action of major players (business, labor, government), and (3) changing patterns of government involvement in public policy. Letter grading.

146. Democracy, Disobedience, and Dissent. (4) (Formerly numbered C146.) Lecture, three hours; outside study, nine hours. Requisite: Philosophy 6 or Political Science 10. Theories of political and legal obligation and their critics; justified disobedience in response to inequality, injustice, and social exclusion; moral and religious pluralism as argument for both obedience and dissent. Letter grading.

C147. Critical Policy Issues and Problems in Globalizing World. (4) Lecture, three hours; outside study, nine hours. To enable students to (1) think of world in dynamic terms, divide, and assemble world in many different ways, and (3) be able to articulate patterns of flux, change, and movement in world space and history. Concurrently scheduled with course C245. Letter grading.

148. Business and Public Policy. (4) Lecture, three hours; outside study, nine hours. Requisite: course 10A. Introduction to key issues arising at interface between business and government policy. Discussion of why government focuses on issues regulating economic outcomes, nature of business/government relationship, business political activity, and major government policies. Topics include economic regulation (industrial policy, antitrust, technology policy); social regulation of business (energy, environment, risk, liability, corporate governance); and corporate social responsibility, business ethics, and green business. Discussion in theory and practice of particular policy in its social context, including political pressures involved and problems of implementation. Emphasis on skills of data acquisition and analysis of complex policy questions including theoretical and conceptual analysis and written analysis and presentation. Letter grading.

191A. Variable Topics in Public Policy. (4) (Formerly numbered 197.) Seminar, three hours; outside study, nine hours. Examination of particular subfields of policy studies (e.g., international policy, crime policy, policy history) in depth, with specific topics to be identified by instructor. Reading, discussion, and development of culminating project. Must be taken for credit if applied toward Public Affairs minor. May be repeated for credit with topic change. P/NP or letter grading.

191B. Variable Topics in Public Policy. (3) Seminar, three hours; outside study, nine hours. Examination of particular subfields of policy studies (e.g., international policy, crime policy, policy history) in depth, with specific topics to be identified by instructor. Reading, discussion, and development of culminating project. Must be taken for credit if applied toward Public Affairs minor. May be repeated for credit with topic change. P/NP or letter grading.

191C. Variable Topics in Public Policy. (2) Seminar, two hours. Examination of particular subfields of policy studies (e.g., international policy, crime policy, policy history) in depth, with specific topics to be identified by instructor. Reading, discussion, and development of culminating project. Must be taken for credit if applied toward Public Affairs minor. May be repeated for credit with topic change. P/NP or letter grading.
191D. Variable Topics in Public Policy. (1) Seminar, one hour. Examination of particular subfields of public policy (public policy/crime policy history) in depth, with specific topics to be identified by instructor. Reading, discussion, and development of culminating project. Must be taken for credit if applied toward Public Affairs minor. May be repeated for credit with subject change. P/NP or letter grading. 193A. Marschak Colloquium: Social Sciences. (2) Seminar, two hours. Limited to undergraduate students. Attendance at biweekly Marschak Colloquium presentations, highly regarded and long-standing interdisciplinary lecture series given by leading social science experts, required. Discussion of lecture topics and research models in behavioral sciences. Letter grading. 197. Individual Studies in Public Policy. (2 or 4) (Formerly numbered 199.) Tutorial, four hours. Preparation: 3.0 grade-point average. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

Graduate Courses

201. Principles of Microeconomic Theory I. (4) Lecture, three hours; outside study, nine hours. First course in two-term sequence (see course 204) to prepare students for economic analysis of public policy, with review of economic principles and basic microeconomic theory and policy applications. Consumer theory and demand, producer theory and supply, equilibrium of product and factor markets. Letter grading.

202. American Political Institutions and Processes. (4) Lecture, three hours; outside study, nine hours. Designed to provide background necessary to develop strategies for dealing effectively with political environments of policy and administration. Discussion of U.S. constitutional arrangements, followed by instrumental and integrative examination of primary institutions of politics and governance from organized interests to legislatures, bureaucracies, and courts. Letter grading.

203. Statistical Methods of Policy Analysis I. (4) Lecture, three hours; outside study, nine hours. First course in two-term sequence (see course 204) to prepare students for economic analysis of public policy, with review of statistical principles useful to policy research and analysis. Topics include descriptive statistics, expectation, univariate distribution, probability, covariance and correlation, statistical independence, random sampling, estimation, bias, robustness, and efficiency, statistical inference, confidence intervals, and hypothesis testing. Letter grading.

204. Principles of Microeconomic Theory II. (4) Lecture, three hours; outside study, nine hours. Required: course 201. Second course in two-term sequence (see course 201) covering both theory and policy applications. Topics include monopoly, factor markets, general equilibrium, welfare economics, externality, public goods, uncertainty, and intertemporal optimization. Letter grading.

205. Bureaucracy and Public Management. (4) Lecture, three hours; outside study, nine hours. Problems posed by behaviors within and by bureaucrats. Conceptual tools for comprehending organization environment in which policy analysts work; tools for understanding role of manager with such organizations. Practical suggestions for policy analyst attempting to navigate waters of bureaucracy. Theoretical analysis integrated with case studies. Letter grading.

206. Political Economy of Policy Adoption and Implementation. (4) Lecture, three hours; outside study, nine hours. Analysis of how policy is formed, adopted, and implemented. How policies are formulated, by whom, how policy agendas are set, how to define relationships between politicians, bureaucrats, lobbyists, and media experts. Letter grading.

207. International Political Economy. (4) Lecture, three hours; outside study, nine hours. Examination of political, legal, and social institutions to show where the U.S. fits in an analysis of modern capitalism and business/government relations. Analysis of domestic policy options nations are pursuing in response to economic globalization, such as protectionism, multinationality, and deregulation. Introduction to international coalitions being formed, including NAF- TA, and to nongovernmental organizations created to deal with special problems such as global environmental crisis. Letter grading.


209. Management in the 21st Century. (4) Lecture, three hours; outside study, nine hours. Overview of moral philosophy, political theory, and public-sector ethics using readings from classical and contemporary literature and case studies. Consideration of various ways in which terms such as “democracy” and “liberty” are used in public practice. Discussion in developing and defending moral arguments, both orally and in writing. Letter grading.


211. Aging Policy, Elderly and Families. (4) (Same as Social Welfare M209P.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Examination of theoretical models and concepts of policy process and application to aging policy. Analysis of decision-making processes that affect social policies. Description of historical development of contemporary policy. Exploration of current proposals and issues. Letter grading.

212. Child Welfare Policy. (4) (Same as Social Welfare M209L.) Lecture, three hours. Development of social policy as it affects families and children from different cultural backgrounds and as it is given form in public child welfare system. Examination of development of needs of children and families. S/U or letter grading.

213. Mental Health Policy. (4) (Same as Social Welfare M290K.) Lecture, three hours. Examination of evolution of social policy and services for mentally ill, with emphasis on economic, ideological, and sociological factors that affect views of mentally ill and services they are provided. S/U or letter grading.

214. Poverty, the Poor, and Welfare Reform. (4) (Same as Social Welfare M200L and Urban Planning M246.) Lecture, three hours. Major policy and research issues concerning poverty and social welfare policy directed toward poor in the U.S. S/U or letter grading.

215. Health Policy. (4) (Same as Social Welfare M290M.) Lecture, three hours. Introduction to contemporary issues in healthcare financing and delivery; providing historical perspective on emergence of these issues. Examination of major public programs and their relationship to issues of access and cost. S/U or letter grading.

216. Public Policy for Children and Youth. (4) (Same as Social Welfare M260N.) Lecture, three hours. Policy issues and adolescent in relation to their interaction with schools and community, with emphasis on impact of policy across federal, state, and local levels. S/U or letter grading.


M218. Research Design and Methods for Social Policy. (4) (Same as Urban Planning M204.) Lecture, three hours; outside study, nine hours. Limited to graduate students. How to become more sophisticated consumers and producers of qualitative and quantitative policy research. In first half of course, formal principles of research design; in second half, various data collection methods, including ethnography, interviewing, and survey design. Letter grading.


M220. Transportation, Land Use, and Urban Form. (4) (Same as Urban Planning M254.) Lecture, three hours. Historical evolution of urban form and transportation systems, infrastructure planning, recent trends in urban form, urbanism, spatial mismatch hypothesis, jobs/housing balance, transportation in strong central city and polycentric city, nontraditional town planning, regional transit and urban form. Letter grading.

M221. Travel Behavior Analysis. (4) (Same as Urban Planning M256.) Lecture, three hours. Required: courses 201 and 203, or Urban Planning 207 and 220B. Descriptions of travel patterns in metropolitan and urban areas, recent trends and projections into future, overview of travel forecasting methods, trip generation, trip distribution, mode split traffic assignment, critique of traditional travel forecasting methods and new approaches to travel behavior analysis. Letter grading.

M222. Transportation Economics, Finance, and Policy. (4) (Same as Urban Planning M257.) Lecture, three hours. Overview of transportation finance and economics; concepts of efficiency and equity in transport finance; historical evolution of highway and transit finance; current issues in highway finance; private and public involvement in roads, road costs and cost allocation, truck charges, congestion pricing; current issues in transit finance; transit fare and subsidy policies, contracting and privatization of transit services. Letter grading.

M223. Transportation and Environmental Issues. (4) (Same as Urban Planning M258.) Lecture, three hours. Regulatory structure linking transportation, air quality, and energy issues, chemistry of air pollution, overview of transportation-related approaches to air quality enhancement; new car tailpipe standards; vehicle inspection and maintenance issues; transportation demand management and transportation control measures; alternative fuels and electric vehicles; corporate average fuel economy and global warming issues; growth of automobile worldwide fleet; automobile in sustainable development. Letter grading.

M224A. Introduction to Geographic Information Systems. (4) (Same as Urban Planning M206A.) Lecture, three hours; laboratory, one hour. Preparation: one graduate-level statistics course, familiarity with one packaged statistics program. Principles of Geographic Information Systems (GIS) and applied techniques of using spatial data for mapping and analysis. Topics include data quality, data manipulation, spatial analysis, and information systems. Use of mapping and spatial analysis to address a planning problem. Letter grading.
M224B. Advanced Geographic Information Systems. (4) (Same as Urban Planning M208B.) Lecture, four hours; outside study, four hours. Concurrently scheduled with course M224A or Urban Planning M206A. Principles and skills of geographic analysis and modeling; managing, processing, and interpreting spatial data. Especially useful for students interested in environmental, developmental, and transportation-related research. Scripts (Avenue), modeling (Spatial Analyst), network analysis, and transportation modeling (TransCAD). Letter grading.

M225. Education Policy and Education Inequality. (4) (Formerly numbered C225.) Seminar, three hours; outside study, nine hours. Limited to graduate students. Examination of policies that may reduce socioeconomic and ethnic disparities in educational success. Topics include international and national comparisons of educational outcomes, private and public school choice, school accountability policies, interventions to improve school or teacher quality, parenting and preschool interventions, and supplemental educational services. Letter grading.


M228. Leadership, Development, and Governance of Nonprofit Organizations. (4) (Same as Social Welfare M241E and Urban Planning M228.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Examination of patterns of community action for attaining social welfare objectives; research and field experience directed toward study of social problems within context of community planning; emerging patterns of physical, economic, and social planning within framework of social change theory. Letter grading.

CM230. Labor Markets and Public Policy. (4) (Same as Management M259C.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Survey of major topics in economic analysis of labor markets and public policies toward labor market. Topics include labor force trends and measurement, compensation determination, productivity, internal labor markets, human capital, union wage effects, unemployment, and minority and female labor-market experience. Concurrently scheduled with course M214. S/U or letter grading.

CM231. Comparative Industrial Relations. (4) (Same as Management M255.) Lecture, three hours; outside study, nine hours. Required: Management 409 or elementary knowledge of labor economics. At national and international levels, historical and contemporary analytical comparison of political, social, and economic contexts influencing human resource systems. Comparison of U.S. and other countries. In addition to discussing possible frameworks for analyzing human resource systems, examination of institutions and ideologies of labor, management, and government, and their power relationships; substance and manner of determination of "web of rules" governing rights and obligations of the parties; and resolution of conflicts. Concurrently scheduled with course C144. S/U or letter grading.


233. Employment Issues in California. (4) Lecture, three hours; outside study, nine hours. Designed for graduate students. Drawing on resources of UCLA Business Forecasting, subject, introduction of basic issues, process of law making, and impact of local, state, and federal labor market. S/U or letter grading.

234. Labor Markets and Social Policy. (4) Lecture, three hours; outside study, nine hours. Examination of analytical tools and conceptual models needed to understand policies directed toward lower levels of income distribution. Concepts include static and dynamic labor supply, labor demand, compensating differentials, human capital, and economic models of immigration crime. Letter grading.

235. Drug Abuse Control Policy. (4) Lecture, three hours; outside study, nine hours. Introduction to drug abuse as social problem and to drug abuse control policies with particular emphasis of drug availability and difficulty of meeting and executing wise policies around psychoactive substances. Concurrently scheduled with course C101. Letter grading.

237. Ethical Questions in Public Life. (4) Lecture, three hours; outside study, nine hours. Focuses on moral issues related to development of public policy. Concerns conflict between rights and obligations of the parties; and resolution of conflicts. Concurrently scheduled with course C147. Letter grading.

M238. Strategic Planning for Public and Nonprofit Organizations. (4) (Same as Political Science M268B.) Seminar, three hours. Examination of both empirical and normative questions from rich variety of perspectives for scholars in all subfields of political science as well as policy students and others interested in these issues. Consideration of topics fundamental to both democratic theory and study of American politics — public opinion; nature and purpose of elections; representation; parties; and purpose of democracy as whole through both classic political theory treatments and modern research in American political behavior. Letter grading.

M241. Introduction to Regional Planning. (4) (Same as Urban Planning M230.) Lecture, three hours. Critical and historical survey of evolution of regional planning, with particular emphasis on relations between regional planning and developments within Western social and political philosophy. Major concepts include regions and regionalism, territorial planning, and social production of space. Letter grading.

242. Regional Development, Urbanization, and Industrial Policy. (4) Lecture, three hours; outside study, nine hours. Survey of regional development, with special reference to "new economic geography" and its relevance for formulation of local economic development policies. Letter grading.

M243. Community Development and Housing Policies. Relations of State, Civil Society, and Nonprofits. (4) (Same as Social Welfare M250U and Urban Planning M275.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Examination of the role of government agencies and community organizations. Is problem housing or economic development? Should interventions be directed toward inner city housing markets or through neighborhood strategies? What lessons can be learned from experiences of other countries? Letter grading.

M244. Transportation Planning. (4) (Same as Urban Planning M255.) Lecture, three hours. Examination of how planners analyze, manage, and operate transportation systems. Measuring system performance, intelligent transportation systems, transportation system demand management, park management, freight movement and facilities, public transit evaluation and management, paratransit, bicycle and pedestrian planning, transportation for elderly and disabled. Letter grading.

CM245. Critical Policy Issues and Problems in Globalizing World. (4) Lecture, three hours; outside study, nine hours. To enable students to think of world in dynamic terms, (2) be able to map, divide, and assemble world in many different ways, and (3) be able to bring patterns of flux, change, and movement in world space and history. Concurrently scheduled with course C147. Letter grading.

M246. Electoral Democracy: Theory and Behavior. (4) (Same as Political Science M268B.) Seminar, three hours. Examination of both empirical and normative questions from rich variety of perspectives for scholars in all subfields of political science as well as policy students and others interested in these issues. Consideration of topics fundamental to both democratic theory and study of American politics — public opinion; nature and purpose of elections; representation; parties; and purpose of democracy as whole through both classic political theory treatments and modern research in American political behavior. Letter grading.

M247. Strategic Planning for Public and Nonprofit Organizations. (4) (Same as Social Welfare M240 and Urban Planning M230.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Technical processes of problem solving regarding substantive social welfare problems at community level. This form of community practice fills niche between professional and knowledge and skill set possessed by agency and program administrators on one hand and by policy analysts and policymakers on other. Letter grading.

M248. Tolerance, Pluralism, and Diversity. (4) (Same as Political Science M216.) Seminar, three hours. Prior experience in political or legal theory helpful. Exploration of both abstract concepts of toleration and contemporary disputes. S/U or letter grading.

C249. Political Ethics. (4) Lecture, three or four hours; discussion, one hour (when scheduled). Designed for graduate students. Study of major issues in morality, or lack thereof, of political life. Coverage of both readings in moral and political theory and real-world examples such as Watergate, terrorism, civil rights politics, and presidential campaigns. Topics include basic ethical theory, role-relative ethics, Machiavellian amorality, democratic responsibility and representation, ethics of conflicts & dilemmas, problems, international ethics. Concurrently scheduled with course CM126. Letter grading.
Scope and Objectives

The Department of Radiation Oncology includes clinical divisions at the UCLA Medical Plaza and Medical Center, West Los Angeles VA Medical Center, and divisions of experimental radiation biology and medical radiation physics. Research and teaching facilities are available at the UCLA Medical Plaza, UCLA Medical Center, and West Los Angeles VA Medical Center.

The primary clinical mission of the department is the management of patients who have cancer. The purpose of using radiation therapy, rather than or in addition to surgery, is to preserve function and/or cosmesis while eliminating the cancer. Other activities include total body irradiation before bone marrow transplantation and stereotactic radiosurgery for A-V malformations, meningeomas, and malignant intracranial lesions. Research interests include clinical trials, radiation biology, radiation modifiers, molecular biology, immunology, and applied physics. Knowledge of the disease in question, the comparative efficacy of radiation therapy and other methods, radiation biology and pathophysiology, and the physical characteristics of various radiations is essential.

The educational programs serve medical, dental, basic science (biology and physics), nursing, and radiation therapy students and community and postgraduate physicians; there also is a four-year program for residents who are qualifying for certification in radiation oncology by the American Board of Radiology.

For further details on the Department of Radiation Oncology and a listing of the courses of study, see http://www.radonc.ucla.edu.

### RELIGION, STUDY OF

**Interdepartmental Program College of Letters and Science**

UCLA
329 Dodd Hall
Box 951451
Los Angeles, CA 90095-1451
(310) 206-1356, 825-4570
e-mail: alaven@humnet.ucla.edu
http://www.humnet.ucla.edu/humnet/religion/idp.htm

S. Scott Bartchy, Ph.D., Chair

**Faculty Advisory Committee**

Carol A. Bakhos, Ph.D. (Near Eastern Languages and Cultures)
S. Scott Bartchy, Ph.D. (History)
William M. Bodiford, Ph.D. (Asian Languages and Cultures)
Ran Anan S. Boustan, Ph.D. (History)
Donald J. Cosenzino, Ph.D. (World Arts and Cultures)
Jacco Dielemans, Ph.D. (Near Eastern Languages and Cultures)
David C. Rapoport, Ph.D., Emeritus (Political Science)
Amy Richlin, Ph.D. (Classics)
Allen F. Roberts, Ph.D. (World Arts and Cultures)
William M. Schniedewind, Ph.D. (Near Eastern Languages and Cultures)
Jonathan A. Silk, Ph.D. (Asian Languages and Cultures)
Ronald W. Vroon, Ph.D. (Slavic Languages and Literatures)

**Scope and Objectives**

The undergraduate major in the Study of Religion equips students to understand and compare creatively the worldwide varieties of core convictions, stories, texts, rituals, and practices known collectively as religion. Students complete courses in at least six departments in which religious phenomena are analyzed, including Anthropology, Asian Languages and Cultures, Classics, English, History, Near Eastern Languages and Cultures, Philosophy, Political Science, and World Arts and Cultures. Students can anticipate gaining versatile intellectual tools for approaching, analyzing, and appreciating the deep roots, human motivations, and history of the formation of religious traditions in their respective cultural contexts. Within this interdepartmental program, students may focus in depth on one or more specific religions. Many students select this major in combination with a second major field, a minor, or related language study.

**Undergraduate Study**

**Study of Religion B.A.**

**Preparation for the Major**

Required: History 4; Philosophy 2; two courses from Anthropology 9, Asian History 1A, 1B, 1C, 9A, 9C, 9D, 10A, 10B, 11A, 11B.

**Transfer Students**

Transfer applicants to the Study of Religion major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one history of religions course, one philosophy of religion course, and two courses from sociocultural anthropology, Buddhism, history of Western civilization, Asian civilizations, civilizations of Africa, and history of China.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

**The Major**

Required: A minimum of 14 upper division courses from the list below, of which at least four (including Study of Religion 100 and Philosophy 175) must be from Group I, at least two must be from each of Groups II and IV, and at least three must be from Group III (at least one on each of the three religious traditions listed). No more than five of the 14 may be from any one group. A course may be taken twice, on different topics, for credit toward the major where repetition is allowed by the department offering the course. Variable topics courses not listed below (e.g., History 191) may be approved by the adviser as satisfying requirements for which their content is appropriate. A maximum of two upper division courses, not listed below, in an ancient language relevant to the course of study may be approved toward the major requirements (but not the group requirements) with consent of the adviser.

Special studies courses (197 and 199) may be applied toward the major but not toward a group requirement; a maximum of 12 units, approved by the adviser, may be applied. No course for the major or preparation for the major may be taken on a P/NP grading basis.

**Approved courses** (courses marked with an asterisk have readings in foreign languages; see departmental course listings for requirements):

**Group I — Methods**

- Anthropology 130, 156, History 186C, Philosophy 175, Study of Religion 100, 110, 120, Theater 101A

**Group II — Christian Traditions**

- Biblical Studies 100, 110, 210
- History 101A, 101B
- Philosophy 101A, 101B
- Religion 100, 110, 120, 130, 140

**Group III — Other Traditions**

- Asian Languages and Cultures 100, 110, 120, Theater 101A
- Anthropology 100, 110, 120
- Anthropology 150, 156
- Asian Languages and Cultures 100, 110, 120
- Classics 100, 110, 120
- Classics 150, 156
- History 100, 110, 120, 130, 140
- History 150, 156
- History 186C
- History 191
- Philosophy 100, 110, 120
- Philosophy 150, 156
- Religion 100, 110, 120, 130, 140
- Religion 150, 156


Honors Program
The honors program provides exceptional students with an opportunity to do independent research under the tutorial guidance of a faculty member. Students admitted to honors should take three 199 courses under the guidance of the sponsoring professor. The first 199 course should be taken in Spring Quarter of the junior year, the second during the following Fall Quarter, and the third during Winter Quarter of the senior year. The three courses count as part of the regular requirement of 14 upper division courses. The program culminates in an honors thesis.

To qualify for admission students should have a minimum grade-point average of 3.4. The 199 courses designed for the program and the thesis topic should be approved by the committee in charge of the major.

For further information, contact Professor S. Scott Barty at the program address.

Study of Religion
Upper Division Courses
100. Undergraduate Seminar: Study of Religion. (4) Limited to 20 students. Interdisciplinary approach to some major topics in study of religion, such as religion and politics, mysticism, ideas of revelation, myth and religion, war and ritual. May be repeated for credit with consent of instructor.

110. Religion and Violence. (4) Seminar, three hours; discussion, one hour. Exploration of capacity of religion to mobilize and legitimate violence. Materials include theoretical texts by Rene Girard, Walter Burkert, Jonathan Z. Smith, and David Rapoport and case studies dealing with religion and violence in India, Northern Ireland, Egypt, Lebanon, Israel, Palestine, Sri Lanka, and the U.S. Letter grading.

120. Abrahamic Religions: Traditions in Tension. (4) Seminar, three hours. Examination of Abrahamic tradition as received and developed by Jews, Christians, and Muslims according to rubrics of linkage and interaction, with view both to potential clashes in the 21st century and to resources inherent in these traditions for heading off such clashes and misunderstandings. Letter grading.

199. Directed Research in Study of Religion. (2 to 4) Tutorial, one hour. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. Culminating paper or project required. Twelve units may be applied toward major. Individual contract required. Letter grading.

ROMANCE LINGUISTICS AND LITERATURE
Interdepartmental Program
College of Letters and Science
UCLA
212 Royce Hall
Box 951536
Los Angeles, CA 90095-1536
(310) 825-1147
fax: (310) 825-9754
e-mail: allen@humnet.ucla.edu
http://www.humnet.ucla.edu/humnet/
romancell/index.html

Edward F. Tuttle, Ph.D., Chair

Faculty Advisory Committee
Franco Betti, Ph.D. (Italian)
Jean-Claude Carron, Docteur ès Lettres (French and Francophone Studies)
Massimo Ciavolella, Ph.D. (Italian)
Eric L. Gans, Ph.D. (French and Francophone Studies)
François Lionnet, Ph.D. (French and Francophone Studies)
Claudia Parodi-Lewin, Ph.D. (Spanish and Portuguese)
A. Carlos Quicoli, Ph.D. (Spanish and Portuguese)
Dominique L. Sportiche, Ph.D. (Linguistics)
Edward F. Tuttle, Ph.D. (Italian)

Scope and Objectives
The Romance Linguistics and Literature Program emphasizes modern linguistic and literary theories in the study of Romance languages. Linguistic and literary theories can be pursued independently or jointly; however, the integration of linguistic and literary knowledge is taken to be one of the highest aims of this interdepartmental graduate program.

Graduate Study
Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gsasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees
The Romance Linguistics and Literature Program offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Romance Linguistics and Literature.

Romance Linguistics and Literature
Graduate Courses
M202A-M202B. Comparative Romance Historical Grammar. (4-4) (Same as Italian M222A-M222B.) Lecture, three hours. Each course may be taken independently for credit. S/U or letter grading. M202A. Phonology: Principal sound changes from late Latin to main Romance dialects. M202B. Morphology and Syntax. Prime morpho-syntactic changes occurring between late Latin and main Romance dialects.

M204A-M204B. Romance Syntax: French. (4-4) (Same as Linguistics CM228A-CM228B.) Lecture, four hours. Preparation: some knowledge of French (or a Romance language). Requisite: Linguistics 120B. Course M204A is requisite to M204B. Aspects of structure of French language, with emphasis on properties of construction not found in English. S/U or letter grading.


255. Topics in Romance Syntax. (1 to 4) Topics in syntax of Romance languages, with emphasis on recent development in comparative studies; theoretical innovations based on Romance syntax.

596. Directed Individual Study or Research. (4 to 8) Tutorial, to be arranged. Study or research in areas or on subjects not offered as regular courses. Eight units may be applied toward M.A. degree requirements. S/U grading.

597. Preparation for Graduate Examinations. (4 to 12) Tutorial, to be arranged. Individual preparation for M.A. comprehensive examination or Ph.D. qualifying examinations. May be taken only once for each degree examination and only in term that comprehensive or qualifying examinations are to be taken. S/U grading.


ROTC Program – Aerospace Studies
College of Letters and Science
UCLA
218 Student Activities Center
Box 951611
Los Angeles, CA 90095-1611
(310) 825-1742
fax: (310) 825-3055
e-mail: afortc@ucla.edu
http://www.sscnet.ucla.edu/afrtc/

Kevin H. Grill, M.S., Lieutenant Colonel, Chair
relations in the Air Force environment, and modern principles of management and human security policies, demonstrating ability to apply doctrine, operating principles, and national security to their assignments, willingness to accept responsibility, and the ability to think critically and communicate with clarity and precision.

Undergraduate Study

Four-Year Program

The four-year program is available to first-term freshmen and those full-time students with at least three and one half years of undergradu- ate and/or graduate study remaining and consists of an initial two-year General Military Course, or GMC (Aerospace Studies 1A, 1B, 1C, 20A, 20B, and 20C), followed by a two-year Professional Officer Course (POC) described under Two-Year Program. GMC participation requires one hour of academic class and two hours of leadership laboratory each week during the academic year. Students incur no military obligation for GMC participation unless they qualify and accept an Air Force ROTC Scholarship during or after their sophomore year.

Students who complete GMC and wish to enter POC attend a four-week field training course the summer following GMC completion. At field training, students are provided meals, quarters, clothing, and travel and incidental expenses. Subjects covered at field training include junior officer training, aircraft and aircrew orientation, career orientation, survival training, base functions, Air Force environment, and physical training.

Two-Year Program

The two-year program is known as the Professional Officer Course (POC) and consists of Aerospace Studies 130A, 130B, 130C, 140A, 140B, and 140C. POC participation requires three hours of leadership laboratory and three hours of academic class each week during the academic year.

Requisites for the two-year program are successful completion of the GMC and a four-week field training course (see Four-Year Program above), or successful completion of a six-week field training program on an Air Force base during the summer preceding enrollment in the program.

Students interested in the six-week field training program must apply to the department chair early during Fall Quarter of their sophomore year. U.S. citizenship is required. There is no obligation to apply. Students are selected on a competitive basis with consideration given to academic major, grade-point average, aptitude examination scores, performance during an officer board interview, and a physical fitness test.

Students selected for the six-week summer field training are provided meals, quarters, clothing, and travel and incidental expenses. Subjects are the same as those in the four-week course plus the academic portion of the GMC (see Four-Year Program above).

Students enrolled in the POC incur a military obligation and are paid from $350 to $400 per month during the academic year. Additionally, they may compete for a scholarship up to full tuition, fees, and $750 for textbooks. Graduation and successful completion of the POC leads to a commission as a second lieutenant. Cadets then report to one of the challenging assignments in the Air Force.

Aerospace Studies

Lower Division Courses

Freshman-Year Courses

Z. Leadership Laboratory. (No credit) Laboratory, three hours. Mandatory for and limited to Air Force ROTC cadets. Provides cadets with practical command and staff leadership experiences through performance of various tasks within framework of an organized cadet corps. As integral part of aerospace studies curriculum, provides experiences designed to develop leadership potential and serves as orientation to active duty. No grade.

Sophomore-Year Courses


Upper Division Courses

130A-130B-130C. Air Force Leadership Studies. (4-4-4) Lecture, three hours. Requisites: courses 1A, 1B, 1C, 20A, 20B, 20C. Study of leadership and quality management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills required of an Air Force junior officer. Study of case studies to examine Air Force leadership and management situations as means of demonstrating and exercising practical application of concepts being studied. P/NP or letter grading.

140A-140B-140C. National Security Affairs/Preparation for Active Duty. (4-4-4) Lecture, three hours. Requisites: courses 1A, 1B, 1C, 20A, 20B, 20C. Study of national security processes, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics focus on the military as a profession, officer integrity, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis on refining communication skills. P/NP or letter grading.

197. Individual Studies in Aerospace Studies. (2 or 4) (Formerly numbered 199.) Tutorial, three hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.
**ROTC PROGRAM – MILITARY SCIENCE**

**College of Letters and Science**

UCLA
120S Student Activities Center
Box 951609
Los Angeles, CA 90095-1609
(310) 825-7381, 825-7384
fax: (310) 825-1785
e-mail: armyrotc@milsci.ucla.edu
http://www.sscnet.ucla.edu/milsci/

Christopher P. Talcott, M.S., Lieutenant Colonel, Chair

Professor
Christopher P. Talcott, M.S., Lieutenant Colonel

Adjunct Assistant Professors
Eric C. Cortes, B.S., Major
Thomas W. Higgins, B.A., Captain
Donald H. Hong, M.S., Captain
Robert B. Johns, B.A., Captain
Casey J. Miner, M.A., Captain
Urriolagoitia H. Miner, B.S., Captain

**Scope and Objectives**

In accordance with the National Defense Act of 1920 and with the concurrence of The Regents of the University, a unit of the Army Senior Division Reserve Officers’ Training Corps (ROTC) was established on the Los Angeles campus of the University in July 1920. Navy and Air Force units were established in 1938 and 1949 respectively.

This voluntary training allows students to qualify for an officer’s commission in the Army, Navy/Marine Corps, or Air Force while completing their college education. The ROTC curricula are not considered academic majors, but ROTC courses may be taken as free electives and applied toward the total course requirements of a major. The ROTC program is also available through UCLA Extension.

All three ROTC departments offer voluntary four-year programs for incoming freshmen and two-year programs for current and transfer students. The Army also offers a three-year program for students who apply before the end of their freshman year. All have leadership laboratories that teach leadership and management skills.

All commissions are reserve commissions. Active duty obligation following commissioning varies depending on branch of service and designated career field or occupational specialty. The Army offers both active- and reserve-duty opportunities directly after commissioning.

**Scholarships**

ROTC Scholarships are awarded on a competitive basis to U.S. citizens regardless of parents’ income. Scholarships provide full tuition or housing (on or off campus) up to $10,000, a $900 allowance for books and fees, and a tax-free monetary allowance between $300 and $500 per month during the academic year. Applications for four-year scholarships may be obtained by calling (310) 825-7381 or by e-mail to armyrotc@milsci.ucla.edu. Completed four-year applications should be submitted by December 31 of the year preceding college matriculation. Two- and three-year scholarship applications may be obtained from the UCLA Military Science Department and are considered when received.

**Army ROTC Program**

Army ROTC is a program that enables students to become officers in the U.S. Army, Army Reserves, or Army National Guard while earning a college degree. The curriculum supplements students’ academic majors by offering elective courses ranging from leadership and management to military law. Courses are augmented with leadership laboratories that stress practical skills such as first aid, land navigation, survival techniques, rappelling, military tactics, and scenario-driven leadership action courses. Non-ROTC students may enroll in many of the military science courses without enrolling in the ROTC program.

Additionally, students who decide to become Army officers can receive summer training in military parachuting (Airborne School at Fort Benning, GA), helicopter operations, which include rappelling from a hovering helicopter (Air Assault School in Hawaii), and mountaineering operations (Northern Warfare School in Alaska).

Scholarships are available for two, three, and four years of academic study and are awarded on a competitive basis. Army Scholarships pay for full tuition and mandatory fees or housing, up to $10,000, and provide a tiered stipend ranging from $3,000 to $5,000 per year and a $900 book allowance. Nonscholarship, contracted ROTC cadets also receive the tiered stipend of $3,000 to $5,000 per year. Students in the program also compete for over $35,000 in merit-based scholarships provided annually by various private organizations that support the Army ROTC program. Additionally, students may work part-time as officer trainees in local Army Reserves or National Guard units through the simultaneous membership program (SMP). Contracted students can fly free on military aircraft within the continental U.S. on a space-available basis.

Students select a branch of the Army in which to be commissioned from 16 specialty fields, including military intelligence, aviation, signal communications, finance, logistics, nursing, and engineering. Prior to completion of the ROTC program, students may request to go on active duty or serve part-time in the Army Reserves or National Guard.

**Undergraduate Study**

Students aspiring to become Army officers follow prescribed course sequences with the Military Science Department and a physical fitness program. Generally, the courses consist of one 2- to 4-unit course per term and physical fitness sessions one to three times per week, depending on the participation-level requirements.

The military science curriculum is divided into two parts: (1) the Basic Course, two years of lower division study during which students must complete six military science courses and (2) the Advanced Course, two years of upper division study consisting of six military science courses, one military history course, and a five-week summer camp.

Army ROTC students must satisfy the military history requirement by completing Military Science 110 or another history course approved by the chair.

Transfer students and others who were unable to enroll in the Basic Course can receive equivalent credit in several different ways (see Two-Year Program below).

Admission to the Advanced Course is limited to selected students who meet all academic and physical requirements. Students in this course receive a subsistence allowance between $450 and $500 a month for 10 months during each of the two academic years, plus military science uniforms. After completion of the Advanced Course and graduation, students have the opportunity to be commissioned as second lieutenants in one of the Army’s 16 specialty areas in either the Army National Guard, Reserves, or Active Army. Students’ preferences are a major factor in determining which specialty is awarded.

Students selected for Advanced ROTC must attend a five-week leadership development and assessment course between their Military Science III and IV years. Cadets receive an allowance for travel expenses and are paid for attendance.

The active duty obligation for those students selected to enter the Reserves or National Guard is for initial training, and only for a period of several months. The active duty obligation for those students commissioned into the Active Army is three years. Students who accept ROTC scholarships and enter the Active Army serve one additional year. ROTC students wishing to obtain certain advanced degrees may be granted a delay in reporting to their initial assignment.

**Four-Year Program**

Students are enrolled in the Basic Course (freshman and sophomore years) on a voluntary basis. After completion of the Basic Course and before entrance into the Advanced Course (junior and senior years), students are required to execute a contract with the Department of the Army agreeing to complete the Advanced Course and accept a commission if offered.

**Two-Year Program**

The two-year program is designed for students who receive placement credit for two years of
22. Leadership Development and Military Planning. (3) Lecture, two hours. Discussion of various methods of communication, planning, and decision making, through combined lecture, discussion, and experiential learning, with focus on written communication and group communication essential for leadership development. Introduction to and application of military planning process in developing operations orders. P/NP or letter grading.

23. Subordinate Development and Army Organization. (3) Lecture, two hours. Discussion/application of team-building techniques and subordinate development, through combined lecture, discussion, and experiential learning, with additional focus on commissioned officer, branches, and Army organization. Application of counseling techniques, motivation, and consideration of ethics and values for modern leaders. P/NP or letter grading.

24. Theory of Warfare. (2) Inquiry into theory, nature, causes, and elements of warfare, with attention also to evolution of weapons and warfare.

Upper Division Courses


131. Tactical Planning and Analysis. (4) Lecture, three hours; laboratory, four hours. Examination of leadership development process used to evaluate military leadership performance. Examination of how to conduct individual and small unit training as well as integration to basic principles of tactics. Emphasis on study of reasoning skills, troop leading procedures, and military orders process. P/NP or letter grading.

132. Army Officer and Communication. (4) Lecture, three hours; laboratory, four hours. Examination of officer leadership that culminates in detailed case study. Interpersonal communication, with focus on general communication theory as well as written and spoken communication skills. Presentation of information briefing to receive feedback from both instructor and fellow students. P/NP or letter grading.

133. Leadership and Problem Solving. (4) Lecture, three hours; laboratory, four hours. Examination of role communications, values, and ethics play in effective leadership, including ethical decision making, consideration of others, transactional and transformational leadership, and survey of Army leadership doctrine. Emphasis on improving oral and written communication abilities and leadership development and assessment. P/NP or letter grading.

141. Leadership and Management. (4) Lecture, three hours; laboratory, four hours. Interactive course to develop student proficiency in planning and executing complex training operations. Counseling techniques and development of skills needed to lead various organizations. Exploration of training management, development, and leadership and counseling techniques. P/NP or letter grading.

142. Leadership, Ethics, and Military Law. (4) Lecture, three hours; laboratory, four hours. Interactive course to enhance student understanding of organizational culture, leadership, and ethics. Understanding and enhancement of leader-member relations, assessment of organizational culture and ethical climate, and how to effect change in organizations. Exploration of foundations of military law and law of war. P/NP or letter grading.

143. Officership: Professional Military Leadership. (4) Lecture, three hours; laboratory, four hours. Capstone interactive leadership course to prepare students for challenges of being commissioned officers in U.S. Army by discussing various leadership challenges and case studies. Study of military units, with specific emphasis on joint operations involving Army, Navy, Air Force, and Marine Corps assets, military operations other than war, and global war on terror. Other topics include personnel administration, maintenance management, and financial planning. P/NP or letter grading.

197. Individual Studies in Military Science. (2 to 4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/ NP or letter grading.

Scope and Objectives

In accordance with the National Defense Act of 1920 and with the concurrence of The Regents of the University, a unit of the Army Senior Division Reserve Officers’ Training Corps (ROTC) was established on the Los Angeles campus of the University in July 1920. Navy and Air Force units were established in 1938 and 1949 respectively.

This voluntary training allows students to qualify for an officer’s commission in the Army, Navy/Marine Corps, or Air Force while completing their college education. The ROTC curriculum are not considered academic majors, but ROTC courses may be taken as free electives and applied toward the total course requirements of a major. The Naval Science Department offers a minor in Naval Science. The ROTC program is also available through UCLA Extension.

All three ROTC departments offer voluntary four-year programs for incoming freshmen and two-year programs for current and transfer students. All have leadership laboratories that teach leadership and management skills.
All commissions are reserve commissions. Active duty obligation following commissioning varies depending on branch of service and designated career field or occupational specialty.

Scholarships

ROTC Scholarships are awarded on a competitive basis to U.S. citizens regardless of parents’ income. Scholarships provide tuition, a book allowance, fees, and a tax-free monetary allowance between $250 and $400 per month during the academic year. Applications for scholarships may be obtained by calling (310) 825-9075 or by writing to Armed Forces Opportunities, P.O. Box 2865, Huntington Station, N.Y. 11746-2102. When writing, specify that the Navy/ Marine Corps scholarship is desired. Completed applications should be submitted prior to August 15 for early consideration and no later than December 1 of the year preceding college matriculation. Two-year scholarship applications may be obtained from the UCLA Naval Science Department and are considered when received.

Navy/ Marine Corps ROTC Program

The Department of Naval Science provides professional training for students leading to a reserve commission at graduation in the U.S. Navy or Marine Corps. Through the Naval Reserve Officers’ Training Corps (NROTC), scholarship students receive full tuition, fees, books, and subsistence pay of $250 to $400 per month. Nonscholarship students may apply to participate in the program during the freshman year. These students have the opportunity to compete for scholarships after the completion of one term of naval science courses. If they do not win a scholarship, or choose not to compete for one, they must compete for advanced standing prior to their junior year. A two-year College Program is also available to students who have not yet started their junior year. Students enter the two-year program with advanced standing after selection through national competition and completion of a six-week summer training period. Applications for the two-year program are due March 1 of the sophomore year. All College Program students receive uniforms, naval science textbooks and, once selected for advanced standing, monthly subsistence pay in their junior and senior years. College Program students serve on active duty for a minimum of three years following graduation and commissioning. 

Marine Corps Option

Highly motivated NROTC students may request designation as Marine Corps option students and may also pursue any UCLA academic degree. The final summer cruise involves intensive Marine training. Marine Corps option students also participate, on a limited basis, in field training exercises during the academic year.

Navy Science Minor

The Navy Science minor is designed for students who wish to augment the major they are completing in another departmental program. Naval science courses are open to all students with an interest in history, national security, foreign policy, organizational leadership, management, ethics, and the military sciences.

To enter the minor, students must have an overall grade-point average of 2.0 or better. For further information, contact Donna Tenerelli at (310) 825-9075.

Required Lower Division Courses (10 units):

- Naval Science 1B, 20A, 20B

Required Upper Division Courses (20 units):

- Naval Science 101A, 101B, 102B, 103, 104

All minor courses must be taken for a letter grade, with a grade-point average of 2.5 or better in each. Successful completion of the minor is indicated on the transcript and diploma.

Navy Science

Lower Division Courses

A. Naval Science Laboratory. (No credit) Laboratorio, one hour. Required: course 102C. Limited to Naval Science ROTC midshipmen. Designed to cover service-specific administrative processes that are requisite knowledge for the commissioned Navy and Marine Corps officers. No grading.

Z. Leadership Laboratory. (No credit) Laboratory, to be arranged. Mandatory for and limited to Naval Science ROTC midshipmen. Provides midshipmen with general military training and practical command and staff leadership experiences through classroom instruction and performance of various tasks and interactive processes within framework of organized midshipmen-run military unit, with oversight by active-duty military staff. As integral part of naval science curriculum, provides professional experiences designed to develop leadership potential and orientation for active duty. No grading.

1A. Introduction to Naval Science. (3) Lecture, three hours. Introduction to organization of Naval Service, various components of Navy, career opportunities, shipboard damage control, fire fighting, Naval and Marine Corps operations, and some customs and traditions of Naval Service. Letter grading.


20A. Naval Ship Systems II. (4) Study of naval weapon systems, with emphasis on infrared, radar, and sonar principles. Target designation and acquisition, methods of solving fire control problem, target detection systems. Analysis of transfer and feedback functions inherent in weapon systems. P/NP letter grading.

20B. Seapower and Maritime Affairs. (3) Lecture, three hours. Conceptual study of seapower, with emphasis on historical development of naval and commercial power. Seapower examined in relation to economic, political, and cultural strengths, with focus on current abilities of specific nations to use oceans to attain national objectives. P/NP or letter grading.

Upper Division Courses


101B. Naval Operations and Seamanship. (4) Lecture, four hours. Required: course 101A. Study of rules of road, ship handling, and basic concepts of multiple ship formations and maneuvering. In-depth analysis of problems associated with operations on high seas and inland waters applying to civil and U.S. Naval craft. Letter grading.

102B. Naval Leadership and Management I. (4) Examination of current and classical leadership and management theories, with emphasis on leadership application to junior military officer’s role as a leader/manager. Topics include managerial functions, performance appraisal, motivation theories, group dynamics, leadership theories, and communication.

102C. Leadership and Ethics. (2) Lecture, two hours. Required for Naval Science ROTC midshipmen: course 102B. Capstone course that examines principles of leadership and ethics relevant to military leaders through study and interactive discussion of classical and contemporary source documents and case studies. Letter grading.
103. Evolution of Warfare. (4) Study of evolution of warfare, including historical and comparative consideration of influence that leadership, political, economical, and sociological and technological development factors have had on warfare and influence they continue to exert in age of limited warfare.

104. Expeditionary Military Operations. (4) Study of historical use of expeditionary military operations, with particular emphasis on doctrine, tactics, and equipment used. Examination of topics through study of political and military objectives by focusing on historical examples, including Marathon, Gallipoli, World War II, Korea, Beirut, and Grenada. Examination of contemporary doctrine through study of recent operations.

197. Individual Studies in Naval Science, (1 to 4) (Formerly numbered 199.) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. P/NP or letter grading.

SCANDINAVIAN SECTION
College of Letters and Science

UCLA
212 Royce Hall
Box 951537
Los Angeles, CA 90095-1537
(310) 825-6828
fax: (310) 825-9754
http://www.humnet.ucla.edu/humnet/scandinavian/index.html

Timothy R. Tangherlini, Ph.D., Head

Professors
Mary Kay Norseng, Ph.D.
Ross P. Shideler, Ph.D.
Timothy R. Tangherlini, Ph.D.

Professors Emeriti
Kenneth G. Chapman, Ph.D.
James R. Massengale, Ph.D.
Jules L. Zentner, Ph.D.

Adjunct Assistant Professor
Zoe Patrice Borovsky, Ph.D.

Scope and Objectives
Scandinavia consists of five Northern European countries: Denmark, Finland, Iceland, Norway, and Sweden. These countries form a geographic bridge between the American and European continents and a political bridge between Western and Eastern Europe. For all students of literature, language, the arts, and the social and physical sciences, Scandinavia is of particular interest.

The modern Scandinavian program educates students about Scandinavia through the study of its languages and literatures. The Scandinavian Section offers both undergraduate and graduate degrees in the languages and literatures of Denmark, Norway, and Sweden. Danish, Norwegian, and Swedish are mutually understandable languages, giving the student of one access to the literatures and cultures of the other two. Both undergraduate and graduate majors are expected to concentrate on one Scandinavian language, though they study the literatures of the other language areas.

Undergraduate Study

Undergraduate Courses
No credit is allowed for completing a less advanced course after successful completion of a more advanced course in Danish, Norwegian, and Swedish grammar and/or composition. Students with demonstrated preparation may be permitted a more advanced program by the section or may be transferred to a more advanced course with consent of the instructor.

Native speakers of Norwegian, Swedish, and Danish may not enroll in any language course (including courses 105, 110, 115) in the Scandinavian Section except by petition in writing to the section. Non-Scandinavian students with knowledge of one of these Scandinavian languages may not take courses in the others except by petition in writing. Petitions must include a description of the student’s linguistic background and the reason for wanting to take the language course in question.

Scandinavian Languages

B.A.

Preparation for the Major

Required: Scandinavian 1, 2, 3, 4, and 5, or 11, 12, 13, 14, and 15, or 21, 22, 23, 24, and 25, or equivalent.

Transfer Students

Transfer applicants to the Scandinavian Language major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of either Swedish, Norwegian, or Danish.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Twelve upper division Scandinavian courses, including 105 or 110 or 115, 141, 142, 143. As an option, three upper division courses in a related field may be taken if approved in advance by the undergraduate adviser. It is recommended that students who plan to do graduate work in Scandinavian take German 1 through 6.

Scandinavian Minor

To enter the Scandinavian minor, students must have an overall grade-point average of 2.0 or better.

Required Courses (28 units): Any seven Scandinavian courses, two of which may be lower division courses selected from Scandinavian 1 through 50.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasasa/library/pgmreqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degree

The Scandinavian Section offers the M.A. degree in Scandinavian.

Scandinavian

Lower Division Courses

1. Elementary Swedish. (4) Discussion, four hours. P/NP or letter grading.


6. Elementary Swedish: Intensive. (12) Lecture, 15 hours; laboratory, five hours. Intensive basic course in Swedish equivalent to courses 1, 2, and 3. Offered in summer only. P/NP or letter grading.

11. Elementary Norwegian. (4) Discussion, four hours. P/NP or letter grading.


21. Elementary Danish. (4) Discussion, four hours. P/NP or letter grading.

22. Elementary Danish. (4) Discussion, four hours. P/NP or letter grading.


50. Introduction to Scandinavian Literatures and Cultures. (5) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 50W. Designed for students in general and for those wishing to prepare for more advanced and specialized studies in Scandinavian literature and culture. Selection works from literatures of Denmark, Norway, Sweden, Iceland, and Finland, ranging from myth, national epic, saga, and folklore through modern novel, poem, play, short story, and film, read in English and critically discussed. P/NP or letter grading.
C146. Kierkegaard and Foundations of Existentialism. (4) Seminar, three hours. Readings and discussion of selected works by Soren Kierkegaard and other existentialist writers. May be concurrently scheduled with course C253. P/NP or letter grading.

C147. Pan’s Prophets: Knut Hamsun and Other Interpreters of Nature as Modern Idyll. (4) Seminar, three hours. Readings and discussion of selected works by Knut Hamsun and other 19th- and 20th-century Scandinavian writers who explored the theme of nature as modern idyll. May be concurrently scheduled with course C146. P/NP or letter grading.

C178. Scandinavian Folk Narrative. (Formerly numbered C188.) Seminar, three hours. Introduction to fairy tales and legends of Scandinavian tradition as well as to interpretive methodologies which strive to answer questions such as “why do people tell stories that they tell?” Concurrently scheduled with course C267. Letter grading.


180. Literature and Scandinavian Society. (4) Seminar, three hours. Discussion of selected aspects of Scandinavian society as portrayed in contemporary literature as well as historical and/or sociological material. May be repeated for credit (as determined by undergraduate advisor) with topic change. May be concurrently scheduled with course C263. P/NP or letter grading.

181. Contemporary Swedish Literature. (4) Seminar, three hours. Reading and analysis of selected texts by major 20th-century Swedish authors. P/NP or letter grading.


184. Hans Christian Andersen. (4) Lecture, two hours; discussion, one hour. Study of works of Hans Christian Andersen, Danish novelist, dramatist, and writer of tales, including consideration of his literary background and of his times. Analysis of his works in terms of their style, structure, and meaning. P/NP or letter grading.

185. Seminar: Scandinavian Literature. (4) Seminar, three hours. Selected topics in Scandinavian prose, poetry, and drama. May be repeated for credit with consent of instructor and undergraduate advisor. May be concurrently scheduled with course C265. P/NP or letter grading.

CM186. Voices of Women in Scandinavian Literature. (4) (Same as Women’s Studies M186.) Discussion, three hours. Requisite: course 5 or 15 or 25. Knowledge of a Scandinavian language not required for nonmajors. Readings and discussion of writings by Scandinavian women writers analyzed in historical, theoretical, sociological, critical, and comparative contexts. May be concurrently scheduled with course C266. P/NP or letter grading.


Individual Studies in Scandinavian. (2 to 4) Graduates may meet as a group one additional hour each week and write research papers of greater length and depth. S/U or letter grading.

Graduate Courses

C251. Henrik Ibsen on World Stage. (4) Seminar, three hours. Preparation: advanced knowledge of a modern Scandinavian language. Readings and discussion of selected plays by Henrik Ibsen. May be concurrently scheduled with course C144. Graduate students may meet as a group one additional hour each week and write research papers of greater length and depth. S/U or letter grading.

C252. Getting Married: Strindberg and Battle of Sexes. (4) Seminar, three hours. Preparation: advanced knowledge of a modern Scandinavian language. Readings and discussion of selected plays by August Strindberg. May be concurrently scheduled with course C254. Graduate students may meet as a group one additional hour each week and write research papers of greater length and depth. S/U or letter grading.

C254. Pan’s Prophets: Knut Hamsun and Other Interpreters of Nature as Modern Idyll. (4) Seminar, three hours. Preparation: advanced knowledge of a modern Scandinavian language. Readings and discussion of selected works by Knut Hamsun and other 19th- and 20th-century Scandinavian writers who explored the theme of nature as modern idyll. May be concurrently scheduled with course C147. Graduate students may meet as a group one additional hour each week and write research papers of greater length and depth. S/U or letter grading.

C264. Theory of Scandinavian Novel. (4) Seminar, three hours. Preparation: advanced knowledge of a modern Scandinavian language. Analysis of predominant structures of Scandinavian novel from its 18th-century beginnings through its rise in the 19th century and its 20th-century evolution. Discussion of application of contemporary critical theories to novels. May be concurrently scheduled with course C182. Graduate students may meet as a group one additional hour each week and write research papers of greater length and depth. S/U or letter grading.
C267. Scandinavian Folk Narrative. (4) Seminar, three hours. Preparation: advanced knowledge of a modern Scandinavian language. Introduction to fairy tales and legends of Scandinavian tradition as well as to interpretive methodologies which strive to answer question “why do people tell stories that they tell?” Concurrently scheduled with course C178. Letter grading.

M270. Seminar: Literary Theory. (5) (Same as Comparative Literature M294, East Asian Languages M251, English M270, French M270, German M270, Italian M270, and Spanish M294.) Seminar, three hours. Advanced interdisciplinary seminar to explore philosophical, historical, and critical foundations of literary theory as well as current issues in literary and cultural studies. S/U or letter grading.

M271. Study of Oral Tradition: History and Methods. (4) (Same as English M205A.) Seminar, three hours. Exploration of scholarly and literary attempts to study, define, analyze, promote, and/or appropriate oral traditions, from Homer and ancient Greece to origins of vernacular literatures, European Romantic (re)discovery of oral tradition, 20th-century heuristic models of oral composition, and modern-day electronic media and popular verbal genres, such as jocking and rapping. S/U or letter grading.

M272. Collecting Oral Tradition. (4) (Same as English M205B.) Seminar, three hours. Description and evaluation of various modern approaches to collecting and documenting oral tradition as text, performance, and sociocultural event. Consideration of approaches ranging from written transcription and textualization to audio and video presentation. S/U or letter grading.

M273. Studies in Oral Traditional Genres. (4) (Same as English M205C.) Seminar, three hours. Exploration in depth of variety and history of, and scholarship on, a particular oral traditional genre (e.g., ballad, song, epic, proverb, riddle, folk tale, legend) or a set of closely related oral traditional genres. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research. (2 to 6) Tutorial, to be arranged with faculty member who directs the study or research. Limited to graduate students. Twelve units may be applied toward total course requirement, but only 4 units may be applied toward minimum graduate course requirement. May be repeated twice. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examinations or Ph.D. Qualifying Examinations. (4 to 6) Tutorial, to be arranged with faculty member who directs the study or research. May be repeated once. May not be applied toward M.A. minimum course requirements. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation. (4) Tutorial, to be arranged with faculty member who directs the study or research. May be repeated. S/U grading.

http://www.humnet.ucla.edu/humnet/slavic/index.html

Ronald W. Vroon, Ph.D., Chair

Professors
Michael H. Heim, Ph.D.
Vyacheslav V. Ivanov, Ph.D.
Emily R. Kleinin, Ph.D.
Gail D. Lenhoff, Ph.D.
David W. MacFadyen, Ph.D.
Aleksand L. Osipovat, Ph.D.
Ronald W. Vroon, Ph.D.

Professors Emeriti
Aleksandr Abjajanic, Ph.D.
Henning Andersen, Ph.D.
Thomas A. Ekeman, Ph.D.
Pete C. Hodgson, Jr., Ph.D.
Vladimir Markov, Ph.D.
Rochelle H. Stone, Ph.D.
Dean S. Worth, Ph.D.

Associate Professor
Roman Koropeckyj, Ph.D.

Senior Lecturers S.O.E.
Olga Kagan, Ph.D.
Edward Denzler, M.A., Emeritus

Lecturers
Georgiana Galateanu, Ph.D.
Susan C. Kresin, Ph.D.
Anna Kudyma, Ph.D.

Adjunct Assistant Professor
Johanna Domokos, Ph.D.

Scope and Objectives
The Slavic Languages and Literatures Depart- ment offers a wide array of courses in the languages and cultures of Russia and of Central and Eastern Europe. Instruction is offered in Czech, Hungarian, Polish, Romanian, Russian, Serbian/Croatian, and Ukrainian to provide the necessary linguistic skills to pursue advanced work in the literature, culture, history, politics, and social structures of these areas. Students have the choice of several majors and minors and the opportunity to enhance their knowledge and skills through programs of study abroad.

The department offers two majors in Russian. The Russian Language and Literature major is designed to provide students with basic mastery of the Russian language and familiarity with the classics of Russian literature. Students typically begin to study Russian in their first year, but those contemplating a Russian major later in their academic program can fulfill the Russian language requirement by combining regular coursework with summer programs or with the University of California Education Abroad Program (EAP) in Moscow, which is open to students who have completed the equivalent of one or more years of study (level 1 on the American Council on Teaching of Foreign Languages — ACTFL — scale). Students interested in this program should consult the undergraduate adviser as early as possible.

The major in Russian Studies is designed for students who wish to complement mastery of the language with an array of courses in Russian history, politics, literature, and culture.

The major in Central and East European Lan- guages and Cultures is designed to provide students with a mastery of two languages of central or eastern Europe and familiarity with the literature, as well as general background in the cultural, political, and social history of the Slavic peoples.

The graduate program provides advanced training in the Slavic literatures and linguistics leading to the M.A. and Ph.D. degrees. The primary task of the department faculty is to develop and refine the critical and analytic skills of its students in preparation for productive ca- reers in college teaching and research in the Slavic field. Alternative careers include language teaching, business, translation, interpreting, librarianship, and government service.

Undergraduate Study
The department offers three majors: (1) Central and East European Languages and Culture, (2) Russian Language and Literature, and (3) Russian Studies. The equivalent of a major in Central and East European Languages and Cultures or Russian Language and Literature is normally required for admission to the department’s graduate program and is used to determine the number of courses in Russian literature and/or linguistics that students majoring in Russian Studies are expected to make up in order to receive graduate degrees in the department. Students not majoring in Central and East European Languages and Cultures or Russian Language and Literature who intend to pursue graduate study in the department are strongly encouraged to take courses in Russian literature and linguistics during their undergraduate years to reduce the number of makeup courses re- quired. Qualified seniors may also take graduate courses numbered below 220 with consent of the instructor and the graduate and undergraduate advisers.

Central and East European Languages and Cultures B.A.

Preparation for the Major
Required: Central and East European Studies 91 or Slavic 90.

Transfer Students
Transfer applicants to the Central and East European Languages and Cultures major with 90 or more units must complete the following introductory course prior to admission to UCLA: one culture, history, or civilization course on one or more European nations.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: (1) One three-quarter introductory Central and East European language se-

**Russian Language and Literature B.A.**

**Preparation for the Major**

**Required:** Russian 1, 2, 3, 4, 5, 6, or equivalent proficiency, 90A or 90B or 90BW.

**Transfer Students**

Transfer applicants to the Russian Language and Literature major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of Russian and one Russian civilization course.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

**Required:** Thirteen courses (52 units), including Russian 100A and 100B, or 101A, 101B, and 101C, and M118, 119, 120, 123, 130A, 140A. Four or five additional courses must be selected from Russian 102A, 102B, 102C, 103A, 103B, 103C, 124C, 124D, 124G, C124N, 124T, 125, 126, M127, 128, 130B, 130C, 140B, 140C, 140D, 150, C170, 191.

**Russian Studies B.A.**

**Preparation for the Major**

**Required:** Russian 1, 2, 3, 4, 5, 6, or equivalent proficiency as determined through departmental testing (equivalent to ACTFL level 1), 90A.

**Transfer Students**

Transfer applicants to the Russian Studies major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of Russian and one Russian civilization course.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

**Required:** Russian 100A, 100B, 100C, or 101A, 101B, 101C, or equivalent proficiency as determined through departmental testing (equivalent to ACTFL level 1+), three courses in Russian literature, two courses from History M127A through 127D, two courses from Political Science 128A, 128B, 156A, Russian C170, and four additional courses selected from those listed above, from Russian language, literature, or linguistics courses, or from special courses (approved by the undergraduate advisor) offered by the Departments of Art, Art History, Design I Media Arts, Film, Television, and Digital Media, History, Music, Political Science, Slavic Languages and Literatures, and Theater.

**Honor Program**

The honors program is designed for exceptional departmental majors who wish to complete a research project that culminates in an honors thesis. Juniors and seniors who have completed all university-level coursework, including all preparation courses and requirements for the major, with an overall grade-point average of 3.0 and a 3.5 GPA or better in the major courses, are eligible to apply. Students must have the sponsorship of an approved faculty advisor.

All honors students must enroll in Slavic 198A and 198B in two consecutive terms to conduct independent research and write the honors thesis. The results of the research should be presented as a conference paper at the annual Slavic Undergraduate Research Conference.

**Central and East European Studies Minor**

The Central and East European Studies minor is designed for students who wish to augment their major program of study in the College of Letters and Sciences with exposure to a variety of disciplines pertinent to the study of central and eastern Europe, including language, literature, history, political science, folklore, ethnomusicology, and women’s studies.

To enter the minor students must have an overall grade-point average of C or better. Successful completion of the minor is indicated on the transcript and diploma.

**Russian Language Minor**

To enter the Russian Language minor, students must have an overall grade-point average of 2.0 or better.

**Required Lower Division Courses (13 units):**

- Russian 6 and two courses from 25, 90A, 90B.

**Required Upper Division Courses (23 units):**

- Three courses from Russian 101A through 103C and two additional upper division Russian language and literature courses.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better.

**Required Lower Division Course (5 units):**

Central and East European Studies 91 or Slavic 90.

**Required Upper Division Courses (28 to 31 units):**


With approval of the undergraduate advisor, other related upper division courses may be applied toward the minor. No more than two courses (8 to 10 units) may be applied toward both this minor and a major or minor in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of C or better. Successful completion of the minor is indicated on the transcript and diploma.
2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Russian Literature Minor**

To enter the Russian Literature minor, students must have an overall grade-point average of 2.0 or better.

**Required Lower Division Courses (10 to 15 units):** Russian 3 or 13B or 15B and two courses from 25, 90A, 90B.

**Required Upper Division Courses (20 units):** Five Russian language or literature courses, including at least two from Russian M118, 119, 120, 130A, 130B, 130C, 140A through 140D. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Russian Studies Minor**

To enter the Russian Studies minor, students must have an overall grade-point average of 2.0 or better.

**Required Lower Division Courses (10 to 15 units):** Russian 3 or 13B or 15B and two courses from 25, 90A, 90B.

**Required Upper Division Courses (20 units):** Five courses dealing directly with Russia, to be selected from any upper division Russian language and literature courses, History M127A through 127D, Political Science 128A, 128B, 156A, Russian C170. With approval of the undergraduate adviser, other related courses may be applied toward the minor. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Graduate Study**

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

**Graduate Degrees**

The Department of Slavic Languages and Literatures offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Slavic Languages and Literatures.

**Bulgarian Upper Division Courses**

101A-101B-101C. Elementary Bulgarian. (5-5-5) (Formerly numbered 103A-103B-103C) Lecture, five hours. Course 101A is requisite to 101B, which is requisite to 101C. Basic courses in Bulgarian language. P/NP or letter grading.

154. Survey of Bulgarian Literature. (4) Lecture, three hours. Designed for juniors/seniors. Lectures and readings in English. Survey of Bulgarian literature from the Middle Ages to the present.

**Central and East European Studies Lower Division Course**

91. Culture and Society in Central and Eastern Europe. (5) (Formerly numbered Slavic 91) Lecture, three hours; discussion, one hour. Interdisciplinary course to introduce students to main themes and concepts of Central and East European studies, including historical background, nation states and ethnic groups, languages spoken in area, and culture and politics in communist and post-communist periods: religion, literature, mass media, music, art, and cinema. P/NP or letter grading.

**Czech Upper Division Courses**


102A-102B-102C. Advanced Czech. (4-4-4) (Formerly numbered 102D-102E-102F) Lecture, three hours. Requisite: course 101C. P/NP or letter grading.

155. Survey of Czech Literature from Middle Ages to the Present. (4) Lecture, three hours. Lectures and readings in English. P/NP or letter grading.


187B. Advanced Tutorial Instruction in Czech. (2) Tutorial, one hour; laboratory, one hour. Requisite or corequisite: course 187A. Tutorial and guided independent study of advanced Czech: advanced conversation, composition, vocabulary development, and review of selected grammar topics. P/NP or letter grading.

187C-187M. Advanced Tutorial Instruction in Czech. (2 each) Tutorial, one hour; laboratory, one hour. Preparation: prior course in sequence or Czech placement test. Tutorial and guided independent study of advanced Czech: advanced conversation, composition, vocabulary development, and review of selected grammar topics. P/NP or letter grading.

197. Individual Studies in Hungarian. (2 to 4) (Formerly numbered 198) Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

**Lithuanian Upper Division Courses**

101A-101B-101C. Elementary Lithuanian. (4-4-4) Recitation, five hours. Course 101A is requisite to 101B, which is requisite to 101C. Basic courses in Lithuanian language. P/NP or letter grading.

102A-102B-102C. Advanced Lithuanian. (4-4-4) Lecture, three hours. Requisite: course 101C. Course 102A is requisite to 102B, which is requisite to 102C. Review and reinforcement of grammar introduced in first year of study, expanded vocabulary, further training in written and oral expression. P/NP or letter grading.

103. Intensive Elementary Lithuanian. (12) Lecture, 19 hours. Intensive basic course in Lithuanian equivalent to one year of language study. Use of series of thematically arranged, structurally graduated readings, conversation exercises, and individual and group assignments, as well as journal writing, to provide systematic overview of linguistic characteristics of Lithuanian language. P/NP or letter grading.

**Polish Upper Division Courses**

101A-101B-101C. Elementary Polish. (5-5-5) (Formerly numbered 102A-102B-102C) Lecture, five hours. Course 101A is requisite to 101B, which is requisite to 101C. Basic courses in Polish language. P/NP or letter grading.

102A-102B-102C. Advanced Polish. (4-4-4) (Formerly numbered 102D-102E-102F) Lecture, three hours. Requisite: course 101C. Course 102A is requisite to 102B, which is requisite to 102C. P/NP or letter grading.

152A-152B-152C. Survey of Polish Literature. (4-4-4) Lecture, three hours. Lectures and readings in English. P/NP or letter grading.

152C. Dreaming, Mocking, and Writing “as if.” Readings in modern Polish literature and culture.
187A. Advanced Tutorial Instruction in Polish. (2) Tutorial, one hour; laboratory, one hour. Preparation: two years of Polish and Polish placement test. Recommended corequisite: course 187B. Tutorial and guided independent study of advanced Polish: advanced conversation, composition, vocabulary development, and review of selected grammar topics. P/NP or letter grading.

187B. Advanced Tutorial Instruction in Polish. (2) Tutorial, one hour; laboratory, one hour. Requisite or corequisite: course 187A. Tutorial and guided independent study of advanced Polish: advanced conversation, composition, vocabulary development, and review of selected grammar topics. P/NP or letter grading.

187C-187M. Advanced Tutorial Instruction in Romanian. (2) Tutorial, one hour; laboratory, one hour. Preparation: prior course in sequence or Polish placement test. Tutorial and guided independent study of advanced Romanian: advanced conversation, composition, vocabulary development, and review of selected grammar topics. P/NP or letter grading.

Graduate Course

201. Romanian as a Romance Language. (4) Lecture, three hours. Survey of structure and development of the Romanian language, with special emphasis on relationships of Romanian to other members of the Romance group.

Russian

Lower Division Courses

1. Elementary Russian. (5) Lecture, five hours; laboratory, one hour. P/NP or letter grading.
2. Elementary Russian. (5) Lecture, five hours; laboratory, one hour. Requisite: course 1. P/NP or letter grading.
8. Advanced Intermediate Russian. (12) Lecture, five hours; discussion, one hour. Requisite: course 7 or one year of intermediate Russian. Intermediate instruction in reading, writing, and speaking Russian equivalent to courses 4, 5, and 6.
9. Russian Novel in Translation. (5) Lecture, four hours; discussion, one hour. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for former course M40. Prior knowledge of foreign languages not required. Introduction to language from sociological perspective of gender. Use of research and examples in English, Japanese, and Russian to explore nature of male and female "genderlects" and gendered language, as reflected in lexicon, language behavior, phonetics and intonation, and language acquisition and linguistic change. Satisfies Writing II requirement. Letter grading.

10. Introduction to Russian Civilization. (5) (Formerly numbered 97.) Lecture, three hours. Preparation: prior course in sequence or Polish placement test. Focus on problems of perception and misperception between limits of Slavic and Near Eastern studies. Examination of role of Russia's culture to its borders: Caucasus, Central Asia, China, and Japan. P/NP or letter grading.

109. Russian Civilization in the 20th Century. (4) (Formerly numbered 97.) Lecture, three hours. Not open for credit to students with credit for course 90BW or former course 99B or 99BW. Survey of literature, theater, cinema, television, press, music, and art. Emphasis on contemporary period, with constant reference to Russian and early Soviet antecedents. P/NP or letter grading.

M40W. Language and Gender: Introduction to Gender and Stereotypes. (5) (Formerly numbered M40.) (Same as Applied Linguistics and TESL M40W, Communication Studies M40W, and Japanese M40W.) Lecture, four hours; discussion, two hours. Enforced requisite: English Composition 3 or 3H. Not open for credit to students with credit for former course M40. Prior knowledge of foreign languages not required. Introduction to language from sociological perspective of gender. Use of research and examples in English, Japanese, and Russian to explore nature of male and female "genderlects" and gendered language, as reflected in lexicon, language behavior, phonetics and intonation, and language acquisition and linguistic change. Satisfies Writing II requirement. Letter grading.
103A-103B-103C. Russian for Native and Near-Native Speakers. (4-4-4) Lecture, three hours. Course 103A is not requisite to 103B-103C. Improvement of oral and written language skills, emphasizing correct and diversified use of language and addressing individual grammatical difficulties. May be repeated for credit with topic and/or instructor change. P/NP or letter grading. 103A. Russian National Identity. Readings in literature, philosophy, criticism, film. 103B. Literature and Film. Film adaptations of Russian literature. Readings and screenings. 103C. Special Topics.

107A-107B-107C. Russian for Social and Cultural Studies. (4-4-4) Formerly numbered 107C.) Lecture, three hours. Requisite: course 101C. Exploration of texts and movies on social issues and culture, with emphasis on press, television, and Internet. Each course may be taken independently and may be repeated for credit. P/NP or letter grading.

108. Russian for Business: Language and Culture. (4) Lecture, three hours. Discussion of economics and business in Russia, language of advertising, and social contexts. P/NP or letter grading.

123. Historical Commentary on Modern Russian. (4) Lecture, three hours. Preparation: third-year Russian recommended. Lectures and readings in English. Introduction to “alternative tradition” of women’s writings in Russia and the Soviet Union. Emphasis on images of women expressed in this tradition as compared with those found in works of contemporary male writers. P/NP or letter grading.


130A-130B-130C. Russian Poetry. (4-4-4) Lecture, three hours. Preparation: courses 101A, 102A recommended. Lectures and readings in Russian. May be repeated for credit with topic and/or instructor change. 130A. Introduction to Analysis of Russian Poetry. Role of biography, cultural subtexts, rhetoric, and form in interpreting poetic texts. 130B. Poetry of Russian Neoclassicism, Romanticism, and Realism. Major works of late 18th and 19th centuries in their historical and cultural contexts. P/NP or letter grading.

131. History of Russian Cinema. (4) Lecture, three hours. Overview of most popular art form in world’s largest nation to show how cinema struggled under incipient capitalism in Russia, how moviemaking on other side of world departed from path marked out by Hollywood and London, how film operates as form of nationwide persuasion, relationship between word and image in those acts of persuasion, how even frightening dogma cannot escape importance of audience desire(s), different forms of social existence as refuge from both capitalism and communism, and what values of world’s biggest country are. Role of language in self-definition. Is shelford verbal or visual matter? P/NP or letter grading.

140A-140D. Russian Prose Fiction. (4 each) Lecture, three hours. Preparation: third-year Russian recommended. Lectures and readings in Russian. May be repeated for credit up to three times with topic and/or instructor change. 140A. Introduction to Analysis of Russian Narrative Prose. Close analysis of genre, narrative, and rhetorical strategies and interpretative lenses. 140B. Russian Romantic Prose. Karamzin, Pushkin, Gogol, and others. 140C. Great Realists. Dostoevsky, Tolstoy, and others. 140D. 20th-Century Modernism.


170. Russian Folklore. (3 to 5) Lecture, three hours. Lectures and readings in English. General introduction to Russian folklore, including survey of genres and related folkloric phenomena. Concurrently scheduled with course C240. P/NP or letter grading.

191. Variable Topics in Russian Literature. (4) Formerly numbered 193.) Seminar, three hours. Requisites: courses 102C, 106. Conducted in Russian. Reading and analysis of texts with focus on vocabulary, pronunciation, and style, respectively, in three consecutive semesters. S/U or letter grading.


203. Practicum in Russian. (2) Requisite: course 201C. Two terms per year required of Ph.D. students. Reading of advanced texts; advanced composition, conversation; stylistics. May be repeated for credit. S/U grading.


211A. Literature of Medieval Rus’. (4) Lecture, three hours. Required for M.A. (literature). Survey of the literature from its beginning through the Kievan and Muscovite periods during the Golden Age of Russia.


212A-212B. 19th-Century Russian Literature. (4-4) Lecture, three hours. S/U or letter grading.


212B. Age of Realism. Lecture, three hours. Required for M.A. (literature). Survey devoted to emergence of critical and psychological realism, beginning with early works of Turgeniev, Goncharov, and Dostoevsky, moving to major novels of Tolstoy, Dostoevsky, and Saltykov-Shchedrin, and concluding with works of the pre-syntiblist period, especially short stories of Chekhov. S/U or letter grading.

213A. 20th-Century Russian Literature from 1890 to 1928. (4) Formerly numbered 213.) Lecture, three hours. Required for M.A. (literature). Lectures and readings in major literary trends of modernist period, such as decadence, symbolism, futurism, acmeism, and ornamental school. Analysis of representative works by Blok, Bely, Khlebnikov, Pasternak, Platonov, and others. S/U or letter grading.


219. Movements and Genres in Russian Literature. (4) Lecture, three hours. Introduction to most important theoretical issues of Russian literature written in diachronic perspective. Letter grading.

227. Linguistic Approaches to Russian Poetry. (4) Lecture, three hours. Introduction to use of linguistic methods in study of Russian poetic texts. May be repeated for credit with consent of instructor and graduate adviser.

240. Russian Folklore. (3 to 5) Lecture, three hours. Lectures and readings in English. General introduction to Russian folklore, including survey of genres and related folkloric phenomena. Concurrently scheduled with course C170. S/U or letter grading.

241. Topics in Russian Phonology. (4) Lecture, three hours. Requisites: course 220A. Selected topics in Russian phonology. May be repeated for credit with consent of instructor.

242. Topics in Russian Morphology. (4) Lecture, three hours. Requisites: course 220A. Selected topics in Russian inflection and derivation. May be repeated for credit with consent of instructor.

243. Topics in Historical Russian Grammar. (4) Lecture, three hours. Requisites: course 204, Slavic 220A. Selected topics in Russian historical phonology, morphology, and syntax. May be repeated for credit with consent of instructor.

251. Topics in Literature of Medieval Rus'. (4) Lecture, three hours. Requisite: course 211A. Detailed discussion of particular writers, periods, or genres. May be repeated for credit with consent of instructor and graduate adviser.

261. Discourse Grammar of Russian. (2 or 4) Lecture, three hours. Analysis of phenomena of Contemporary Russian controlled by discourse/pragmatic factors at all levels of linguistic structure from phonology to intersentential syntax. S/U or letter grading.


265. Topics in Russian Syntax. (4) Lecture, three hours. Requisite: course 220B. Traditional and generative approaches to Russian syntax. May be repeated for credit with consent of instructor.

270. Russian Poetics. (4) Lecture, three hours. Introduction to technical study of Russian poetics and versification, with attention to metrics, stanza forms, rhyme, and development of various verse types from the 18th into the 20th century.

C277. Studies in Russian Literature: Nabokov. (4) Lecture, three hours. Lectures and readings in English. Russian novelist (The Gift, American novelist (Speak Memory), and critic. Concurrently scheduled with course C124N. S/U or letter grading.

C90. Seminar: Russian Poetry. (4) Seminar, three hours. Recommended preparation: course 270. Detailed study of a single author, period, or work. May be repeated for credit with consent of instructor and graduate adviser.

291A. Seminar: Literature of Medieval Rus'. (4) Seminar, three hours. Requisite: course 211A. Selected topics from the 11th through the 17th century. May be repeated for credit with consent of instructor and graduate adviser.

291B. Seminar: 18th-Century Russian Literature. (4) Seminar, three hours. Requisite: course 211B. Selected authors and works from 18th-century poetry, prose, and drama. May be repeated for credit with consent of instructor and graduate adviser.

292. Seminar: 19th-Century Russian Literature. (4) Seminar, three hours. Requisites: courses 212A, 212B. Selected authors and works from 19th-century poetry, prose, and drama. May be repeated for credit with consent of instructor and graduate adviser.

293. Seminar: 20th-Century Russian Literature. (4) Seminar, three hours. Requisite: course 213. Selected authors and works from 20th-century poetry, prose, and drama. May be repeated for credit with consent of instructor and graduate adviser.

294. Seminar: Russian Literary Criticism. (4) Seminar, three hours. Requisites: courses 211B, 212A, 212B, 213. Detailed study of specific school of literary criticism, single literary critic, or period in Russian literary history as reflected in literary criticism. Si-multaneous or similar phenomena in literary criticism in the West. May be repeated for credit with consent of instructor and graduate adviser.

296. Seminar: History of Russian Culture. (4) Discussion, three hours. Reading and discussion on selected topics in history of Russian culture.

Upper Division Courses

101A-101B-101C. Elementary Serbian/Croatian. (5-5-5) (Formerly numbered 104.) Lecture, five hours. Course 101A is requisite to 101B, which is requisite to 101C. Basic courses in Serbian/ Croatian. P/NP or letter grading.

102A-102B-102C. Advanced Serbian/Croatian. (4-4-4) (Formerly numbered 103A-103B-103C.) Lecture, three hours. Requisite: course 101C. Course 102A is requisite to 102B, which is requisite to 102C. P/NP or letter grading.


154. South Slavic Literature. (4) Lecture, three hours. Lectures and readings in English. Survey of South Slavic literature from Middle Ages to the present. P/NP or letter grading.


187B. Advanced Tutorial Instruction in Serbian/ Croatian. (2) Tutorial, one hour; laboratory, one hour. Requisite or corequisite: course 167A. Tutorial and guided independent study of advanced Serbian/Croatian: advanced conversation, composition, vocabulary development, and review of selected grammar topics. P/NP or letter grading.

187C-187M. Advanced Tutorial Instruction in Serbi-an/Croatian. (2 each) Tutorial, one hour; laboratory, one hour. Preparation: prior course in sequence or Serbian/Croatian placement test. Tutorial and guided independent study of advanced Serbian/Croatian: advanced conversation, composition, vocabulary development, and review of selected grammar topics. P/NP or letter grading.

190. Introduction to Slavic Civilization. (5) Formerly numbered 99.) Lecture, three hours; discussion, one hour. Introductory survey of social and cultural institutions of Slavic peoples and their historical background. P/NP or letter grading.

Upper Division Courses

103E. Intensive Elementary Estonian. (12) Lecture, 19 hours. Intensive basic course in Estonian equivalent to one year of language study. Use of series of thematically arranged, structurally graduated readings, conversation exercises, and individual and group assignments, as well as journal writing, to provide systematic overview of linguistic characteristics of Estonian language. P/NP or letter grading.

103L. Intensive Elementary Latvian. (12) Lecture, 19 hours. Intensive basic course in Latvian equivalent to one year of language study. Use of series of thematically arranged, structurally graduated readings, conversation exercises, and individual and group assignments, as well as journal writing, to provide systematic overview of linguistic characteristics of Latvian language. P/NP or letter grading.

125. Interwar Central European Prose. (4) Lecture, three hours. Analysis of selected novels, stories, plays, and essays of representative authors of the 1920s and 1930s in translation. Special attention to relation between literature and historical and ethnic concerns. P/NP or letter grading.

126. Postwar Central European Prose. (4) Lecture, three hours. Analysis of selected novels, stories, plays, and essays of representative contemporary authors in translation. Special attention to relation between art and ideology. P/NP or letter grading.

179. Baltic and Slavic Folklore and Mythology. (4) Lecture, four hours. General course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities. P/NP or letter grading.
Graduate Courses

200A. Literary Proseminar. (4) Seminar, three hours. Required for M.A. (Literature). Designed to prepare incoming graduate students for scholarly work by introducing them to resources (departmental, intramural, and extramural), methodologies, and techniques for analysis of literary materials and cultural studies. S/U grading.


211. Slavic Gender Linguistics. (2 or 4) Lecture. Three hours. Examination of linguistic differences between male and female speech and of language used to refer to females and males. Course contributes to understanding of language, literature, sociolinguistics, gender issues, and Slavic culture in general. S/U or letter grading.


M229. Introduction to Slavic Bibliography. (2) (Same as Information Studies M229C.) Introduction to Slavic and East European bibliography for the humanities and social sciences. Emphasis to be determined by requirements and background of enrolled students. Examination of relevant library terminology and concepts; survey of languages and transliteration systems; acquisition of Slavic and East European library materials; Slavic and East European scholarly tradition in reference sources, archival resources, and research methods; survey of online databases; compilation of bibliographies. S/U grading.

230A-230B-230C. Topics in Comparative Slavic Literature. (4-4-4) Lecture, three hours. Recommended preparation: upper division courses in Czech, Polish, Russian, and Yugoslav literatures. Two terms required for Ph.D. literature. May be repeated for credit with consent of instructor and graduate adviser. 230A. Middle Ages through Baroque; 230B. Classicism to Romanticism; 230C. Realism to Modernism.

231A-231B. Advanced Old Church Slavic. (4-4) Lecture, three hours. Requisite: course 231A. Advanced reading in Old Church Slavic. May be repeated for credit with consent of instructor and graduate adviser.


237A. Seminar: Slavic Linguistics. (4) Seminar, three hours. Selected topics in comparative and historical Slavic linguistics. May be repeated for credit with consent of instructor and graduate adviser.

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237A. Seminar: Slavic Linguistics. (4) Seminar, three hours. Selected topics in comparative and historical Slavic linguistics. May be repeated for credit with consent of instructor and graduate adviser.
The minor is intended to supplement the liberal arts education of undergraduates who, through their major, are interested in finding an area of specialization related to career objectives and who seek broad and systematic training in the major ideas of the modern world.

**Undergraduate Study**

### Social Thought Minor

The Social Thought minor is limited to students who formally apply and are admitted. Interested applicants must submit a copy of their transcript, a personal statement that includes their reasons for applying, and a letter of recommendation from a faculty member to the Undergraduate Counselor’s Office, 254E Haines Hall.

To enter the minor, students must have an overall grade-point average of 2.0 or better and apply for admission only after successfully completing the following lower division requirements: General Education Clusters 21A and 21B, OR two courses from Philosophy 6, Political Science 10, Sociology 10.

**Required Upper Division Courses (16 to 20 units):** Four courses spanning at least two different departments selected from Economics 107, Geography 134, History 122D, M122E, 142A, 142B, Philosophy 151A, C151B, 153A, C153B, 154, C156, Political Science M111A through 114B, 116A, Sociology 101, 102 and, with approval of the chair, 191 seminars in social thought.

**Required Research Colloquia and Senior Thesis (12 units):** Students must also complete Social Thought 190A and 199A in one term and courses 190B and 199B in the following term.

No more than two courses (8 to 10 units) may be applied toward both this minor and a major or minor in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

### Social Thought

#### Upper Division Courses

190A-190B. Research Colloquia in Social Thought I, II (2-2) Seminar, two hours. Corequisite for course 190A: course 199A; for course 190B: course 199B. Limited to juniors/seniors. Required of students in Social Thought minor. Designed to bring together students undertaking supervised senior thesis work in seminar setting with one or more faculty members to discuss their work or related work in Social Thought minor. Led by one supervising faculty member. P/NP grading.

199A-199B. Directed Research or Senior Thesis in Social Thought I, II (4-4) Tutorial, to be arranged. Corequisite for course 199A: course 190A; for course 199B: course 190B. Limited to juniors/seniors. Required of students in Social Thought minor. Supervised individual research under guidance of faculty mentor. Culminating paper or project required. Individual contract required. Letter grading.

### SOCIAL WELFARE

#### School of Public Affairs

UCLA
3357 School of Public Affairs Building
Box 951656
Los Angeles, CA 90095-1656
(310) 825-2892
fax: (301) 206-7564
http://www.spa.ucla.edu/sw/

Stuart A. Kirk, D.S.W., Chair and Director, M.S.W. Program
Robert F. Schilling, Ph.D., Chair, Doctoral Program
Steven Clark, Ph.D., Director of Field Education

**Professors**

Helmut K. Anheier, Ph.D.
Rosina M. Becerra, Ph.D.
A.E. Benjamin, Ph.D.
Yehezkel Hasenfeld, Ph.D.
Aurora P. Jackson, Ph.D.
Stuart A. Kirk, D.S.W. (Marjorie Crump Professor of Social Welfare)
Duncan Lindsey, Ph.D.
Barbara J. Nelson, Ph.D., Dean
Paul M. Ong, Ph.D.
Robert F. Schilling, Ph.D.
Fernando M. Torres-Gil, Ph.D.

**Professors Emeriti**

Diane S. de Anda, Ph.D.
Jeanne M. Giovannini, Ph.D.
Doris S. Jacobson, Ph.D.
James E. Lubben, D.S.W.
Alex J. Norman, D.S.W.
Jack Rothman, Ph.D.
Leonard Schneiderman, Ph.D.
Rachelle A. Zukerman, Ph.D.

**Associate Professors**

Todd M. Franke, Ph.D.
Alfreda P. Iglihart, Ph.D.
Allee Moon, Ph.D.

**Assistant Professors**

Laura S. Abrams, Ph.D.
Bridge J. Freisthler, Ph.D.
Lene F. Levy-Stroms, Ph.D.

**Adjunct Professor**

JoAnn Damarion-Rodriguez, Ph.D.

**Adjunct Assistant Professors**

Jorja Leap, Ph.D.
James McGuire, Ph.D.

**Fieldwork Consultants**

Laura Alongi, L.C.S.W.
Carole Bender, M.S.W., J.D.
Joycelyn McKay Crompton, M.S.W.
Larthia R. Dunham, M.S.W.
Woo K. (Toby) Hur, M.S.W.
Katherine M. Kolodziejzki, Ph.D., Emerita
Jane E. Kurohara, M.S.W.
Gerardo P. Laviña, L.C.S.W.
Karen Lee, L.C.S.W.
Timothy Morrison, M.S.W.
Joseph A. Nunn, Ph.D., Emeritus
Mary Kay Oliveri, L.C.S.W.

Winifred E. Smith, M.S.W., Emerita
Michelle Tally, L.C.S.W.

### Scope and Objectives

The primary objectives of the Department of Social Welfare graduate program are to prepare leaders for the profession of social work and to develop the empirical base for all facets of practice. In response to changing demographic trends and the emergence of new social problems, the department provides leadership in the areas of policy, practice, and research and in the development of an innovative curriculum for training students and professionals to meet the service needs of a multicultural clientele.

The educational program is based on the premise that all students need to acquire a common body of knowledge and basic skills, and a common understanding of the philosophy and values of the profession. These then form a sound foundation for the development of more specialized knowledge and skills along the lines of each student’s interests and the needs of the field.

Students are encouraged to take advantage of the resources within the University by selecting elective courses in related disciplines. In addition, as a department within the School of Public Affairs, the program affords students instructional opportunities in the other affiliated departments — Public Policy and Urban Planning.

Beyond national opportunities in the profession of social work, there is increasing demand for qualified and experienced social workers to serve in the international field, where many social service programs are conducted under the auspices of the United Nations, the U.S. government, and national sectarian organizations. Graduates of the doctoral program generally secure appointments at major universities or research centers.

The challenge to the department, the profession, and those who join us as students is to prepare to forge the paths, build the bridges, and shape the future to ensure that all individuals, families, and communities enjoy better education, better health care, better job training, and better economic futures.

### Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

### Graduate Degrees

The Department of Social Welfare offers the Master of Social Welfare (M.S.W.) degree and the Doctor of Philosophy (Ph.D.) in Social Wel
M104E. Social Aspects of Aging. (4) (Same as Gerontology M104E.) Lecture. Four hours. Topics include theories of aging, economic factors, changing roles, social relationships, and special populations. Weekly seminars organized around key aspect of social gerontology. P/NP or letter grading.

104F. Japanese American Community and Family. (4) Lecture, four hours. Focus on the history and development of Japanese American families and communities within larger social and political environment to understand importance of social, cultural, and political influences of Japanese American families and communities. P/NP or letter grading.

105. Social Welfare Policy in Modern America: Historical Perspectives. (4) Lecture, three hours; outside study, nine hours. Historical analysis of social welfare policy with the focus on the development of social welfare issues guiding them, with emphasis on analysis of policy developments/issues related to provision of social welfare services. Study of historical and current responses of profession to major social problems. P/NP or letter grading.

100B. Social Welfare Policy: Overview. (4) Lecture, four hours. Requisite: course 100A. Review of existing policy regarding major social issues in field of social welfare. Examination of discrepancy between need and capacity of social agencies to address need. Exploration of differential impact of policy on various populations. P/NP or letter grading.


130A-130B. Community Research and Services Seminars. (4-4) Lecture, 190A-190B. Seminar, three hours; service learning, four hours; outside study, five hours. Course 130A is requisite to 130B. Limited to juniors/seniors. History and roles of social welfare policy within government, organizations, and communities. Reflections about service-learning site experiences, with application of issues related to lecture and seminar readings. Students to be assigned to two-term tutoring/mentoring site where they apply tutoring techniques as they assist middle school children living in impoverished areas of Los Angeles County. In Progress (130A) and P/NP or letter grading.


130A-130B. Community Research and Services Seminars. (4-4) Lecture, 190A-190B. Seminar, three hours; service learning, four hours; outside study, five hours. Course 130A is requisite to 130B. Limited to juniors/seniors. History and roles of social welfare policy within government, organizations, and communities. Reflections about service-learning site experiences, with application of issues related to lecture and seminar readings. Students to be assigned to two-term tutoring/mentoring site where they apply tutoring techniques as they assist middle school children living in impoverished areas of Los Angeles County. In Progress (130A) and P/NP or letter grading.

131. Poverty, Poor, and Welfare Policy. (4) Seminar, three hours. Limited to juniors/seniors. Contemporary issues in social welfare policy within government, organizations, and communities. Examination of three core sociopolitical problems: poverty, sickness, and joblessness. Exploration of social policies to combat poverty, particularly Aid to Families with Dependent Children (AFDC) and Personal Responsibility and Work Opportunity Reconciliation Act (PRWOA); and critical appraisal of recently enacted state welfare reform policies. Related to recent developments in research on poverty and policy. P/NP or letter grading.

132. Community Analysis and Community Needs. (4) Lecture, three hours. Limited to juniors/seniors. Theoretical and practical foundation for understanding and developing democratic community and for determining community needs. Use of systems theory as organizing framework. Community-level interventions are affected by community's social, political, cultural system, political system, ethnic composition, and class structure. Agencies often seek to define community needs and develop interventions to respond to these needs. Knowledge of community infrastructure necessary for ascertaining its strengths and resources that can be mobilized for addressing and responding to community needs, issues, and concerns. Social service agencies and communities can work together in partnership to enhance quality of community life. P/NP or letter grading.

151. Child Welfare Policy in America. (4) Lecture, three hours. Limited to juniors/seniors. Examination of public and private approaches to child welfare in the U.S. Review of social policies and programs that impact children. History of social policies and programs for children, including discussion of orphanages, foster care, and adoption. Transformation of public child welfare system into child protection system. Impact of welfare reform on child policies and programs in the U.S. Major programs designed to provide safety net for disadvantaged children, including welfare, food stamps, child care, child support, and children’s allowance programs. Review of research and analysis in this area. Overview of social policies and programs that impact children and the U.S. Executive policies in other countries. P/NP or letter grading.

205. Cross-Cultural Awareness. (4) Lecture, two hours; discussion, two hours. Designed to aid students in development of professional perspectives that will allow them to work effectively with members of myriad cultural groups, to discuss with clarity alternative concepts of culture in determination of individual behavior responses, and to identify their own personal cultural values and assumptions. S/U or letter grading.

M206A. Homelessness: Housing and Social Service Issues. (4) (Same as Urban Planning M270.) Lecture, three hours; discussion, 90 minutes; one field trip. Review of current status of homelessness: who homeless are, what social services and housing are available, existing and proposed programs — appropriate social work policy, administration, and fundraising aspects of funding. Outside speakers include providers of services to homeless. Letter grading.

220. History and Philosophy of Social Welfare. (2) Discussion, two hours; history of social work as field of community social work; emphasis on development of social work as a helping profession and the role of social workers. Letter grading.

M221A. Foundations of Social Welfare Policy. (4) (Same as Public Policy M210 and Urban Planning M241.) Lecture, three hours. Nature, roles, and history of welfare institutions in different societies; applicable social system theory of different components of the welfare system; theory and research about welfare policies and organizational forms. S/U or letter grading.

221B. Social Welfare Policy and Services II. (2) Discussion, two hours. Understanding of significant theoretical constructs and relevant empirical evidence dealing with how organizations develop and maintain their internal functions. Development of beginning skill in organizational analysis and knowledge to organizational analysis of social welfare services. S/U or letter grading.

223. Seminar: Social Work Profession. (2) Seminar, two hours. Nature and role of social work in contemporary society; other professions; probable future trends in profession; social work ethics, professional organizations, certification licensing; professional responsibility for self-regulation and improvement of profession. S/U grading.

225A-225B. Social Welfare Policy. (4-4) Discussion, three hours. Designed for Ph.D. students. S/U or letter grading.

225A. Formulation and Analysis. (4) Discussion, three hours. Designed for Ph.D. students. Examination of principal issues in development, formulation, and adoption of U.S. social welfare policies, with particular focus on intergovernmental negotiation and distribution. Emphasis on analysis of social policy issues and conceptual frameworks for analysis. S/U or letter grading.

225B. Implementation and Evaluation. (4) Discussion, three hours. Designed for Ph.D. students. Examination of issues in implementation and evaluation of social welfare policies, particularly those pertaining to provision, organization, and delivery of social services, including auspices funding, distribution, criteria for effectiveness, and use of quantitative methods in policy analysis. S/U or letter grading.


231D. Advanced Theory of Social Welfare Practice with Individuals, Families, and Groups IV, V, VI. (4-4-4) Lecture, three hours; outside study, nine hours. Corequisite: required social work practicum. Advanced-level, critical analysis of theories, concepts, and principles underlying social casework practice. Theoretical models related directly to practice with diverse population of older adults. Presentation of comprehensive tools for multidimensional geriatric assessment. How to engage in collaborative treatment planning across the life span and address impediments to intervention process. Theoretical underpinnings and most effective practice models to enable students to serve needs of older clients and their families as they move through later-life transitions, as well as to health and mental health problems most prevalent for older adults. Client populations range from well elderly to physically frail and/or demented from diverse backgrounds. S/U or letter grading.

240A-240B. Theory of Social Welfare Practice in Organizations, Communities, and Policy Settings I, II. (3-3) Lecture, three hours. Corequisite: required social work practicum. Historical and theoretical developments in administration, planning, and community organization; understanding the community as a social system; administration of organizations; role of the practitioner in identification, analysis, and evaluation of needs, existing programs, policies, structures, and strategies of intervention. Letter grading.

241A-241B-241C. Advanced Theory of Social Welfare Practice in Organizations, Communities, and Policy Settings IV, V, VI. (4-4-4) Lecture, three hours; outside study, nine hours. Corequisite: required social work practicum. Emphasis on various patterns of community action for attaining social welfare objectives; research and field experience directed toward study of social problems within context of community planning; emerging patterns of physical, economic, and social planning within framework of social change theory. S/U or letter grading.

M241D. Social Advocacy and Domestic Violence. (4) (Same as Law M359.) Lecture, three hours; fieldwork. Use of domestic violence as case study to give students skills needed to advocate for individuals or issues. How systems work, how law legitimizes systems, and how advocacy can be used to change systems. Letter grading.

M241E. Leadership, Development, and Governance of Nonprofit Organizations. (4) (Same as Public Policy M228 and Urban Planning M288.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Vast patterns of community action for attaining social welfare objectives; research and field experience directed toward study of social problems within context of community planning; emerging patterns of physical, economic, and social planning within framework of social change theory. Letter grading.
M241F. Strategic Planning for Public and Nonprofit Organizations. (4) Same as Public Policy M247 and Urban Planning M229.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Technical processes of problem solving regarding substantive social welfare problems at community level. This form of community practice fills niche between knowledge and skill set possessed by agency and program administrators on one hand and by policy analysts and policymakers on other.


245A. Epistemology of Practice. (4) Discussion, three hours. Designed for Ph.D. students. Studying scientific models of practice theories; process of emergence, development, and change of practice theories; intellectual foundations of practice theories; how professionals learn, apply, accumulate, and modify their practice knowledge; science and practice interplay. S/U or letter grading.

245B. Models of Social Work Practice Research. (4) Discussion, three hours. Designed for Ph.D. students. Research for practice, with major emphasis on methods of integrating research with practice, seeing data as a tool to test, evaluate, and disseminate innovative intervention technologies. S/U or letter grading.

256. Critical Problems in Social Welfare. (2) Discussion, three hours; outside study, six hours. Sources, nature, and uses of social work theory and research-based knowledge and of broader social data relevant to social welfare practice. Analysis of major methods of developing scientific knowledge. S/U or letter grading.

281A-281B-281C. Advanced Social Welfare Research. (2-2-2) Discussion, two hours. Individual or group research projects requiring intensive examination and analysis of research problem area, directed toward development of research knowledge and techniques for social work practice. In Progress (281A, 281B) and S/U or letter grading.


285E. Research in Gerontology. (4) Lecture, three hours. Overview of aging research. Development of research questions, selecting appropriate theoretical frameworks, conducting literature reviews, selecting appropriate research design, identifying sampling methods. Special considerations in aging research, including sampling, questionnaire design, and recruitment issues. Letter grading.

285F. Research in Health. (4) Lecture, three hours. Research in area of health policy and services. Discussion of readings about range of research from field of health services. Identification of research design issues, design of research instruments, analysis of strengths and limitations of current approaches to health services research, consideration of alternative roles for social work practitioners in arena of health services. Letter grading.


285H. Program Evaluation Research. (4) Lecture, three hours. Discussion of differences and similarities between evaluative and other research, alternative program evaluation methods, roles and limitations of evaluation research in real world, development of proposals for feasible program evaluation research. Letter grading.

285I. Research in Youth Populations. (4) Lecture, three hours. Research methods as applied to problems, issues, and interventions pertaining to youth populations. Instruction and experience in applying experimental and quasi-experimental designs, survey research methods, ethnographic methods, single-subject designs, and observational methods. Operational definition of variables and selection and design of appropriate measures for research with children and adolescents. Letter grading.

286A. Survey of Research Methods. (4) Discussion, four hours. Basic concepts underlying research methods. Content includes theoretical and conceptual aspects of research design, including experimental, comparative, and survey; sampling; statistical methods; methods of observation and techniques of data analysis. S/U or letter grading.

286B. Advanced Research Methods. (4) Discussion, four hours. Advanced concepts underlying research methods. Continuing study of theoretical and conceptual approaches to research problem formulation; research design, including experimental, comparative, and survey; sampling; statistical methods; methods of observation and techniques of data analysis. S/U or letter grading.

286C. Research Internship. (4) Fieldwork, four hours. Supervised study and training through participation in on-going research project or one initiated by students and carried out under faculty supervision, enabling students to apply research skills developed in prior courses. May be repeated for credit. S/U grading.

290A-290B-290C. Seminars: Social Work. (4-4-4) Seminar, three hours; outside study, nine hours. Seminar in social work in scholarship, social welfare, and social welfare, with focus on current social problems affecting individuals, groups, and communities and new patterns of intervention based on recent developments in social work. S/U or letter grading.

M290D. Women, Health, and Aging: Policy Issues. (4) (Same as Health Services CM241.) Lecture, three hours; discussion, one hour. Preparation: two upper division social sciences courses, two upper division biological sciences courses. Social and economic context of older women’s aging, major physical and psychological changes older women experience, delivery of health services to this population, and policies that respond to their needs. Letter grading.

M290E. Children with Special Healthcare Needs: Systems Perspective. (4) (Same as Community Health Sciences M424.) Lecture, three hours; fieldwork, one hour. Examination and evaluation of policies, programs, and practices which have evolved to identify, assess, and meet special needs of infants, children, and adolescents with developmental disabilities or chronic illness and their families. Letter grading.

M290F. Child Welfare Policy. (4) (Same as Public Policy M212.) Lecture, three hours. Child welfare policy in different cultures and as it is given form in public child welfare system. Examination of development of infrastructure to support needs of children and families. S/U or letter grading.

M290K. Mental Health Policy. (4) (Same as Public Policy M213.) Lecture, three hours. Examination of evolution of social policy and services for mentally ill, with emphasis on policy, economic, ideological, and sociological factors that affect views of mental illness and services they are provided. S/U or letter grading.

M290L. Poverty, the Poor, and Welfare Reform. (4) (Same as Public Policy M214 and Urban Planning M246.) Lecture, three hours. Major policy and research issues concerning poverty and social welfare policy directed toward poor in the U.S. S/U or letter grading.

M290M. Health Policy. (4) (Same as Public Policy M215.) Lecture, three hours. Introduction to contemporary issues in healthcare financing and delivery, providing historical perspective on emergence of these issues. Examination of major public programs and their relationship to issues of access and cost. S/U or letter grading.

M290N. Public Policy for Children and Youth. (4) (Same as Public Policy M216.) Lecture, three hours. Policy issues that affect children and adolescents in relation to their interaction with schools and community, with emphasis on impact of policy across federal, state, and local levels. S/U or letter grading.

M290P. Aging Policy, Elders, and Families. (4) (Same as Public Policy M211.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Examination of theoretical models and conceptual approaches to the aging policy analysis. Policy research and selection of appropriate measures for research with children and adolescents. S/U or letter grading.


M290R. Law and the Poor. (4) (Same as Law M215, Public Policy M295, and Urban Planning M248.) Lecture, three hours. Designed for graduate students. Study of major income-maintenance programs in the U.S., with emphasis on social welfare policy and attitudes toward the poor and structure and implementation of law, policy, and administration. Current reform consensus and major reforms. Letter grading.

M290S. Poverty, Social Services, and Civil Society. (4) (Formerly numbered M290S.) (Same as Public Policy M227 and Urban Planning M228.) Lecture, three hours; outside study, nine hours. Use of political economic perspective in examination of policies that have shaped rise and characteristics of nonprofit sector and its constituent elements. Examination of social history of nonprofit sector in the U.S. Exploration of legal and policy environments and distinct organizational forms. Comparative perspective between the U.S. and other countries. Concurrently scheduled with course C181. S/U or letter grading.

290T. Social Work and Juvenile Justice System. (4) Lecture, three hours; outside study, nine hours. Designed for graduate students. Exploration of evolution of juvenile justice system in the U.S. and issues that have shaped current-day practice. Role of social workers in system to be theme throughout course. Letter grading.

M290U. Community Development and Housing Policies: Roles of State, Civil Society, and Nonprofits. (4) (Same as Public Policy M243 and Urban Planning M247.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Examination of role of U.S. housing policy and role of government, civil society, and nonprofits in solving problem housing or economic development. Should interventions be directed toward inner city housing markets or through neighborhood strategies? What lessons can be learned from experiences of other countries? Letter grading.
Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

Practicum: Social Work. (3-3-3) Laboratory, 20 hours. Educationally directed practicum conducted in selected health, welfare, and educational facilities. Provides opportunities for students to test their theoretical knowledge and to acquire disciplined practice foundation in profession. In Progress (401A, 401B) and S/U (401C) grading.

Advanced Practicum: Social Work. (4-4-4) Laboratory, 24 hours. Requisites: courses 401A, 401B, 401C. Practicum in social work, arranged for students in keeping with their major field of study. In Progress (402A, 402B) and S/U (402C) grading.

Professional Communication for Social Welfare. (2) Lecture, two hours. Writing workshop on students’ papers in progress, with eye toward scholarly publication. Analysis and group discussion of rhetorical and stylistic principles. May be repeated once. S/U grading.

Cooperative Program. (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

Special Study and Research for Ph.D. Candidates. (2 to 12) Tutorial, to be arranged. Limited to Ph.D. students. S/U grading.

Preparation for M.S.W. Comprehensive Examination. (2 to 8) Tutorial, to be arranged. S/U grading.

Preparation for Ph.D. Qualifying Examinations. (2 to 12) Tutorial, to be arranged. Limited to Ph.D. students. S/U grading.


Francis R. Anderson, B.A.
Kenneth D. Bailey, Ph.D.
Rogers Brubaker, Ph.D.
Cameron D. Campbell, Ph.D.
Duane W. Champagne, Ph.D.
Steven E. Clayman, Ph.D.
Robert M. Emerson, Ph.D.
Rebecca J. Emigh, Ph.D.
Michael S. Goldstein, Ph.D.
Oscar Grusky, Ph.D.
David J. Hale, Ph.D.
M. Nicolette Hart, Ph.D.
John C. Heritage, Ph.D.
Darnell M. Hunt, Ph.D.
Jack Katz, Ph.D.
Gail Kligman, Ph.D.
Ivan H. Light, Ph.D.
David E. Lopez, Ph.D.
Michael Mann, Ph.D.
Robert D. Mare, Ph.D.
William M. Mason, Ph.D.
Ruth M. Milkman, Ph.D.
Anne R. Pebley, Ph.D.
Melvin Polliner, Ph.D.
Jeffrey Prager, Ph.D.
William G. Roy, Ph.D.
Emanuel A. Schegloff, Ph.D.
Judith A. Seltzer, Ph.D.
Edward E. Telles, Ph.D.
Stefan Timmermans, Ph.D.
Donald J. Treiman, Ph.D.
Roger Waldinger, Ph.D.
Andrea P. Wimmer, Ph.D.
Maurice Zedlin, Ph.D.
Min Zhu, Ph.D.
Lynne G. Zucker, Ph.D.
Jeffrey C. Alexander, Ph.D.
Rodofo Alvarez, Ph.D.
Ronald M. Andersen, Ph.D. (Fred W. and Pamela K. Wasserman Professor Emeritus of Health Services)
Phillip Bonacich, Ph.D.
Lucie C. Cheng, Ph.D.
Burton R. Clark, Ph.D.
Harold Garfinkel, Ph.D.
John E. Horton, Ph.D.
Valerie K. Oppenheimer, Ph.D.
Jerome Ralnow, Ph.D.
Melvin Seeman, Ph.D.
Ivan Szelenyi, Ph.D.
Warren D. Tenhouten, Ph.D.
Ralph H. Turner, Ph.D.
César J. Ayala, Ph.D.
Adrian C. Favell, Ph.D.
Elizabeth A. Frankenberg, Ph.D.
Peter E. Kollock, Ph.D.
Barbara Ballis Lal, Ph.D., in Residence
Scott L. Washington, M.A., Acting
Megan McDonnell Sweeney, Ph.D.

SCIENCE

College of Letters and Science
UCLA
264 Haines Hall
Box 951551
Los Angeles, CA 90095-1551

(310) 206-9838
fax: (310) 206-9838

David E. Lopez, Ph.D., Chair

Professors
Walter R. Allen, Ph.D.

Scope and Objectives
Sociology is the study of the organization, dynamics, and consequences of social life. The scope of the discipline is as broad and diverse as social life itself. Sociologists study social interaction and relationships, organizations and institutions, communities, and whole societies. The methods of sociological investigation are also varied: sociologists immerse themselves in the daily life of groups, interview group participants, examine recorded interaction, interpret historical documents, analyze census data, and conduct large surveys. The methods and concepts of sociology yield powerful insights into the social processes shaping lives, problems, and possibilities in contemporary society. The capacity to identify and understand these processes — a capacity that C.W. Mills called the “sociological imagination” — is valuable preparation for personal and professional participation in a changing and complex world.

In addition to contributing to a liberal arts education, the Sociology major prepares individuals for a broad range of career options and graduate and professional studies. The analytic perspectives and skills gained in the major are a foundation for careers in law, social welfare, urban planning, business, education, and public health. The major also provides a foundation for students intending to pursue graduate work in sociology and related fields. Employment opportunities available to the graduate with a Bachelor of Arts degree in Sociology also include work in community service organizations, health agencies, government service, and human resources.

The Sociology Department faculty includes internationally renown scholars who address topics ranging in scope from the organization of face-to-face interaction to the consequences of globalization. The department boasts outstanding teachers — five of whom have won Distinguished Teaching Awards — and excellently trained teaching assistants, many of whom also have won awards. The select honors program has a record for training students in the fundamentals of research and generating honors theses of substantial accomplishment. Over the past several years, a growing number of majors have won a variety of honors program scholarships, receiving grants each worth several thousand dollars. The Alpha Kappa Delta Sociological Honorary Society conference is an annual important event, and the Sociological Undergraduate Association (SUA) maintains an active, ongoing program.

The Ph.D. in Sociology usually leads to a career in research and/or teaching. Although most sociologists are employed by universities, there are increasing career opportunities in government and other nonuniversity research centers.
Undergraduate Study

Sociology B.A.

Presociology Major

While students are completing the lower division preparation courses for the major, they may be classified as Presociology majors.

Preparation for the Major

Required: Sociology 1, 20; one course from Mathematics 2, 3A, or 31A; one course from Statistics 10, 11, 13, or Psychology 100A.

All courses required for the major in Sociology, including lower division and allied field courses, must be taken for a letter grade with a grade-point average of 2.0. A minimum grade of C is required in each Preparation for the Major course.

Transfer Students

Transfer applicants to the Presociology major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one introduction to sociology course, one finite mathematics or calculus course, and one statistics course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Sixteen upper division courses, including (1) two theory courses — Sociology 101, 102; (2) one methods course from Sociology 113 or Statistics 112; (3) one course from each of the following core areas: (a) interactions — Sociology 111, CM125, 126, 130, 133, 134, (b) institutions and social processes — courses 116, 158, 173, M174, (c) power and inequality — courses 156, 157, M162, 182; (4) any five upper division sociology elective courses; (5) four upper division allied field courses (16 units) in anthropology, communication studies, economics, geography, history, political science, and psychology; and (6) one writing course from English Composition 100W, 110, 129A through 129D, 131A through 131D.

Students should complete course 101 and the core courses as early as possible and before taking other upper division courses. Courses 101 and 102 must be completed with grades of C or better. Students are required to maintain a 2.0 overall grade-point average in all upper division courses.

Only 8 units of Sociology 199 are allowed. At least six of the sociology courses must be taken while in residence in the College of Letters and Science at UCLA.

Honors Program

The honors program in sociology provides opportunity for outstanding students to undertake an independent year-long research project under the guidance of a faculty member.

As preparation for the honors program, students must complete all preparation for the major courses.

Prior to taking other upper division sociology courses, students must complete a 189 honors seminar section of Sociology 101 and 102. They then must complete all upper division requirements for the major.

After acceptance into the honors program, students are required to take courses 191H, 198A, 198B, and 198C (honors thesis seminars) which may be applied as electives toward the major requirements.

Students must have a 3.5 overall grade-point average, have completed the sociology preparation requirements and, in most cases, have completed the required theory course. Applications are available from the Undergraduate Counselor’s Office, 254E Haines Hall. Students should apply in the last term of their junior year.

Computing Specialization

Majors in Sociology may select a specialization in Computing by (1) satisfying all the requirements for a bachelor’s degree in the major, (2) completing Program in Computing 10A, 10B, 10C, and (3) completing Sociology 112, 113. All courses must be taken for a letter grade. Students graduate with a bachelor’s degree in sociology and a specialization in Computing.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Sociology offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Sociology.

Sociology

Lower Division Courses

1. Introductory Sociology. (5) Lecture, four hours; discussion, one hour. Survey of characteristics of social life, processes of social interaction, and tools of sociological investigation. P/NP or letter grading.

M5. Social Organization of Black Communities. (5) (Same as Afro-American Studies M5.) Lecture, four hours; discussion, one hour; field trips. Analysis and interpretation of social organization of black communities, with focus on origins and development of black communities, competing theories and research findings, defining characteristics and contemporary issues. Letter grading.

10. Social Thought and Origins of Sociology. (5) Lecture, three hours; discussion, two hours. Introduction to history of social thought, with special emphasis on theoretical precursors to development of discipline of sociology. Exposition and analysis of selected social theorists and concepts, especially from the 17th to 19th centuries. Letter grading.

20. Introduction to Sociological Research Methods. (5) Lecture, three hours; discussion, one hour. Introduction to methods used in contemporary sociological research, with focus on issues of research design, data collection, and analysis of data. Fieldwork may be required. Letter grading.

24. Conversation and Society. (4) Lecture, three hours. Examination of social norms that organize conversational interaction in everyday life. Consideration of relationships between conversation and other institutions in society. P/NP or letter grading.

88A-88Z. Lower Division Seminars. (1 each) Seminar, one hour. Limited to 15 freshmen/sophomores. Variable topics of current sociological interest. Consent of instructor. Consult Schedule of Classes or Department Announcements for topics and instructors. P/NP grading.

Upper Division Courses

101. Development of Sociological Theory. (5) Lecture, three hours; discussion, one hour. Comparative survey of basic concepts and traditions in sociology from 1850 to 1920, P/NP or letter grading.

102. Contemporary Sociological Theory. (5) Lecture, three hours; discussion, one hour. Requisite: course 101. Critical examination of significant theoretical formulations from 1920 to the present. P/NP or letter grading.

106A. Field Research Methods I. (6) Lecture, two hours; discussion, two hours; fieldwork, eight to 10 hours. Research practicum in which students write field notes on their experiences in and observations of extensive internship field placement. Readings focus on fieldwork roles and relations, observing and describing, writing field notes, field interviewing, ethical issues, and preliminary data analysis. Fieldwork and extensive field notes required. Letter grading.

106B. Field Research Methods II. (6) Lecture, two hours; discussion, two hours; fieldwork, 10 hours. Requisite: course 106A. Collection and analysis of both field notes and unstructured interview data from student field placement. Use of techniques of qualitative data analysis, including qualitative coding, analytical memoing, and grounded theory methods, to analyze these materials and to write ethnographic paper. Letter grading.

110. Sociohistorical Methods. (4) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. General problems of scientific abstraction, generalization, inference, and verification and particular problems of historical specification, comparison, and counterfactual reasoning in constructing and testing replicable explanation of historical event. P/NP or letter grading.

111. Social Networks. (4) Lecture, three hours; laboratory, one hour. Analysis of how social networks create social structure, how social actors utilize them, and their unexpected effects. Topics include job search, firm efficiency, and social movements. Visualization programs, computer simulations, and research project. P/NP or letter grading.

112. Introduction to Mathematical Sociology. (4) (Formerly numbered C112.) Lecture, three hours; laboratory, two hours. Requisites: course M18, Mathematics 2, 3A (course whose content includes introductions to probability theory, matrix algebra, and differential and integral calculus). Mathematical treatment of several sociological phenomena, such as occupational mobility, population growth, organizational structure, and friendship patterns, each covered in some detail, including initial development and subsequent evaluation and modification (emphasizing both deductive and computational aspects of mathematics). Letter grading.
113. Statistical and Computer Methods for Social Research. (4) Lecture, three hours; laboratory, one hour. Requirements: concurrent or previous course M18, covering more advanced statistical techniques such as multiple regression, analysis of variance, or factor analysis. Content varies. Students learn how to use computer programs to analyze prepared data sets. P/NP or letter grading.

114A-114B. Introduction to Scientific Sociology. (4-4) Lecture, three hours; discussion, one hour. How to make testable arguments about social reality and how to test those arguments in context of study of social stratification, and ethnic and gender inequality. Introduction to elementary, robust analytic tools. P/NP or letter grading.

M115. Environmental Sociology. (4) (Same as Environment M133.) Lecture, three hours; discussion, one hour. Relationship between society and environment. Analysis in detail of interrelations between social factors (such as class, race, gender, and religion) and environmental factors (such as pollution, waste disposal, sustainability, and global warming). P/NP or letter grading.


117. Family Life. (4) Lecture, three hours; discussion, one hour. Examination of demographic behaviors, such as marriage, divorce, and childbearing, associated with family and household organization. Sociological approach to understanding causes and consequences of trends and differentials in family formation and dissolution. P/NP or letter grading.

M118. Simulating Society: Exploring Artificial Communities. (5) (Same as Honors Collegium M148.) Seminar, three hours; computer laboratory, one hour. Examination of social behavior through computer simulations of behavior in artificial communities. P/NP or letter grading.

119. Primate Societies. (4) (Formerly numbered 191K.) Lecture, three hours; discussion, one hour. Limited to juniors/seniors. Selected topics on diverse behaviors and cultural forms of primate cousins, with special focus on baboons, chimpanzees, and gorillas. Examination of primate socioculture, sexual competition, demography and kinship, politics, communications, and interactions within and between groups. Implications for our lives as human primates. P/NP or letter grading.

M124A-M124B. Conversational Structures I, II. (4-4) (Formerly numbered CM124A-CM124B.) (Same as Communication Studies M144A-M144B.) Lecture, three hours; discussion, one hour. P/NP or letter grading. M124A. Introduction to some structures which are employed in organization of conversational interaction, such as turn-taking organization, organization of repair, and some basic sequence structures with limited expansions. M124B. Requisite: course M124A. Consideration of some more expanded sequence structures, story structures, topical sequences, and overall structural organization of single conversations.

CM125. Talk and Social Institutions. (4) (Same as Communication Studies M125.) Lecture, four hours; discussion, one hour. Designed for juniors/seniors. Practices of communication and social interaction in number of major institutional sites in contemporary society. Setting varies but may include emergency services, police and courts, medicine, news interviews, and political campaigns. Concurrently scheduled with course C258. P/NP or letter grading.

126. Study of Norms. (4) Lecture, three hours; discussion, one hour. Properties of norms, of normative governed conduct, of lay and professional methods for describing, prescribing, and validating norms in contrasting settings of socially organized activities; relevance of these properties for programmatic problems of analytic sociology. Fieldwork required. P/NP or letter grading.

127. Mind and Society. (4) Lecture, two and one-half hours; discussion, one hour. Requisite: course 1. Study of social production of modes of thought and forms of knowledge. Study of ways in which bodies of knowledge and cognitive styles are produced, used, and transformed in everyday, organizational, and extraordinary contexts. P/NP or letter grading.

128. Sociological Analysis. (4) Lecture, three hours; discussion, one hour. Requisite: course 1. Designed for juniors/seniors. Sociological theories and explanations of social conditions shaping and producing emotional experiences; effects of individual expression of emotions on social conditions; relations between thought, sensations, and emotions; self and emotions; social construction of emotions. P/NP or letter grading.

129. Sociology of Time. (4) Lecture, three hours; discussion, one hour. Conceptualizations of time seen from scientific, philosophical, historical, and sociological perspectives; "cyclical" and "linear" time in primitive, ancient, and medieval societies; ritual, the sacred, and experience of the eternal; structuring of urban, modern, and postmodern societies by clock, calendar; and schedule; future value orientation and notion of progress; time, labor, and social domination. P/NP or letter grading.

130. Self and Society. (4) Lecture, three hours; discussion, one hour. Examination of social processes shaping experiences of self, and enactment of self and personal identity. P/NP or letter grading.

132. Social Psychology: Sociological Approaches. (4) Lecture, three hours; discussion, one hour. Survey of contribution of sociologists to theory and research in social psychology, including theories of social control; conformity and deviation; reference groups; and interaction process. P/NP or letter grading.

133. Collective Behavior. (4) Lecture, three hours; discussion, one hour. Requisite: course 1. Designed for juniors/seniors. Characteristics of crowds, mobs, publics, social movements, and revolutions; their relation to social unrest and their role in developing and changing social organization. P/NP or letter grading.

134. Culture and Personality. (4) Lecture, three hours; discussion, one hour. Requisite: course 1. Designed for juniors/seniors. Characteristics of crowds, mobs, publics, social movements, and revolutions; their relation to social unrest and their role in developing and changing social organization. P/NP or letter grading.

135. Group Processes. (4) Lecture, three hours; discussion, one hour. Systematic study of formation, structure, and dynamics of group processes and group products from variety of theoretical viewpoints; implications of various research techniques. P/NP or letter grading.

M138. Death, Suicide, and Trauma. (4) (Same as Psychology M163.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Definitions and taxonomy of death; new permissiveness and taboos related to death; romanticization of death; role of the individual in his own demise; modes of death, development, and outcomes of interpersonal conflicts in relation to death and suicide; developmental perspective on witnessing traumatic death, including psychological autopsy; death of individuals; preventive, interventive, and postventive practices. P/NP or letter grading.


145. Sociology of Deviant Behavior. (4) Lecture, three hours; discussion, one hour. Examination of leading sociological approaches to study of deviation and general survey of major types of deviation in American society. P/NP or letter grading.

C146. Sociology of Interpersonal Conflict. (4) Lecture, three hours; discussion, one hour. Origins, development, and outcomes of interpersonal conflicts and troubles that arise in close relationships, households, workplaces, and public places in contemporary societies. Concurrently scheduled with course C229A. Letter grading.

147A. Sociology of Crime. (4) Lecture, three hours; discussion, one hour. Sociological theories of social origins, organization, and meanings of crime and criminal behaviors. P/NP or letter grading.

147B. Sociology of Criminal Justice. (4) Lecture, three hours; discussion, one hour. Examination of structure and routine decision-making processes of key criminal justice institutions, including police, courts, probation and parole, jails and prisons. P/NP or letter grading.


149. Youth, Trouble, and Juvenile Justice. (4) (Formerly numbered C149.) Lecture, three hours; discussion, one hour. Examination of processes through which youth become involved in juvenile justice system. Analysis of this system as people-processing and people-changing institution as context for considering critical issues in juvenile justice. P/NP or letter grading.

M150. Sociology of Aging. (4) (Same as Gerontology M150.) Lecture, three hours; discussion, one hour. Study of sociological processes shaping definition, experience, and response to aging in contemporary society. Topics include race, class, and gender in aging over life course; interpersonal relations and social worlds of aged; caregiving relations and institutions; professions concerned with aging and aged. Letter grading.

151. Comparative Immigration. (4) Lecture, three hours; discussion, one hour. Survey of immigration of Europeans, Asians, and Hispanics to the U.S. since the mid-19th century. Overview of immigration experience on ethno-racial groups that migrated voluntarily to this country, with emphasis on immediate postimmigration settlement. P/NP or letter grading.

152. Comparative Acculturation and Assimilation. (4) Lecture, three hours; discussion, one hour. Requisite: course 151. Comparison of acculturation and assimilation of Europeans, Africans, Mexicans, and Asians in the U.S., with emphasis on long-term cultural consequences of immigration. P/NP or letter grading.

M153. Chinese Immigration. (4) (Same as Asian American Studies M133C.) Lecture, three hours; discussion, one hour. Survey of sociological studies of Chinese immigration, with focus on international context, organization, and institutions of Chinese Americ and its interactions with social environment. P/NP or letter grading.

154. Race and Ethnicity: International Perspectives. (4) Lecture, three hours; discussion, one hour. Not open to freshmen. Role of race and ethnicity in political, economic, and social lives of nations other than the U.S. P/NP or letter grading.
M155. Latinos in the U.S. (4) (Same as Chicana and Chicano Studies M155.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Exploration of history and social conditions of Latinos in Los Angeles as well as nationally, with particular emphasis on their location in the larger social structure and on comparisons with other minority groups. Topics include migration, family, education, and work issues. P/NP or letter grading.

156. Race and Ethnicity in American Life. (4) Lecture, three hours; discussion, one hour. Role of race and ethnicity in U.S., including interactions between racial and ethnic structures and meanings. Special attention to comparison of African American and European American experiences and to transformation of Asian American and Latino communities and the nation generally, brought by renewal of mass migration in second half of the 20th century. P/NP or letter grading.

157. Social Stratification. (4) Lecture, three hours; discussion, one hour. Analysis of American social structure in terms of evaluational differentiation. Topics include criteria for differentiation, bases for evaluation, types of stratification, composition of strata and status systems, mobility, consequences of stratification, and problems of methodology. P/NP or letter grading.

158. Urban Sociology. (4) Lecture, three hours; discussion, one hour. Description and analysis of urbanization and urbanism in the U.S. and world. P/NP or letter grading.

159. Comparative Studies of Jewish Communities in the U.S. and Abroad. (4) Lecture, three hours; discussion, one hour. History, distribution, structure, and functioning of major Jewish communities, with particular emphasis on North America and Israel. Interrelationships and sources of conflict between Jews and Gentiles in Western countries. More generally, economic and social integration of Diaspora Jewish communities. Fieldwork may be required. P/NP or letter grading.

160. Intergroup Conflict and Prejudice. (4) Lecture, three hours; discussion, one hour. Study of causes and consequences of group conflict, with emphasis on majority/minority relations, prejudice, and discrimination. Special attention to alternative sociological and psychological theories of prejudice; effects of minority status on individuals; and possibilities for attitude and behavior change. P/NP or letter grading.

M161. Comparative American Indian Societies. (4) (Same as American Indian Studies M161.) Lecture, three hours. Requisite: course 1 or American Indian Studies M10. Comparative and historical study of political, economic, and cultural change in indigenous Native American societies. Several theories of social change, applied to selected case studies. Letter grading.

M162. Sociology of Gender. (4) (Same as Women's Studies M162.) Lecture, three hours; discussion, one hour. Requisite: course 1 or Women's Studies 10. Examination of processes by which gender is socially constructed. Topics include distinction between biological sex and gendered roles, causes and consequences of gender inequality, and recent changes in gender relations in modern industrial societies. P/NP or letter grading.

M163. Gender and Work. (4) (Same as Women's Studies M163.) Lecture, three hours. Requisite: course 1 or Women's Studies 10. Exploration of relationship of gender to work, concentrating on the U.S. experience but also including some comparative material. Possible topics include analysis of causes and consequences of job segregation by gender and of wage inequality. P/NP or letter grading.

M164. Politics of Reproduction. (4) (Same as Women's Studies M164.) Lecture, three hours; discussion, one hour. Title refers to intersection between politics and life cycle. Topics include social construction of gender and population, reproductive issues, politicization of mothers, motherhood, and mothering, surrogacy, and new reproductive technologies. Letter grading.

M165. Sociology of Race and Labor. (4) (Same as Afro-American Studies M165 and Labor and Work-Place Studies M165.) Lecture, three hours; discussion, one hour. Requisite: course 1 or Women's Studies 10. Examination of relationship between race/ethnicity, employment, and U.S. labor movement. Analysis of underlying racial divisions in workforce and how they evolved historically. Consideration of circumstances under which workers and unions have excluded people of color from jobs and unions, as well as circumstances under which workers and unions have organized people of color into unions in efforts to improve their wages and working conditions. Impact of globalization on these dynamics. P/NP or letter grading.

M166. Women in Socialist and Post-Socialist States. (4) (Same as Women's Studies M166.) Lecture, three hours; discussion, one hour. Exploration of diverse aspects of women's lives in socialist and post-socialist states. Although transition from socialism occurs differently, gender differences are everywhere central to democratization and marketization. Discussion of ways in which state policies affect women. Letter grading.

M167. Contested Sexualities. (4) (Same as Lesbi- an, Gay, and Transgender Studies M167 and Women's Studies M167.) Lecture, three hours; discussion, one hour. Sociological perspectives on formation, control, and resistance of lesbian, gay, bi- sexual, and transgender identities. Inclusive topics include identity and community; age, class, gender, and racial diversity; and analysis of contemporary issues affecting contested sexualities. Letter grading.

M168. Organizations and Society. (4) Lecture, three hours; discussion, one hour. Specific topics may include law in preindustrial and industrialized societies, legalization of contemporary social relations, participants' experiences of legal processes, lay perceptions of justice, social movements toward equal justice, roles of lawyers and judges, social impact of court decisions. P/NP or letter grading.

M169. Medical Sociology. (4) Lecture, three hours; discussion, one hour. Requisite: course 1. Provides majors in Sociology and other social sciences, as well as students preparing for health sciences careers, with the understanding of behavioral and interpersonal and organizational relations that are involved in the receipt and delivery of health services. P/NP or letter grading.

M170. Occupations and Professions. (4) Lecture, three hours; discussion, one hour. Description and analysis of representative occupations and professions, with emphasis on contemporary U.S. P/NP or letter grading.

M171. Entrepreneurship. (4) Lecture, three hours; discussion, one hour. Requisite: course 1. Description and analysis of entrepreneurship, with special reference to historical origins, ideology, international comparison, women and ethnic minority participation, legal and illegal forms, public and private auspices. P/NP or letter grading.

M172. Economy and Society. (4) Lecture, three hours; discussion, one hour. Requisite: course 1. Description and analysis of economic life, with emphasis on economic institutions of the U.S. P/NP or letter grading.

M174. Sociology of the Family. (4) (Same as Women's Studies M174.) Lecture, three hours; discussion, one hour. Theory and research dealing with modern family structures and functions, including historical changes, variant family patterns, family as an institution, and influence of contemporary society on the family. P/NP or letter grading.

M175. Sociology of Education. (5) (Same as Education M108.) Lecture, four hours. Study of social processes and interaction patterns in educational organizations; relationships of such organizations to aspects of society, social class, and power; social relations within school, college, and university; and formal and informal groups, subcultures in educational systems; roles of teachers, students, and administrators. Letter grading.

M176. Sociology of Mass Communication. (4) (Same as Communication Studies M147.) Lecture, four hours; discussion, one hour. Sociology of mass communication in social relationship between mass communication and social organization. Topics include history and organization of major media institutions, social forces that shape production of mass media news and entertainment, selected studies in media content, and effects of media on society. P/NP or letter grading.

M178. Sociology of Caribbean. (4) (Same as Afro-American Studies M178.) Lecture, three hours; discussion, one hour. Limited to juniors/seniors. Historical sociology of Caribbean, with emphasis on colonialism and decolonization, development and underdevelopment, race-making institutions and evolution of racial relations, nationalism and migration. P/NP or letter grading.

179. Comparative East Asian Societies. (4) Formerly numbered 188.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Introductory and comparative sociological perspectives on East Asia, including China, Japan, Korea, and Vietnam, with focus on dynamic interactions between culture, state, and society in process of change. P/NP or letter grading.

180A-180Z. Special Topics in Sociology. (4 each) (Formerly numbered 195A-195Z.) Lecture, three hours; discussion, one hour. Limited to juniors/seniors. Study of selected topics of sociological interest. Consult Schedule of Classes for topics and instructors. May be repeated for credit and may be applied as elective units toward Sociology major. P/NP or letter grading.

181. State and Society in China. (4) (Formerly numbered 192.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Thematic overview of post-1949 society and politics in China, with emphasis on long-term evolution of China's state and society from 1949 to the present. P/NP or letter grading.

182. Political Sociology. (4) Lecture, three hours; discussion, one hour. Contributions of sociology to study of politics, including analysis of political aspects of social systems, women, and political actors and organizations. Consult Schedule of Classes for topics and instructors. May be repeated for credit and may be applied as elective units toward Sociology major. P/NP or letter grading.


184. Social Change. (4) Lecture, three hours; discussion, one hour. Study of patterns of social change, resistance to change, and change-producing agencies and processes. P/NP or letter grading.

185. American Society. (4) Lecture, three hours; discussion, one hour. Analysis of major institutions in the U.S. in historical and international perspective, with emphasis on topics such as socialization, work, state, politics, community, family, religion, and American culture. Theories of social change, conflict, and order applied to case of the U.S. P/NP or letter grading.

186. Latin American Societies. (4) Lecture, three hours; discussion, one hour. Social structure and social conflict in Latin America, with special attention to racial and class structures of economic and political development. Country and specific focus varies each term. P/NP or letter grading.
187. Population and Society in Middle East. (4) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Survey of Middle Eastern societ- ies; their historic and environmental bases; contem- porary demographic and cultural situation. P/NP or letter grading.

191A. Undergraduate Seminar: Self and Identity. (5) (Formerly number 197A) Seminar, three hours. Limited to junior/senior Sociology majors. Examination of cultural, historical, and interactional contexts shaping definition, enactment, and experience of self. Reading, discussion, and development of culminating project. Letter grading.


191C. Undergraduate Seminar: Money and Emo- tions. (5) (Formerly numbered 197C) Seminar, three hours. Limited to junior/senior Sociology majors. Se- lected topics. Reading, discussion, and development of culminating project. Letter grading.

191D. Undergraduate Seminar: Sociology of De- velopment. (5) (Formerly numbered 197D) Seminar, three hours. Limited to juniors/seniors. Selected top- ics on development in Third World from global per- spective. Reading, discussion, and development of culminating project. Letter grading.

M191DC. CAPP Program students. Seminars for undergradu- ate students in Center for American Politics and Pub- lic Policy's program in Washington, DC. Focus on de- velopment and execution of original empirical re- search based on experiences from Washington, DC- based field placements. Study of variety of qualitative methods (observation, interviewing, etc.), with com- parison to quantitative analysis. Examination of fea- tures of solid and significant research; intensive writ- ing. Letter grading.


191F. Undergraduate Seminar: Sociology of Glo- balization. (5) Seminar, three hours. Limited to jun- iors/seniors. Great extension of social relations across globe has occurred over last 50 years. What are causes and mechanisms of this process? How far has it transformed human societies, and how far will it go in future? Economic, cultural, political, and military aspects of globalization, with focus on extent to which global expansion of nation-state system, and American imperialism reinforce or undercut each other, producing new lines of division and conflict across world. Reading, discussion, and development of culminating project. Letter grading.


191H. Honors Seminars: Sociology. (4) (Formerly numbered 104H) Seminar, three hours. In-depth intro- duction to process of producing scholarly sociolog- ical research for students who intend to write under- graduate thesis for departmental honors. Letter grad- ing.

191I. Undergraduate Seminar: Health and Inequal- ity. (5) Seminar, three hours. Limited to juniors/se- niors. During past century, social inequalities in health and survival were widening in the U.S. in other de- veloped societies. Broad overview of these trends and their causes. Reading, discussion, and develop- ment of culminating project. Letter grading.

191J. Undergraduate Seminar: Mexican Society. (5) Seminar, three hours. Selected topics on contem- porary Mexican society and vital transformations it has undergone in recent years. Reading, discussion, and development of culminating project. Letter grad- ing.


191M. Undergraduate Seminar: Social Ecology. (5) Seminar, three hours. Limited to juniors/seniors. Fundamentals of sociological approach to social ecol- ogy, also known as human ecology. Study of adapta- tion of population to its environment. Topics include density, maintaining personal space, space and terri- toriality, and effects of environment on humans. Reading, discussion, and development of culminating project. Letter grading.


191Q. Undergraduate Seminar: Communication in Medical Care. (5) Seminar, three hours. Limited to juniors/seniors. Sociology dimensions of patient care in primary care context. Use of microsociological methods to examine main facets of American primary care medical visits, including detailed analysis of in- teractional conduct of those visits and development of microanalytical constructs into quantitative measures. Emphasis on direct contact with empirical materials and development of observational and analytic skills. Reading, discussion, and development of culminating project. Letter grading.

191R. Undergraduate Seminar: Cultural Sociolo- gy. (5) Seminar, three hours. Limited to juniors/se- niors. Introduction to classic theoretical approaches and contemporary debates. Study of social worlds dedicated to creating and handling cultural in- stitutions such as literature, journalism, film/television, art, architecture, music, dance, and museums. Dis- cussion of such concepts as contemporary validity of distinction between high and popular/low culture, re- lationship of mainstream and marginal culture, how culture expresses and reinforces social inequality, or- ganizational context of culture, and how people ex- press and decipher meaning in cultural objects. Reading, discussion, and development of culminating project. Letter grading.

191S. Undergraduate Seminar: Sociology of Gen- der and Sexuality. (5) Seminar, three hours. Limited to juniors/seniors. Sexuality is important site for en- actment of gender and gender identity. Sexual prefer- ence and sexual behavior can also form basis for so- cial identity, repression, discrimination, and privilege, independent of gender. Social factors such as social class, ethnicity, gender, generation, and networks shape our sexual practices and choice of partners. Reading and writing about variety of original sociological, historical, and anthropological analysis of development of culmi- nating project. Letter grading.

191T. Undergraduate Seminar: War and Society. (5) Seminar, three hours. Limited to juniors/seniors. Study of relationship between society’s military and its social organization in general, with particular atten- tion to shock-based civic militarism characteristic of the West. Topics include honor, discipline, bureaucra- cy, conscription, logistics, total war, guerrilla war, ter- rorism, and counterinsurgency. Reading, discussion, and development of culminating project. Letter grading.

194. Research Group Seminars: Sociology. (2) Seminar, two hours. Designed for undergraduate stu- dents who are part of research group. Exploration of research methods and current literature in field. May be repeated for credit. P/NP grading.

M194DC. CAPP Program students in Winter Quarter. Seminars for undergraduate students in Center for Ameri- can Politics and Public Policy's program in Washing- ton, DC. Focus on development and execution of orig- inal empirical research based on experiences from Washington, DC-based field placements. Study of vari- ety of qualitative methods (observation, interview- ing, etc.), with comparison to quantitative analysis. Examination of features of solid and significant re- search; intensive writing. Letter grading.

195. Community or Corporate Internship in Soci- ology. (4) (Formerly numbered 199.) Tutorial, three hours. Limited to juniors/seniors. Internship in com- munity agency or business to be supervised jointly by Center for Community Learning and faculty adviser. Students meet on regular basis with instructor and provide weekly reports of their experience. Normally only 4 units of internship are allowed. Individual con- tract with supervising faculty member required. P/NP or letter grading.

M195DC. CAPP Program students. Internships in Wash- ington, DC, through Center for American Politics and Public Policy. Students meet on regular basis with in- structor and provide periodic reports of their experi- ence. Individual contract with supervising faculty member required. P/NP grading.

198A-198B. Honors Research in Sociology. (4-4-4) (Formerly numbered 199A-199B-199C.) Tutorial, one hour; Requisite: course 191H. Limited to sociology honors program students. Individual con- tract required. Letter grading.

198A. Design of re- search project to serve as student's honors thesis. Research proposal, detailed bibliography, and regular meetings with sponsoring faculty member required.

198B. Requisite: course 198A. Continuation of work initiated in course 198A. Development of honors the- sis in consultation with instructor.

198C. Requisite: course 198B. Completion of the under di- rect supervision of honors faculty director.
19A. Directed Research in Sociology. (2 to 4) (Formerly numbered 197.) Tutorial, one hour; Preparation: 3.0-grade point average in major. Requisite: courses 1, M18. Limited to junior/senior Sociology majors. Independent intensive study designed for students who want to do research under guidance of faculty mentor. Scheduled meetings to be arranged between faculty member and student. Culuminating paper or project required. May be repeated for a maximum of 8 units, with no more than 4 in any one term. Individual contract required; see undergraduate counselor. P/NP or letter grading.

Graduate Courses

201A-201B. Proseminars: Sociology. (2-2-2) Seminar, two hours every other week. Required of first-year graduate sociology students. Introduction to range of theoretical and research interests represented by department faculty members. S/U grading.


204. Topics in Sociological Theorizing. (4) Seminar, four hours. Examination of selected issues and problems in classical or contemporary sociological theory. S/U or letter grading.

205. Family and Social Change. (4) Lecture, three hours. Emphasis on understanding key proximate determinants. Social and proximate determinants of fertility, with emphasis on understanding key proximate determinants. S/U or letter grading.

210A-210B. Theory and Research in Social Demography. (4-4) Lecture and discussion, two hours; laboratory, one hour. Required of graduate students who have had some experience to statistics and quantitative methods. Introductions to statistical approaches, methods, and techniques for doing research in social demography utilizing microcomputers. S/U or letter grading.

211A-211B. Comparative and Historical Methods. (4-4) Lecture, three hours. In Progress (211A) and S/U or letter (211B) grading. 211A. Strategies of Research and Conceptualization. Topics include relationship of theory and fact to social sciences, logic of comparative and historical analysis, and substantive paradigms of comparative and historical analysis. Reading involves major theoretical works, including students' independent analysis of representative problem areas. 211B. Research Techniques. Requisite: course 211A. Topics include principles of research design, data collection, content analysis, collective biography, and secondary analysis.

212A-212B. Survey Data Analysis. (4-4) Lecture, three hours. Requisite: courses 210A, 210B. Course 212A is enforced requisite to 212B. Analysis and interpretation of primarily nonexperimental quantitative data, with focus on sample survey and census data. Extensive practice at utilizing statistical methods encountered in previous courses, culminating in term paper in style of American Sociological Review or similar journal article. Topics include simple tabular analysis, log-linear analysis, ordinary least squares regression, robust regression, binomial and multinomial logistic regression, and scale construction. Logic of analysis and problems of statistical inference, including diagnosing model specification, methods of handling complex sample design surveys. In Progress (212A) and letter (212B) grading.

212C. Study Design and Other Issues in Quantitative Data Analysis. (4) Lecture, three hours. Designing research for graduate students who have had some exposure to statistics and quantitative methods. Introduction to study design, including experimental, longitudinal, cohort, time-series designs, contextual, and other designs. Discussion of suitability of various design classes for specific analytic goals, as well as their comparative strengths and weaknesses. S/U or letter grading.

213A. Introduction to Demographic Methods. (4) (Same as Biostatistics M208, Community Health Sciences M222, and Economics M220.) Lecture, four hours. Preparation: one introductory statistics course. Introduction to methods of demographic analysis. Topics include demographic rates, standardization, decomposition of differences, life tables, survival analysis, cohort analysis, birth interval analysis, models of population growth, stable populations, population projection, and demographic data sources. Letter grading.

213B. Applied Event History Analysis. (4) (Same as Statistics M213.) Lecture, three hours. Preparation: course 212A, 210A. Introduction to regression-like analyses in which outcome is “time to event.” Topics include logit models for discrete-time event history models; piecewise exponential hazards models; proportional hazards; nonproportional hazards; parametric survival models; heterogeneity; multilevel survival models. S/U or letter grading.

216A-216B. Survey Research Design. (4-4) Lecture, 90 minutes; discussion, 90 minutes. Requisite: course 210A. History of survey method; facet meta-theory and concept formation; questionnaire and item design; scales, indices typologies; data collection and management; network, snowball, and experience sampling; multistage probability sampling, stratification and clustering. Students participate in survey research project. Letter grading.


217B-217C. Ethnographic Fieldwork. (4-4) Seminar, three hours. Recommended requisite: course 217A. Topics on techniques of ethnographic fieldwork. Kinds of problems amenable to ethnographic approaches, methods, and techniques for doing fieldwork, and ethical problems involved in such research. In Progress (217B) and letter (217C) grading.


220. Self and Society. (4) Lecture, three hours. Examination of social and cultural processes shaping definition and experience of the self, embodied interactional practices through which the self is constructed in everyday and institutional contexts, formation and transformation of self during life course, and construction of collective identity. Letter grading.

222. Foundations of Ethnomethodological, Phenomenological, and Analytic Sociologies. (4) Lecture, three hours. Designed for graduate students. Basic issues, methods, and topics of ethnomethodological, phenomenological, and analytic sociologies, and related varieties of inquiry. Central themes such as world of everyday life, problem of rationality, rules/norms and tacit knowledge, problem of social order, speaking and discourse, constitutive practices, and construction of ordinary interaction in first part; guest presentations by affiliated faculty in second part. S/U or letter grading.

223. Phenomenological and Interactionist Perspectives on Selected Topics. (4) Lecture, three hours. Comparison of phenomenological and symbolic and perspectives by examining particular body of live or currently unresolved substantive issues. Topics vary; attention on development of phenomenological and interactionist thought on topic of concern, with special concern for ambiguities and divergences both within and between two traditions. When relevant, attention to logical and historical relations of phenomenology and interactionism of pragmatist, existentialist, and ordinary language philosophies. S/U or letter grading.

225A-225B. Demographic Perspectives on Relationship of Family and Economic Systems. (4-4) Lecture, three hours. Requisites: courses 210A, 210B. Examination of interrelationship of family and economic systems in societies at different levels of economic development, focusing particularly on the U.S. experience. Central to course: (1) analysis of how demographic factors affect economic and family systems, and how these systems, and changes in them, affect demographic variables; and (3) how this two-way process influences relationships of family and economic systems over time. 225A. Lectures and readings; 225B. Individual research projects involving term paper and classroom reports of results.


227. Sociology of Knowledge. (4) Lecture, three hours. Designed for graduate students. Survey of theories and research concerning social determinants of systems of knowledge and role of intellectual and artistic elites in Western societies. S/U or letter grading.

228A-228B. Critical Issues in Macrosociology. (4-4) Lecture, three hours. Course 228A is not requisite to 228B. Designed for graduate students. Conceptual introduction to area of macrosociology in which exemplary works are read, studied for substance and method, and expressed in written papers. Usually team taught by faculty of varying orientations. S/U or letter grading.

229. Sociology / 573
229A. Sociology of Interpersonal Conflict. (4) Lecture, three hours; discussion, two hours. Origins, development, and resolution of interpersonal conflict, with emphasis on real-world situations and problems that arise in close relationships, households, workplace, and public places in contemporary societies. Concurrently scheduled with course C146. Letter grading.

229B. People-Processing Institutions. (4) (Formerly numbered 229B.) Lecture, three hours; discussion, two hours. Course 229A is not prerequisite to 229B. Theory and research analyzing operation and decision-making in contemporary organizations of variety of people-processing institutions, including police, courts, schools, psychiatry, human service agencies, and medicine. Letter grading.

230A-230B. Comparative Ethnicity and Nationalism. (4-4) (Formerly numbered 230.) Seminar, three hours. Preparation for independent research in area of comparative ethnicity and nationalism through close reading of key theoretical and empirical works. S/U or letter grading.

231. Race and Ethnicity: International Perspectives. (4) Lecture, one hour; discussion, two hours. Designed for graduate students. Role of race and ethnicity in political, economic, and social lives of nations other than the U.S. with emphasis on theoretical and methodological issues in comparative research. Letter grading.

232. Class, Politics, and Society. (4) Lecture, four hours. Nature of class structure and how it affects relation of class structure to politics and political power. Issue of salience of class versus other identities such as gender, age, race, and nationalism. Examination of contemporary "globalization" tendencies of capitalist. Letter grading.

233. Foundations of Political Sociology. (4) Lecture, three hours. Designed for graduate students. Survey of field of political sociology, oriented around critical themes in major theoretical traditions and contemporary exemplars. Special attention to competing perspectives on power, theory of state, and relationship of class structure to politics. S/U or letter grading.

234. Sociology of Development. (4) Seminar, three hours; discussion, one hour. Readings and discussion of theoretical, historical, and specific issues in sociology of development (e.g., world system theory, developmental state, import substitution industrialization, export promotion industrialization, neoliberalism in Latin America, new approaches). S/U or letter grading.

235. Theories of Ethnicity. (4) Lecture, one hour; discussion, two hours. Gender stratification in sociology and society; diversity in human societies past and present; why gender is absent in classical macro sociology; can masculinist paradigms make space for gender or does feminist-informed sociology necessitate fresh approach? S/U or letter grading.

242. Analysis of Data with Qualitative and Limited Dependent Variables. (4) (Same as Statistics M211.) Lecture, three hours. Requisites: courses 210A and 210B, or Statistics 100A, 100B, and 100C. Models for binary, polytomous, and ordered outcomes; censored and truncated dependent variables; sample selection bias and qualitative response models; count outcomes; multilevel models; log-linear models. S/U or letter grading.

244A-244B-244C. Conversation Analysis I, II, III. (6-6-6) (Formerly numbered C244A-C244B.) Lecture, three hours; discussion, two hours. Designed for graduate students. Seminar on selected topics in sociology of gender. May be repeated for credit. Letter grading.

251. Topics in Problem of Social Order. (4) Lecture, four hours. S/U or letter grading.

252. Selected Topics in Sociology of Gender. (4) (Formerly numbered 252.) (Same as Women’s Studies M252.) Lecture, two hours; discussion, two hours. Designed for graduate students. Seminar on selected topics in sociology of gender. May be repeated for credit. Letter grading.

254. Human Capital, Social Capital, and Cultural Capital. (4) Lecture, three hours. Designed for graduate students. Intellectual exercise involving critical points of difference and similarity among these concepts, current exemplars of research that utilize these concepts, and critical reflection on research traditions. Letter grading.

255. Cross-Cultural Perspectives on Gender. (4) (Formerly numbered 255.) (Same as Women’s Studies M255.) Seminar, three hours. How does gender manifest itself in lives of different groups of women in the U.S. and abroad? Are universal analytical categories or unified feminist movements possible or is gender too different across culturalities? S/U or letter grading.


257. Demography of Marriage Formation and Dissolution. (4) Discussion, three hours. Requisite: course 210A. Extensive and intensive critical examination of major approaches of marriage formation and dissolution, with focus primarily on demographic literature. S/U or letter grading.

258. Talk and Social Institutions. (4) Lecture, four hours; discussion, one hour. Practices of communication and social interaction in public institutional sites in contemporary society. Setting varies but may include emergency services, police and courts, medicine, news interviews, and political oratory. Concurrently scheduled with course CM125. S/U or letter grading.
260. Economic and Society, Discussion, two hours. (4) Discussion, two hours. Designed for graduate students. Review and critique of major analytical traditions in economy and society. S/U or letter grading.


M262. Selected Problems in Urban Sociology. (4) (Same as Afro-American Studies M200C.) Seminar, three hours. S/U or letter grading.

M263. Social Demography of Los Angeles. (4) (Same as Community Health Sciences M263.) Lecture, three hours. Designed for graduate students. Use of city of Los Angeles to examine major social and demographic factors that characterize cities in the U.S. Examination of role of these factors in affecting health outcomes. Letter grading.


266. Selected Problems in Analysis of Conversa-
tion. (4) Lecture, four hours. Requires: courses C244A, C244B. Variable topics/formats course. Con-
sult instructor for topics and formats to be offered in specific term. May be repeated for credit with topic change. S/U or letter grading.

268. Selected Problems in Psychoanalytic Sociol-
ygy. (4) Discussion, three hours. Recommended preparation: at least one year of methods courses. Selected problems in interpretation of sociology and psychoanalytic work. Major may be substantive (group development, socialization, culture, deviance, collective behavior) or methodological; latter focuses on clinical fieldwork and experimental use of psychoanalytic and sociological techniques. S/U or letter grading.

272. Topics in Political Sociology. (4) Lecture, four hours. S/U or letter grading.

M275. Contemporary Issues of American Indians. (4) (Same as American Indian Studies M200C and Anthropology, three hours.) Seminar, three hours. Introduc-
tion to most important issues facing American Indians as individuals, communities, tribes, and organizations in contemporary world, building on historical back-

276. Selected Topics in Sociology of East Asia. (4) Lecture, three hours. Designed for graduate stu-
dents. Selected problems in China, or in China and Japan comparatively. Possible topics include (1) Chi-
na's Great Proletarian Cultural Revolution, (2) internal contradictions in Chinese society: male/female rela-
tions, city and countryside, minority nationalities, class struggle under socialism, etc., (3) China and Ja-
pam: two models of development. S/U or letter grad-
ing.

278. Sociology of Latin America. (4) Lecture, one hour; discussion, two hours. Designed for graduate students. Selected topics in sociological study of Latin America. Possible topics include social movements, race and ethnicity, stratification, and social develop-
ment. Letter grading.

281. Selected Problems in Mathematical Sociolo-
ygy. (4) Lecture, three hours. Exploration of some mathematical models of sociological processes. Pos-
sible topics include models of small groups, social mobility, kinship relations, organizations, social inter-
action, S/U or letter grading.

282. Sociology of Medicine, (4) Seminar, four hours. Review of major topics and issues in sociol-
ogy of medicine. Topics include medicine, culture, and capitalism; professions and power, challenge of man-
egged care, sick role, social control, interinstitution and negotiation of sickness, sickness and self, de-
bates over medicalization and demedicalization. De-
signed as preparation for field examination in sociolo-
gy of health and medicine and specifically for themes traditionally included under medical sociology/sociol-
ygy of medicine. S/U or letter grading.

283. Communication in Medical Care, (4) Semi-
nar, three hours. Review and development of empiri-
cal knowledge about doctor-patient relationship. Anal-
ysis of behavior in interaction of doctor and patient; with focus on nature and role of norms in regulating doctor-patient conduct, role of expertise and power in doctor-patient relationship, and methodological ques-
tions concerning the doctor-patient relationship can be analyzed. S/U or letter grading.

284. Topics in Mental Health and Illness, (4) Lec-
ture, two to three hours. Requires: course 145. De-
signated by graduate student and course instructor. Sem-
inars on selected current topics of socio-
logical interest. Consult Schedule of Classes for topics and instructors. May be repeated for credit. S/U or letter grading.

287. Topics in Chinese Sociology, (4) Seminar, three hours. Preparation: at least two upper division courses on China, or any social science discipline. Intro-
duction to current research questions in Chinese so-
ciology, as well as major themes in study of Chinese society, both historical and contemporary, including demographic, economic, political, and social change before and after the Great Proletarian Cultural Revolution, and issues of cultural and ideological influence. S/U or letter grading.

288A-288B-288C. Mental Health Services for Per-
sons with AIDS, (4-4-4) Lecture, four hours. De-
signated for graduate students. Analysis of current re-
search on mental health service systems for persons with AIDS. S/U grading.

289A-289B. Practicum in Conversation Analysis. (2-4) Requires: courses C244A, C244B. Grading:
289A. Data Analysis, Laboratory, two hours. Practice in analysis of conversational data. 289B. De-
veloping Work in Progress, Seminar, three hours. Op-
portunity to advance research projects in progress and to develop skills of constructive criticism in dis-
cussing work of others.

291. Social Capital, (4) Seminar, three hours. Requi-
site: course 254. Designed for graduate students. Survey of social capital literature, including history of subject, macro and micro approaches, and applica-
tions of social capital to multiple outcomes. S/U or let-
ter grading.

295. Working Group in Sociology. (1 to 4) Discus-
sion, two hours. Variable topics, including sociology of gender; ethnography; social networks; race, ethnicity, immigration; and social demography and stratifica-
tion. Advanced study and analysis of current topics in specialized areas of sociology. Discussion of current research; includes a speciality of faculty member teaching course. May be repeated for credit. S/U grading.

M296A-M296B. Social Theory and Comparative History. (4-4) (Same as History M203A-M203B and Political Science M291A-M291B.) Seminar, three and one-half hours every other week. Introduction to his-
torically rooted social theory and theoretically sensi-
tive history, following program of Center for Social Theory and Comparative History. Each course may be taken independently for credit. S/U or letter grading.

M296C. Theories in Cultural History. (4) (Same as History M203C.) Discussion, three hours. Introduction to social, linguistic, semiotic, or other new interpretive theories and practices developed in other fields and applied to historical material. Letter grading.

297B. Urban and Suburban Sociology. (4) Semi-
nar, three hours. History and present condition of citi-
ties and suburbs in America. Today's urban/suburban neighborhoods contrasted with premodern cities. Ex-
amination of process of suburbanization as it began in the 19th century and as it still continues; house and architectural styles and changing patterns of family and social life associated with them: patterns of racial, ethnic, income, and social class distribution in city and suburb; origin and nature of today's urban ghettos; politics of cities and suburbs. Focus on ur-
ban/suburban megapolises associated with New York City, Los Angeles, Chicago, and Boston. GIS mapping. Letter grading.

298. Workshop in Culture and Society, (4) (For-
merly numbered 299A-299B-299C.) Seminar, two hours every other week. Interdisciplinary workshop for graduate students and faculty pursuing theory and research in topics related to interplay of culture and society, whether social, literary, or philosophical in na-
ture. S/U grading.

M299A-299B-299C. Seminars: Latin American Soci-
yology. (2-2-2) Seminar, one hour; discussion, one hour. Regular forum for presentation, reading, and dis-
cussion of research on sociology of Latin America, in- cluding presentations by invited lecturers in Melnich Seminar in Latin American Sociology series. S/U grading.

375. Teaching Apprentice Practicum, (1 to 4) Sem-
inar, to be arranged. Preparation: apprentice person-
nel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guid-
ance and supervision of regular faculty member re-
sponsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

M402. Practices of Evaluation in Health Services: Theory and Methodology, (4) (Same as Health Ser-
dices M422.) Lecture, four hours. Requires: Health Services 200A, 200B. Introduction to evaluation of health services programs and policies. Exposure to basic theoretical concepts and specific evaluation methodologies and designs. Letter grading.

495. Supervised Teaching of Sociology, (2) For-
merly numbered 405A.) Seminar, two hours. Prepara-
tion: appointment as teaching assistant in Sociology Department. Special course for teaching assistants designed to deal with problems and techniques of teaching introductory sociology. S/U grading.

501. Cooperative Program, (2 to 8) Tutorial, to be arranged. Preparation: consent of UCLA graduate ad-
viser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

595. Directed Research for Master's Paper, (4 to 12) Tutorial, to be arranged. Directed research for and writing of M.A. degree paper under guidance of stu-

596. Directed Individual Study and Research in Soci-
yology, (2 to 12) Tutorial, to be arranged. S/U grading.


Saloni Mathur, Ph.D. (Art History)  
Aamir R. Mufti, Ph.D. (Comparative Literature)  
Peter Nabokov, Ph.D. (World Arts and Cultures)  
Gregory R. Schopen, Ph.D. (Asian Languages and Cultures)  
Monica L. Smith, Ph.D. (Anthropology)  
Sanjay Subrahmanyam, Ph.D. (History)

Scope and Objectives

The minor in South Asian Studies seeks, through multidisciplinary approaches, to address the history and contemporary importance of South Asia, which is comprised of Sri Lanka, India, Pakistan, Nepal, Bhutan, Bangladesh, and the Maldives, and accounts for nearly 1.5 billion people.

Studying South Asia as a region exposes students to the rich historical, cultural, and religious diversity of a major center of civilization. South Asia is the birthplace of half of the world’s religions, including Buddhism, Hinduism, Sikhism, and Jainism.

India, Pakistan, and Bangladesh together have more Muslims than the Middle East, and South Asian Islam, interacting with the other faiths of the subcontinent, has seen an efflorescence of philosophy, theology, poetry, and art. South Asia also has a growing importance as a regional power, a contributor to world literature and film, and a seedbed for philosophy and social activism.

Undergraduate Study

South Asian Studies Minor

The South Asian Studies minor is designed for students who wish to augment their major with a concerted study of the history, culture, society, and languages of South Asia. The minor includes the introductory study of one South Asian language, one lower division course on South Asian history, and five upper division courses that focus on some aspect of the history, culture, politics, religions, and artistic heritage of South Asia.

To enter the minor, students must (1) be in good academic standing with a 2.0 grade-point average or better, (2) have completed 45 units and at least one lower division course (other than a language course) in South Asian studies, and (3) consult with the academic counselor in 10357 Bunche Hall.

Required Lower Division Courses (10 units maximum): History 9A and completion of the third term of either Hindi (South Asian 40C or 40R) or Sanskrit (South Asian 110C) or by demonstrated proficiency as determined by a placement examination. Proficiency in other South Asian languages, such as Gujarati, Bengali, Marathi, Tamil, Telugu, Pashto, or Urdu, may be accepted by petition, pending completion of a placement examination to be administered at UCLA or approval of an alternative and recognized course of language study.

Required Upper Division Courses (20 units minimum): Five courses, with no more than two from any single discipline or department, to be selected from Anthropology 116, Art History 114A, 114D, C115A, C180C, Asian 151, 162, 163, 164, Asian American Studies M172, Ethnomusicology 146, 147, History 174A through 174E, 175A, M175B, 175C, 185B, 185C, Islamics 110, 130, 151, South Asian 115, 150, 175, 185.

Variable or selected topics courses (e.g., Comparative Literature 191) fulfill minor requirements only when the content focuses substantially on South Asia. Other courses with substantial South Asian content of at least 50 percent (as determined by the course instructor) may be applied only with prior approval of a petition filed with the academic counselor. Up to 12 units taken through a study abroad program may be applied toward the minor, though no more than 8 of the units may be applied toward the 20 units of upper division coursework.

Independent studies courses (197 or 199) may not be applied toward the minor. No more than one upper division course may be applied toward both this minor and a major or minor in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Southeast Asian Studies

Interdepartmental Program  
College of Letters and Science  
UCLA  
10357 Bunche Hall  
Box 951487  
Los Angeles, CA 90095-1487  
(310) 825-5187  
fax: (310) 206-3555  
e-mail: idps@international.ucla.edu  
http://www.international.ucla.edu/idps/seasia/

George E. Dutton, Ph.D., Chair  
Faculty Advisory Committee  
Robert L. Brown, Ph.D. (Art History)  
George E. Dutton, Ph.D. (Asian Languages and Cultures)  
Patricia M. Harter, Ph.D. (Theater)  
Shiho Iwasaki, Ph.D. (Applied Linguistics and Teaching English as a Second Language, Asian Languages and Cultures)  
Thu-huong Nguyen-Do, Ph.D. (Asian Languages and Cultures)  
Helen M. Rees, Ph.D. (Ethnomusicology)  
Geoffrey Robinson, Ph.D. (History)  
Michael L. Ross, Ph.D. (Political Science)  
Michael Salman, Ph.D. (History)  
Kie Ross Zuraw, Ph.D. (Linguistics)

Scope and Objectives

The Southeast Asian Studies major and minor approach Southeast Asia as a region of deep local particularities and transregional engagements. This includes the study of present-day countries of Burma, Thailand, Cambodia, Laos, Vietnam, Malaysia, Indonesia, the Philippines, Singapore, Brunei, and East Timor. This is a massively heterogeneous grouping of societies, ethnicities, languages, cultures, histories, and environments.

In addition to the prominence of the region in many recent international issues (democratization, the Cold War, decolonization, global capital flows, natural resource and environmental regulation, ethnic tensions, etc.), Southeast Asia is also a prominent site for reflection on enduring questions about culture and human diversity. Southeast Asia is taught as a region, with emphasis on the particular languages, cultures, politics, and topographies of individual nations, ethnic groups, subnational regions, and associations. Yet, it is nearly impossible to teach about any part of Southeast Asia without at least occasionally engaging a range of transregional connections that date back to ancient times. Historically, the peoples of Southeast Asia have been engaged with each other as well as with India and China, the Middle East, Europe, and the Americas and with global contexts of economics, politics, migrations, and communications. When approached from the point of view that holds Southeast Asia to be a locus of shifting transactions and human connections (rather than a reified and timeless region of common culture), the study of the region speaks powerfully to critical issues across many disciplines. Thus construed, Southeast Asian studies addresses major contemporary concerns in the humanities, social sciences, arts, business, the professions, government policy, and international affairs.

Undergraduate Study

Southeast Asian Studies  
B.A.

The major is designed for students who are deeply interested in the study of Southeast Asian languages, cultures, and societies. It requires the intermediate-level study of one Southeast Asian language, three lower division core courses on Southeast Asia as a region, and at least 14 upper division courses, including a capstone senior seminar. Majors are expected, whenever possible, to study for at least one term at a university in Southeast Asia.

Admission

To enter the major, students must (1) be in good academic standing (minimum 2.0 grade-point average), (2) have completed 45 units and at least one lower division core course in Southeast Asian studies, and (3) file a petition with the academic counselor in 10357 Bunche Hall. All interested students should meet with the counselor to discuss the program requirements.

Preparation for the Major

Required: History 9E, Southeast Asian Studies 1, 88; completion of six terms of either Viet-
nemese, Thai, Filipino/Tagalog, or Indonesian language courses (Southeast Asian 50A through 51C, or 60A through 61C, or 70A through 71C, or 80A through 81C) or demonstrated proficiency as determined by a placement examination. Proficiency in other Southeast Asian languages may be accepted by petition, pending completion of a placement examination or approval of an alternative course of language study.

Transfer Students
Transfer applicants to the Southeast Asian Studies major with 90 or more units must complete the following introductory courses prior to admission to UCLA: either one course on Southeast Asia or one year of study of a Southeast Asian language (or demonstrated equivalent ability).

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major
Required: At least 14 upper division courses (56 units) must be completed, including 10 courses that must have substantial Southeast Asian content, as follows:

- Three humanities and arts courses must be selected from Art History 114F, Ethnomusicology C159, 161B, 161H, 161M, Southeast Asian 130, 135, 152A, 152B, 152C, 155, 156A, 156B, 162A, 162B, 162C, 170A, 170B, 170C, 182A, 182B, 182C, Theater 102B, World Arts and Cultures 112B. For Ethnomusicology 161B, 161H, and 161M to count as one 4-unit upper division course to be applied toward the major, any two of the courses may be taken once or any one course may be taken twice.


- Variable or selected topics courses (e.g., Asian American Studies 191) fulfill major requirements only when the content focuses substantially on Southeast Asia or a subregion of it.

All majors must also successfully complete Southeast Asian Studies 191.

Three elective courses must be selected from the courses listed above and from those offered by the program. Other courses with substantial Southeast Asian content may be applied toward the major pending approval of a petition filed with the academic counselor.

Breadth and Methods Requirement
Four additional upper division courses on topics outside Southeast Asia must be taken to satisfy the breadth and methods requirement. The courses must be selected in consultation with and approved by the academic counselor. The requirement can be fulfilled by one of the following options:

1. Completing at least 16 units that focus on a single geographical region other than Southeast Asia (e.g., East Asia, South Asia, Europe, Middle East). All four courses must focus on the same country or region. This track provides students with an opportunity to analyze Southeast Asia from a comparative geographic perspective.

2. Completing at least 16 units with a single topic of study relevant to Southeast Asia (e.g., religion, economic development, gender studies, human rights, diasporic studies, popular culture). All four courses must concentrate on the same topic. This track provides students with an opportunity to view Southeast Asia from a comparative thematic approach.

3. Completing at least 16 units on subjects outside Southeast Asia from any one department (e.g., Anthropology, Art History, Asian American Studies, Comparative Literature, History, Political Science, Sociology) whose methodology or discipline can be applied to the study of Southeast Asia. One of the courses should be a theoretical or methodological core course in the discipline. This track provides students with solid background in a particular field that can then be applied to the study of Southeast Asia.

At least one half the units required for the major must be in departments that offer undergraduate majors in the College of Letters and Science. All courses for the major must be taken for a letter grade and be successfully completed with a grade of C (2.0) or better. No more than two independent studies courses (197 or 199) may be applied toward the degree.

Study in Southeast Asia
Students are expected, whenever possible, to study in Southeast Asia for at least one term during their junior or senior year. The program considers study in Southeast Asia an important cultural experience and an opportunity to advance language proficiency, as well as a way to expand the range of formal classroom education.

The University of California operates Education Abroad Programs (EAPs) in several Southeast Asian countries. See http://www.international.ucla.edu/eap/ for the current list. Majors may enroll in any of the UC-sponsored EAPs in Southeast Asia or they may petition to attend a university in Southeast Asia by making arrangements directly or by enrolling through another American university’s study abroad program. Majors may be eligible to apply for financial assistance, awarded on a competitive basis, to help support at least one term of study abroad.

Students majoring or minoring in Southeast Asian Studies who attend an EAP are eligible to earn course credit (4 units) toward the upper division requirements by successfully completing Southeast Asian Studies 180 for a letter grade after they return to UCLA. The principal assignment in course 180 is to write a paper based on field experience or research collected while in Southeast Asia or to produce a creative work (fiction, memoir, art, performance) of equivalent note.

Honors Program
The honors program is designed to offer highly motivated Southeast Asian Studies majors the opportunity to design and conduct their own independent research under the guidance of a faculty adviser and consists of a three-term directed-study series of courses — Southeast Asian Studies 198A, 198B, 198C — culminating in an honors thesis.

Admission
To enter the honors program, students must (1) have completed Southeast Asian Studies 1 and 88, (2) have a 3.5 grade-point average in the major and a 3.5 overall GPA, and (3) obtain agreement from a faculty member to supervise their honors thesis. Application should normally be made during the junior year, after students have completed more than 90 units of coursework. Consult the academic counselor for further details about the application, thesis requirements, and rules regarding the selection of a faculty thesis adviser.

Requirements
After a faculty adviser has been selected and has agreed to advise them during the year-long project, students must complete the Southeast Asian Studies Honors Program Application and a two-page preliminary outline of the proposed research project, have the faculty adviser sign the application, and submit both to the academic counselor who verifies that the necessary signatures have been obtained and the requisites have been met. The counselor assists the students in formally enrolling in Southeast Asian Studies 198A. Enrollment in subsequent terms (courses 198B and 198C) is contingent on students having demonstrated satisfactory progress toward writing of the honors thesis.

Throughout the three terms of the honors program, students work closely with their faculty adviser who guides them through the various phases of research. At the end of the third term, students submit the thesis to their faculty adviser for final review.

To graduate with departmental honors, students must (1) complete all requirements for the major with a cumulative grade-point average of 3.5 or better in upper division courses required for the major and an overall GPA of 3.5 or better, (2) complete courses 198A, 198B, and 198C, and (3) produce an honors thesis (approximately 40 to 60 pages) determined to be of honors quality by a committee of three faculty members. The thesis must then
be submitted to the academic counselor in 10357 Bunche Hall.

To graduate with departmental highest honors, students must (1) complete all requirements for the major with a cumulative grade-point average of 3.75 or better in upper division courses required for the major and an overall GPA of 3.5 or better, (2) complete courses 198A, 198B, and 198C, and (3) produce an honors thesis (approximately 40 to 60 pages) determined to be of highest honors quality by a committee of three faculty members. The thesis must then be submitted to the academic counselor in 10357 Bunche Hall.

Departmental honors and highest honors are recorded on the final transcript and diploma after students successfully complete the program.

**Southeast Asian Studies Minor**

The Southeast Asian Studies minor is designed for students who wish to augment their major with coursework in Southeast Asian studies. The minor includes the introductory study of one Southeast Asian language, two lower division core courses on Southeast Asia as a region, and five upper division courses that may focus on one or more Southeast Asian cultures or societies.

To enter the minor, students must (1) be in good academic standing (minimum 2.0 grade-point average), (2) have completed 45 units and at least one lower division nonlanguage preparatory course in Southeast Asian studies, and (3) file a petition with the academic counselor in 10357 Bunche Hall.

**Required Lower Division Courses (13 units):**

History 9E, Southeast Asian Studies 1, and completion of the third term of either Vietnamese, Thai, Filipino/Tagalog, or Indonesian language courses (Southeast Asian 50C or 60C or 70C or 80C) or demonstrated proficiency as determined by a placement examination. Proficiency in other Southeast Asian languages may be accepted by petition, pending completion of a placement examination or approval of an alternative course of language study.

**Required Upper Division Courses (20 units):**


For Ethnomusicology 161B, 161H, and 161M to count as one 4-unit upper division course to be applied toward the major, any two of the courses may be taken once or any one course may be taken twice.

Variable or selected topics courses (e.g., Asian American Studies 191) fulfill minor requirements only when the content focuses substantially on Southeast Asia or a subregion of it. Other courses with substantial Southeast Asian content may be applied pending approval of a petition filed with the academic counselor.

Independent studies courses (197 or 199) may not be applied toward the minor. No more than two upper division courses may be applied toward both this minor and a major or minor in another department or program. All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

**Southeast Asian Studies Lower Division Courses**

1. **Introduction to Southeast Asian Studies.** (5) Lecture, three hours; discussion, one hour (when scheduled). Introductory survey of diverse and dynamic societies of contemporary Southeast Asia, with strong focus on interdisciplinary themes in humanities and cultural studies. P/NP or letter grading.

2. **Sophomore Seminars: Introduction to Interdisciplinary Study of Southeast Asia.** (5) Formerly numbered 199. Seminar, three hours. Limited to majors. Introduction to methods of interdisciplinary and comparative study, providing students with opportunity to develop competence in using those approaches through investigation of critical issues in Southeast Asian studies. Culminating paper or project may be required. Letter grading.

**Southeast Asian Studies Upper Division Courses**

180. **Research Seminar: Southeast Asian Studies.** (4) (Formerly numbered 190.) Seminar, three hours. Limited to Southeast Asian Studies majors and minors. Designed for students to analyze their experiences after they return from study abroad in Southeast Asia. Culminating paper or project required. Letter grading.

188. **Special Courses in Southeast Asian Studies.** (4) Lecture, three hours; discussion, one hour. Interdepartmentally sponsored experimental or temporary courses on selected contemporary topics in Southeast Asian studies taught by visiting instructors or affiliated faculty members. May be repeated for credit with topic change. P/NP or letter grading.

191. **Senior Seminar: Variable Topics in Southeast Asian Studies.** (4) Formerly numbered 196.) Seminar, three hours. Limited to senior majors. Research seminar on selected topics. Examination of literature and/or state of field in Southeast Asian studies. Capstone course for majors who write substantial literature review or paper based on original research. May be repeated once for credit with topic change and consent of chair. Letter grading.


**SPANISH AND PORTUGUESE**

*College of Letters and Science*

UCLA
5310 Rolfe Hall
Box 951532
Los Angeles, CA 90095-1532
(310) 825-1036
fax: (310) 206-4757
http://www.spanport.ucla.edu

John C. Dagenais, Ph.D., Chair

**Professors**

Adriana J. Bergero, Ph.D.
Héctor V. Calderón, Ph.D.
Verónica Cortínez, Ph.D.
John C. Dagenais, Ph.D.
J. Randal Johnson, Ph.D.
Efrain Kristal, Ph.D.
Claudia Parodi-Lewin, Ph.D.
Susan J. Plann, Ph.D.
A. Carlos Quícoli, Ph.D.
Enrique Rodríguez-Cepeda, Ph.D.
Jesús Torrecilla, Ph.D.

**Professors Emeriti**

Shirley L. Arora, Ph.D.
Rubén A. Benítez, Ph.D.
E. Mayone Dias, Ph.D.
Joaquin Gimeno, Ph.D.
Claude L. Hulet, Ph.D.
Gerardo A. Luzuriaga, Ph.D.
C. Brian Morris, LL.D.
C.P. Otero, Ph.D.
José Pascaual-Buxó, Ph.D.
Stanley L. Robe, Ph.D.
Aníbal Sanchez-Reulet, Ph.D.
Paul C. Smith, Ph.D.

**Associate Professors**

Elizabeth A. Marchant, Ph.D.
A. John Skirius, Ph.D.

**Assistant Professors**

Michelle A. Clayton, Ph.D.
Maria T. De Zubiaurre, Ph.D.
Jorge Marturano, Ph.D.
Anna H. More, Ph.D.

**Lecturers S.O.E.**

José M. Cruz-Salvadores, M.A.
Isabel L. Herwig, Ph.D., Emerita
Susan C. Schaffer, Ph.D., Emerita
George L. Voty, J.D., Emeritus

**Lecturer**

Sylvia Sherno, Ph.D.
**Scope and Objectives**

The Department of Spanish and Portuguese is dedicated to the study and teaching of the languages, literatures, and cultures of the Hispanic heritage in all areas of the world, particularly on the continents of Europe and America. It maintains a strong commitment to the value of original research and professional instruction at all levels of its activities.

Whether studying for the B.A., M.A., or Ph.D. degree, students are given careful guidance in the choice of courses and in the preparation of a study program. The richness of Hispanic culture is amply represented in the extensive range of courses in language, linguistics, and literature. Although the literatures of Spain, Portugal, Brazil, and Spanish America predominate, courses are also offered in Chicano literature. The breadth of courses offered by the department allows undergraduate students to pursue many possible interests and enables graduate students to concentrate in depth in several areas of specialization.

The department’s courses are primarily designed to serve the five B.A. programs: B.A. in Spanish, B.A. in Spanish and Community and Culture, B.A. in Spanish and Linguistics, B.A. in Spanish and Portuguese, and B.A. in Portuguese, as well as to prepare students for its three graduate programs: M.A. in Spanish, M.A. in Portuguese, and Ph.D. in Hispanic Languages and Literatures. The courses are also functionally supportive of such interdepartmental programs as the California State Single Subject Credential in Spanish, B.A. and M.A. programs in Latin American Studies, and M.A. and Ph.D. programs in Comparative Literature and Romance Linguistics and Literature.

**Undergraduate Study**

**Undergraduate Courses**

Spanish 1 through 3 use Garner, Rusch, and Domínguez’ *Claro que sí*. The method is inductive. Selected examples are given to enable students to inductively grasp the rules and develop their own grammar. This enables students to use language effectively and creatively. The courses are taught entirely in Spanish — students simultaneously learn to understand, speak, read, and write Spanish.

Students with one or more years of high school Spanish who plan to enroll in Spanish 1 through 25 must take the departmental placement examination. Consult the *Schedule of Classes* or the department office for test dates and location.

No credit is allowed for completing a less advanced course after successful completion of a more advanced course in Spanish and Portuguese grammar and/or composition.

**Spanish B.A.**

**Preparation for the Major**

*Required:* Spanish 25 or 27 or equivalent, and M42 and M44 or equivalent as determined by the undergraduate adviser. The courses must be passed with an average grade of C or better prior to beginning upper division work in the major.

**Transfer Students**

Transfer applicants to the Spanish major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of Spanish, one Spanish civilization course, and one Spanish American civilization course.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

*Required:* (1) Seven core courses, including Spanish 100A or 100B, 105 or 107 (possible exemption granted by passing departmental writing proficiency examination), 119A or 119B, 120A, 120B, 120C, and 127 and (2) six upper division Spanish elective courses in literature, culture, or linguistics.

**Spanish and Community and Culture B.A.**

**Preparation for the Major**

*Required:* Spanish 25 or 27 or equivalent, and M42 and M44 or equivalent as determined by the undergraduate adviser. The courses must be passed with an average grade of C or better prior to beginning upper division work in the major.

**Transfer Students**

Transfer applicants to the Spanish and Community and Culture major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of Spanish, one Spanish civilization course or one Spanish American civilization course or one year of a language other than Spanish and English, which may be taken concurrently with the major. The courses must be passed with an average grade of C or better.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

*Required:* (1) Spanish 100A, 100B, 105, Linguistics 103, 120A, 120B, (2) one course from Linguistics 160 or 165A or 165B, and (3) three upper division Spanish electives, two of which must be in Spanish linguistics.

**Spanish and Portuguese B.A.**

**Preparation for the Major**

*Required:* Spanish 25, Portuguese 3 or 102B, M42 or M44 or equivalent, 46 or equivalent.

**Transfer Students**

Transfer applicants to the Spanish and Portuguese major with 90 or more units must complete the following introductory courses prior to admission to UCLA: two years of Spanish, one year of Portuguese, one Spanish civilization course or one Spanish American civilization course, and one Brazilian culture course.

Refer to the UCLA Transfer Admission Guide at [http://www.admissions.ucla.edu/prospect/adm_tr.htm](http://www.admissions.ucla.edu/prospect/adm_tr.htm) for up-to-date information regarding transfer selection for admission.

**The Major**

*Required:* (1) Four upper division language and linguistics courses: Portuguese 100A,
100B, 105, Spanish 105; (2) four upper division literature courses selected as follows: two courses from Spanish 119A, 119B or from 120A, 120B, 120C and two courses from Portuguese 120A, 120B or from 130A, 130B; (3) six upper division electives, three of which must be in Spanish and three in Portuguese (numbered C124 and above). Only upper division courses taught in the target language may be applied toward the major.

Portuguese B.A.

Preparation for the Major

Required: Portuguese 3, M35, M42 or M44, 46, or equivalent.

Transfer Students

Transfer applicants to the Portuguese major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one year of Portuguese, one nature of language course, one Portuguese civilization course or one Brazilian civilization course, and one Brazilian culture course. Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Portuguese Language and Literature Concentration

Required: Completion of six terms of study in one other foreign language or three terms in each of two other foreign languages, in addition to the preparation for the major courses. Spanish is recommended. The concentration consists of 13 upper division courses, including Portuguese 100A, 100B, 105, M118A, M118B, Portuguese 105 and M118B, Linguistics 100, 103, 110, 120A, 120B, and three electives, two of which must be in Luso-Brazilian literature.

Double Majors

Through judicious use of electives, students may find it possible to secure the B.A. degree with two complete majors (e.g., Portuguese/Spanish, Portuguese/History, Portuguese/Sociology, etc.). Interested students should consult the undergraduate advisor in Portuguese as early as possible in their B.A. program.

Study in a Portuguese-Speaking Country

Students are encouraged to spend up to one year in a Portuguese-speaking country to study in a university or conduct research. Appropriate credit may be granted in accordance with the individual program, arranged in consultation with the undergraduate faculty advisor in Portuguese. Proposals must be submitted in advance in writing and must be approved by the department.

Honors Program

The honors program is open to all departmental majors who have completed the required nine upper division core courses with a 3.5 grade-point average. Eligibility is verified by the departmental counselor.

Two honors projects and an honors thesis are required. To graduate with departmental honors, students must first complete an honors project in each of two of their upper division Spanish elective courses. The honors project is a 12- to 15-page term paper on a special topic, selected in consultation with the instructor, to be completed in addition to the normal course requirements. On the basis of the coursework and special interests, students then consult a faculty member in that field and formulate a research project which they pursue under the faculty member's guidance through Spanish 198. Students research and write an honors thesis (not to be confused with an honors project) of approximately 25 pages on the selected topic. Approval of the honors thesis is the final requirement for departmental honors.

Mexican Studies Minor

The Mexican Studies minor allows students with an interest in Mexico to augment their major programs with courses that expose them to the history, literature, and culture of Mexico. Given Southern California's proximity to Mexico, the demographics of Los Angeles, and the shared history of Mexico and the Southwest, the minor is a natural complement to many majors.

To enter the minor, students must have an overall grade-point average of 2.0 or better and must complete or show proficiency equivalent to two years of college-level Spanish. A petition to declare the minor should be filed with the undergraduate counselor in 5314 Rolfe Hall.

Required Lower Division Courses (8 units): Spanish 25 or 27, and one course from History 8A, 8B, 8C, or Spanish M44.


No more than two upper division courses may be applied toward both this minor and a major or minor in another department or program. By petition and after consultation with the undergraduate advisor, one 4-unit 197 or 199 course may be applied toward the minor.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Portuguese Minor

To enter the Portuguese minor, students must have an overall grade-point average of 2.0 or better and must complete Portuguese 3 or 102B.

Required Lower Division Course (4 units): Portuguese 46.

Required Upper Division Courses (24 units): Portuguese 105 and five Portuguese courses selected from 100A through 199 (except 102A, 102B). Only one 4-unit Portuguese 197 or 199 course may be selected.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Spanish Minor

To enter the Spanish minor, students must have an overall grade-point average of 2.0 or better and must complete or show proficiency equivalent to two years of college-level Spanish.

Required Lower Division Courses (8 units): Spanish 25 or 27, and M42 or M44.

Required Upper Division Courses (24 to 25 units): Six courses in literature, of which four (22 units) must be selected from Spanish 119A through 191B (one of the four must be either 119A or 119B or from 120A, 120B, or 120C).

No more than two upper division courses may be applied toward both this minor and a major or minor in another department or program. By petition and after consultation with the undergraduate advisor, one 4-unit 197 or 199 course may be applied toward the minor.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Spanish Linguistics Minor

To enter the Spanish Linguistics minor, students must have an overall grade-point average of 2.0 or better and must complete or show proficiency equivalent to two years of college-level Spanish.

Required Lower Division Courses (8 units): Spanish 25 or 27, and M35.

Required Upper Division Courses (24 units): Spanish 100A, 100B, three courses from 107, 115, M118A, M118B, and one other upper division Spanish course.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.
Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnr.ucla.edu/gasa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Spanish and Portuguese offers the Master of Arts (M.A.) degree in Spanish, Master of Arts (M.A.) degree in Portuguese, and Doctor of Philosophy (Ph.D.) degree in Hispanic Languages and Literatures.

Portuguese

Lower Division Courses

1. Elementary Portuguese. (4) Discussion, five hours; laboratory, one hour. Enforced requisite: course 1. P/NP or letter grading.
2. Elementary Portuguese. (4) Discussion, five hours; laboratory, one hour. Enforced requisite: course 1. P/NP or letter grading.
3. Intermediate Portuguese. (4) Discussion, five hours; laboratory, one hour. Enforced requisite: course 3 or 102B. Practice in writing Portuguese with appropriate vocabulary, syntactical structures, and stylistic patterns. P/NP or letter grading.

Upper Division Courses

102A-102B. Intensive Portuguese. (4-4) Preparation: foreign language experience (other than Portuguese). Development of speaking and reading skills equivalent to those covered in three terms of the traditional pattern and to meet special needs of advanced undergraduate and graduate students.
103. Language and Popular Culture. (4) Lecture, three hours. Requisite: course 3 or 102B. Development of speaking, reading, and writing skills. Trained in thematic units, with songs, videos, and specific vocabulary emphasizing questions of Brazilian cultural identity. Letter grading.
105. Advanced Composition and Style. (4) Lecture, three hours. Requisite: course 3 or 102B. Practice in writing Portuguese with appropriate vocabulary, syntactical structures, and stylistic patterns. P/NP or letter grading.
111A-111B. History of Portuguese and Spanish. (4-4) (Same as Spanish M118A-M118B.) Lecture, three hours. Requisites: courses M35, 100A. Course M118A is requisite to M118B. Major features of development of Portuguese and Spanish languages and literatures from their origins in Vulgar Latin to modern times. P/NP or letter grading. M118A: Phonology. M118B: Morphology and Syntax.
120A-120B. Introduction to Portuguese Literature. (4-4) Lecture, three hours. Requisite: course 105. Introduction to principal periods, currents, and authors of Portuguese literature. P/NP or letter grading.
129. 20th-Century Portuguese Literature. (4) Lecture, three hours. Requisite: course 105. Study of principal features through representative works. May be repeated for credit with topic change. Concurrently scheduled with course C229. P/NP or letter grading.
130A-130B. Brazilian Literature and Identity: Introduction. (4-4) Lecture, three hours. Requisite: course 105. Introduction to principal periods, currents, and authors of Brazilian literature. P/NP or letter grading.
131. Colonial Brazilian Literature and Culture. (4) Lecture, three hours. Requisite: course 105. Study of most important authors to 1850. May be repeated for credit with topic change. Concurrently scheduled with course C231. P/NP or letter grading.

Graduate Courses

M200. Research Resources. (4) (Same as Spanish M200.) Lecture, three hours. Identification and use of research resources for graduate students.
M201A-M201B. Literary Theory and Criticism. (4-4) (Same as Spanish M201A-M201B.) Lecture, three hours. Definition, discussion, and application of main currents of contemporary literary theory and criticism. Letter grading.
202. Synchronic Morphology and Phonology. (4) Lecture, three hours. Study of theoretical synchronic linguistics as applied to Portuguese and Spanish. P/NP or letter grading.
204A-204B. Generative Grammar. (4-4) Lecture, three hours. Course 204A is requisite to 204B. Generative approach to the Portuguese language, with some consideration of bearing of syntax, semantics, and phonology on style, metaphor, and meter.
M205A-M205B. Development of Portuguese and Spanish Languages. (4-4) (Same as Spanish M205A-M205B.) Lecture, three hours. Intensive study of historical development of Portuguese and Spanish languages from their origin in spoken Latin. P/NP or letter grading.


C229. 20th-Century Portuguese Literature. (4) Lecture, three hours. Requisite: course 105. Study of representative trends and authors. May be repeated for credit with topic change. Concurrently scheduled with course C129. S/U or letter grading.

C231. Colonial Brazilian Literature and Culture. (4) Lecture, three hours. Requisite: course 105. Study of most important authors to 1830. May be repeated for credit with topic change. Concurrently scheduled with course C131. S/U or letter grading.


C235. 20th-Century Brazilian Literature. (4) Lecture, three hours. Requisite: course 105. Study of representative trends and authors. May be repeated for credit with topic change. Concurrently scheduled with course C135. S/U or letter grading.

M249. Folk Literature of Spanish and Portuguese Worlds. (4) (Same as Spanish M249.) Lecture, three hours. Intensive study of Spanish and Portuguese cultures as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech. S/U or letter grading.

M251A-M251B. Studies in Galician-Portuguese and Old Spanish. (4-4) (Same as Spanish M251A-M251B.) Lecture, two hours. Study of problems related to historical development of Galician-Portuguese and Old Spanish. Each course may be repeated once with topic change and consent of appropriate guidance committee.


255. Studies in Modern Brazilian Literature. (4) Discussion, two hours. S/U or letter grading.


290. Special Topics. (4) Discussion, two hours. Designed for graduate students. Consult Schedule of Classes or department counselor for topics to be offered in a specific term. S/U or letter grading.

370. Teaching Portuguese in Secondary School. (4) Discussion, three hours. Designed for future teachers for this course.

375. Teaching Portuguese Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research. (4 to 8) Tutorial, to be arranged. Study or research in areas or subjects not offered as regular courses. May be repeated for credit more than once for each degree examination and only in term that comprehensive or qualifying examinations are to be taken. S/U grading.


597. Preparation for Graduate Examinations. (4 to 7) Tutorial, to be arranged. Preparation: official acceptance of candidacy by department. Individual preparation for M.A. comprehensive examination or Ph.D. qualifying examinations. May be taken only once for each degree examination and only in term that comprehensive or qualifying examinations are to be taken. S/U grading.


### Spanish

#### Lower Division Courses

1. **Elementary Spanish.** (4) Discussion, five hours; laboratory, one hour. P/NP or letter grading.

2. **Reading Course for Graduate Students.** (4) Lecture, three hours. Knowledge of Spanish not required. May not be applied toward degree requirements. S/U grading.

3. **Elementary Spanish.** (4) Discussion, five hours; laboratory, one hour. Enforced requisite: course 1, P/NP or letter grading.

4. **Intermediate Spanish.** (4) Lecture, 20 hours; laboratory, five hours. Enforced requisite: course 1 or one year of high school Spanish. Intensive basic course in Spanish, with cultural activities, field trips, luncheons. Offered in summer only. P/NP or letter grading.

5. **Reading Course for Graduate Students.** (4) Lecture, three hours. Enforced requisite: course 1. May not be applied toward degree requirements. S/U grading.

6. **Elementary Spanish.** (4) Discussion, five hours; laboratory, one hour. Enforced requisite: course 2. P/NP or letter grading.

7. **Intermediate Spanish.** (4) Lecture, 20 hours; laboratory, five hours. Enforced requisite: course 1 or one year of high school Spanish. Intensive basic course in Spanish, with cultural activities, field trips, luncheons. Offered in summer only. P/NP or letter grading.

8. **Intensive Spanish.** (4) Lecture, 20 hours; laboratory, five hours. Enforced requisite: course 1 or one year of high school Spanish. Intensive basic course in Spanish, with cultural activities, field trips, luncheons. Offered in summer only. P/NP or letter grading.

9. **Intermediate Spanish.** (4) Discussion, five hours; laboratory, one hour. Enforced requisite: course 3. P/NP or letter grading.

10. **Intermediate Spanish.** (4) Discussion, five hours; laboratory, one hour. Enforced requisite: course 4. P/NP or letter grading.

11. **Intermediate Spanish.** (4) Discussion, five hours. Enforced requisite: course 5. Review and analysis of more sophisticated and complex syntactic structures of Spanish, verb morphology, and lexical discrimination. Students who passed Ph.D. qualifying examination may enroll only if Letter grade is A or better. May enroll only in course 25. S/U grading.

12. **Intermediate Spanish for Spanish Speakers.** (4) Discussion, four hours. Preparation: proficiency as determined by placement test. Concentration on formal aspects of language (i.e., spelling, punctuation, accentuation, composition, reading, and traditional grammar) in lieu of course 6. P/NP or letter grading.

13. **Intensive Spanish.** (4) Lecture, three hours. Enforced requisite: course 5. Emphasis on writing grammatically correct, lexically sophisticated, and rhetorically competent expository prose. Course 25 or 27 is requisite to all upper division courses in Spanish. P/NP or letter grading.


15. **Spanish for Special Purposes: Medical.** (4) Lecture, three hours. Enforced requisite: course 1. Practice in speaking, reading, and writing Spanish using appropriate vocabulary and cultural situations for students with special interest in fields such as medicine, business law, etc. P/NP or letter grading.
88A-88Z. Lower Division Seminars. (4 each) Seminar, three hours. Knowledge of Spanish not essential. Variable topics courses designed to explore various themes and issues pertinent to Hispanic literature and culture.

97. Variable Topics in Spanish. (2) Lecture, two hours. Variable topics course with lectures, discussions, and papers; consult Schedule of Classes or department counselor for topic to be offered in specified term. P/NP or letter grading.

Upper Division Courses

100A-100B. Introduction to Study of Spanish Grammar. (4-4) Lecture, three hours. Requisite: course M35. 100A. Phonology and Morphology. Analysis of phonemic and morphological systems of Spanish. 100B. Syntax. Study of syntactical systems of Spanish.

102A-102B. Catalan Language and Culture I, II. (4-4) Lecture, six hours. Introduction to oral and written Catalan language. Two-term accelerated language sequence equivalent to three terms of traditional pattern and designed for advanced undergraduate and graduate students. This course may be applied as upper division elective in major. P/NP or letter grading. 102A. Preparation: at least two years of college-level Spanish, Portuguese, or another Romance language other than Catalan. 102B. Requisite: course 102A.


109. Spanish of Southern California. (4) Lecture, three hours. Requisites: courses M35, 100A, 100B. Analysis of pronunciation, word formation, syntax, and lexicon of Spanish of Southern California, with attention to regional features, social and age levels of speech, and interference from English. P/NP or letter grading.


119A. Introduction to Study of Literature: Prose. (4) Lecture, three hours. Requisite: course 25. Introduction to study of literary devices, figures of speech, and distinctive stylistic features in prose literature of Spain and Spanish America, particularly in the novel and essay.


119C. Introduction to Study of Literature: Drama. (4) Lecture, three hours. Requisite: course 25. Introduction to basic features and components of drama through detailed study of texts from different periods. Letter grading.

120A-120D. Literature in the Hispanic World. (5 each) Lecture, four hours; discussion, one hour. Requisite: courses 118A, 118B. Study of several representative works, of the Golden Age of poetry and drama. 120A. Literature of the Spanish Renaissance. 120B. Golden Age: Poetry. 120C. Golden Age: Prose. 120D. Literature in the Hispanic World. (5 each) Lecture, four hours; discussion, one hour. Requisite: courses 118A, 118B. Study of several representative works, of the Golden Age of poetry and drama.


128. The Enlightenment and Romanticism in Spain. (4) Lecture, three hours. Recommended preparation: course 120B. Study, through representative works, of main manifestations of thought and literature from 1700 to 1850.


132. 20th-Century Spanish Prose. (4) Lecture, three hours. Recommended preparation: course 120C. Study of several representative works of Spanish prose literature since 1898.

133. 20th-Century Spanish Poetry and Drama. (4) Lecture, three hours. Recommended preparation: course 120C. Study of several representative works of Spanish poetry and drama since 1898.

137. Literature of Colonial Spanish America. (4) Lecture, three hours. Recommended preparation: course 120A. Study, through representative literary works, of most important currents of thought and literary trends from 1810 to 1910.

140. Modernismo. (4) Lecture, three hours. Recommended preparation: course 120B. Study, through representative works, of principal characteristics of modernismo in Spanish-American literature.


144A. Mexican Literature. (4) Lecture, three hours. Requisite: course 25 or 27. Study of major movements and authors of Mexican literature. P/NP or letter grading.

144B. Mexican Culture. (4) Lecture, three hours. Requisite: course 25 or 27. Study and analysis of Mexican culture and society through variety of cultural expressions such as film, music, literature, and other popular genres. Letter grading.

144C. Special Topics in Mexican Studies. (4) Lecture, three hours. Requisite: course 25 or 27. Variable topics course with readings, discussions, and papers; consult Schedule of Classes or department counselor for topic to be offered in a specific term. P/NP or letter grading. M145A-M145B. Introduction to Chicano Literature. (4-4) (Same as Chicana and Chicano Studies M145A-M145B.) Lecture, three hours. Requisite: course 25 or 27. Introduction to texts representative of the Chicano literary heritage. Sampling of genres, as well as historical and geographical settings and points of view, characteristic of work written by Chicanos during the 20th century. Most required reading is in Spanish. Bilingual and English works are included and discussed. Reading and analysis of a number of important scholarly articles, and examinations pertaining to characteristics and development of the Chicano literary corpus. Letter grading. M145A. Literature to 1960; M145B. Literature after 1960.
147. Central American American Literature. (4) Lecture, four hours. Study of representative novels, short stories, poems, testimonio writings, and essays by contemporary Central American authors and authors of Central American heritage. P/NP or letter grading.

149. Folk Literature of Hispanic World. (4) Lecture, three hours. Study of history and present dissemination of principal forms of folk literature throughout Hispanic countries. P/NP or letter grading.

151A-151B. Women in Hispanic Literature. (4-4) Discussion, three hours. Recommended preparation: courses 120A, 120B, 120C. Work by and about women, with emphasis on portrayal of women, women's roles, and myths of womanhood within the Hispanic socio-cultural context. 151A, Spain; 151B, Spanish America.

161. Film and Literature of Spanish-Speaking World. (5) (Formerly numbered M161.) Lecture, three hours; discussion, one hour; fieldwork, 10 hours. Recommended preparation: courses 120A, 120B, 120C. Exploration of perceptions of reality offered by different authors and filmmakers from Spain, Latin America, and Chicano community. P/NP or letter grading.

M164SL. Spanish/English Exchange, (5) Same as Chicano and Chicano Studies M164SL.) Seminar, three hours; fieldwork at Venice High School, four hours. Preparation: two years of college or university Spanish. Students who have one or more English as a Second Language (ESL) Venice High students and converse for two hours in Spanish and two hours in English. Topics for Spanish portion provided in APS manual; topics for English exchange selected by ESL teacher. Encounters form basis for student compositions and oral reports and supply part of raw data for learner's journal. Review of key areas of Spanish grammar to allow UCLA students to improve language skills, increase knowledge of Latino community and new immigrant Latino youth, and help Venice students improve their English. Some discussions concern U.S. culture, importance of higher education, student adaptation to life in the U.S., and stimulation of their interest in higher education. P/NP or letter grading.

165SL. Taking It to Street: Spanish in Community. (5) Seminar, three hours; fieldwork, 10 hours. Requisite: course 25 or 27. Service learning course to give students opportunity to use cultural and linguistic knowledge acquired in Spanish courses in real-world settings. Students required to spend minimum of eight to 10 hours per week at agreed on site in Latino community. P/NP or letter grading.

M172. Latinos, Linguistics, and Literacy. (5) (Formerly numbered 172.) (Same as Chicana and Chicano Studies M170 and Honors Collegium M128.) Seminar, four hours; field project, four to six hours. Recommended requisite: course 100A. In-depth study of various topics related to literacy, including different definitions of literacy, programs for adult preliterates, literacy and gender, approaches to literacy (whole language, phonics, Freire's liberation pedagogy), history of writing and writing. May be taught in either English or Spanish. Exploration of perceptions of reality offered by different authors and filmmakers from Spain, Latin America, and Chicano community. P/NP or letter grading.

187A-187B. Advanced Tutorial in Community and Culture I, II. (1-2) Tutorial, one hour. Requisite: course 25 or 27. Designed as adjacent to upper division course in Hispanic literature, language, and culture. Exploration of a greater depth through supplemental readings, papers, community service, or other activities. Course 187A may be repeated once for credit. P/NP or letter grading.

191A. Variable Topics in Spanish: Studies in Hispanic Literature and Linguistics. (4) (Formerly numbered 197.) Seminar, three hours. Limited to 15 juniors/seniors Spanish majors. Variable topics course with readings, discussions, and development of culminating paper. Consult Schedule of Classes or departmental counselor for topic to be offered in specific term. P/NP or letter grading.

191B. Variable Topics in Spanish: Studies in Hispanic Culture and Civilization. (4) (Formerly numbered 197A.) Seminar, three hours. Advanced variable topics course with readings, discussions, and development of culminating paper, and examinations in Spanish. P/NP or letter grading.

195. Community Internships in Spanish. (4) Tutorial, one hour; fieldwork, 10 hours. Requisite: course 25 or 27. Limited to juniors/seniors. Internship in supervised setting in community agency or business. Students meet on regular basis with instructor and provide journal of their experience. Final research paper required. Individual contract with supervising faculty member required. P/NP or letter grading.

197. Individual Studies in Spanish. (2 to 4) (Formerly numbered 199.) Tutorial, to be arranged. Limited to ten college students. Planning and implementing scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. Eight units of credit. Course may be repeated to apply toward major requirements. Individual contract required. P/NP or letter grading.

198. Senior Honors Research in Spanish. (4) (Formerly numbered 170.) Tutorial, to be arranged. Preparation: completion of required nine upper division major core courses with 3.5 grade-point average. Limited to juniors/seniors. Development and completion of honors thesis under direct supervision of faculty member. Individual contract required. Letter grading.

199. Directed Research in Spanish. (2 to 4) Tutorial, to be arranged. Requisite: course 25. Limited to juniors/seniors. Supervised individual research under guidance of faculty mentor. Culminating paper required. Eight units of courses 197 and/or 199 may be applied toward major requirements. Individual contract required. P/NP or letter grading.

Graduate Courses

M200. Research Resources. (4) (Same as Portuguese M200.) Lecture, three hours. Identification and use of research resources for graduate students. M201A-M201B. Literary Theory and Criticism. (4-4) (Same as Portuguese M201A-M201B.) Lecture, three hours. Definition, discussion, and application of main currents of contemporary literary theory and criticism. Letter grading.

202A. Phonology. (4) Lecture, three hours. Study of the sound structure of Spanish and main phonological processes that map underlying representations into surface representations. Bearing of phonological theory on study of meter.


M205A-M205B. Development of Portuguese and Portuguese Languages as Portuiguese. (4) (Formerly numbered M205A-M205B.) Lecture, three hours. Intensive study of historical development of Portuguese and Portuguese languages from their origin in spoken Latin. 209. Dialectology. (4) Lecture, three hours. Major dialect areas of peninsular and American Spanish, with distinguishing features of each. Influence and contribution of cultural and historical features, including indigenous languages, to their formation.

211. Medieval Lyric Poetry. (4) Lecture, three hours. Readings of and lectures on Spanish lyric poetry from the beginning to 1500.

212. Medieval Epic and Narrative Poetry. (4) Lecture, three hours. Readings of and lectures on Spanish epic and narrative poetry from the beginning to 1500.

213. Medieval Prose. (4) Lecture, three hours. Readings of and lectures on Spanish prose from the beginning to 1500.

214. Poetry of the Golden Age. (4) Lecture, three hours. Readings of and lectures on Spanish poetry from 1500 to 1700.

215. Drama of the Golden Age. (4) Lecture, three hours. Readings of and lectures on fictional, didactic, religious, and historical writings.

217. Cervantes. (4) Lecture, three hours. Readings of and lectures on works of Cervantes.

218. The Enlightenment. (4) Lecture, three hours. Readings of and lectures on representative works of the period.

219. Romanticism. (4) Lecture, three hours. Readings of and lectures on representative works of the period.

220. Realism and Naturalism. (4) Lecture, three hours. Readings of and lectures on works of major literary figures, including symbolism, Parnassianism, and the Generation of 1888.

223. Spanish Prose Literature from 1898 to the Civil War. (4) Lecture, three hours. Readings of and lectures on representative essays, novels, and short stories of the period.

224. Spanish Prose Literature after the Civil War. (4) Lecture, three hours. Readings of and lectures on representative plays and poems.

225. Spanish Drama and Poetry after 1898. (4) Lecture, three hours. Readings of and lectures on representative plays and poems.


228. Modern Currents in Modern Spanish-American Literature. (4) Lecture, three hours. Introduction to major literary currents, including symbolism, Parnassianism, and the Generation of 1888.

229. Spanish America. (4) Lecture, three hours. Readings of and lectures on works of major literary figures, including symbolism, Parnassianism, and the Generation of 1888.


231. Modern Currents in Modern Spanish-American Literature. (4) Lecture, three hours. Introduction to major literary currents, including symbolism, Parnassianism, and the Generation of 1888.

232. Spanish Prose Literature from 1898 to the Civil War. (4) Lecture, three hours. Readings of and lectures on representative essays, novels, and short stories of the period.

233. Spanish Drama and Poetry from 1898 to the Civil War. (4) Lecture, three hours. Readings of and lectures on representative plays and poems.

235. Spanish Drama and Poetry after the Civil War. (4) Lecture, three hours. Readings of and lectures on representative plays and poems of the period.

236. Literature of the Spanish Conquest. (4) Lecture, three hours. Readings of and lectures on chronicles, poems, and indigenous accounts of the Spanish Conquest.


240. Major Currents in Modern Spanish-American Literature. (4) Lecture, three hours. Study of major currents in modern Spanish-American literature, particularly naturalismo and modernismo.

241A-241B. Contemporary Spanish-American Short Story. (4) Lecture, three hours. Study of important short story writers from modernism to the present.

243A-243B. Contemporary Spanish-American Poetry. (4-4) Lecture, three hours. Intensive study of important poets of Spanish America from modernism to the present.

244A-244B. Contemporary Spanish-American Novel. (4-4) Lecture, three hours. Study of important novelists from modernism to the present.


247. Chicano Literature. (4) Lecture, three hours. Study of major movements and authors of Mexican American literature.

M249. Folk Literature of Spanish and Portuguese Worlds. (Same as Portuguese M249.) Lecture, three hours. Intensive study of folk literature of Spanish and Portuguese cultures as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech.

M251A-M251B. Studies in Galician-Portuguese and Old Spanish. (4-4) (Same as Portuguese M251A-M251B.) Lecture, two hours. Study of problems related to historical development of Galician-Portuguese and Old Spanish. Each course may be repeated once with topic change and consent of appropriate guidance committee.

256A-256B. Studies in Spanish Linguistics. (4-4) Lecture, two hours. Study of problems in analysis and description of the contemporary Spanish language. Each course may be repeated once with topic change and consent of appropriate guidance committee.

257. Studies in Dialectology. (4) Discussion, two hours. May be repeated once with topic change and consent of appropriate guidance committee.

262A-262B. Studies in Medieval Spanish Literature. (4-4) Discussion, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

264A-264B. Studies in Golden Age Spanish Literature. (4-4) Discussion, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

265. Cervantes. (4) Discussion, two hours. May be repeated once with topic change and consent of appropriate guidance committee.

270A-270B. Studies in 18th-Century Spanish Literature. (4-4) Discussion, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

271A-271B. Studies in 19th-Century Spanish Literature. (4-4) Discussion, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

272A-272B. Studies in 20th-Century Spanish Literature. (4-4) Discussion, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

277A-277B. Studies in Colonial Spanish-American Literature. (4-4) Discussion, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

280A-280B. Studies in Contemporary Spanish-American Literature. (4-4) Discussion, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

281. Studies in Chicano Literature. (4) Discussion, two hours. May be repeated once with topic change and consent of appropriate guidance committee.

286A-286B. Studies in Hispanic Folk Literature. (4-4) Lecture, two hours. Each course may be repeated once with topic change and consent of appropriate guidance committee.

290. Special Topics. (4) Lecture, two hours. Variable topics. Consent of instructor or department counselor for topics to be offered in a specific term. May be repeated once with topic change and consent of appropriate guidance committee.

291A-291B. Colonial Studies Research Group. (2-2) Research group meeting, two hours. Limited to graduate students. Discussion and analysis of colonial manuscripts. Specific topics vary from year to year. Production of student papers for publication and/or presentation at conferences or symposia.

291A. S/U grading; 291B. Requisite: course 291A. May be repeated for credit. S/U or letter grading.


M299. Research Resources for European Studies. (2) (Same as French M299, German M299, Information Studies M299, Italian M299, and Slavic M299.) Lecture, two hours. Essentials of library research strategy and effective searching in key print and on-line resources for European and Russian studies. Through combination of lecture, online demonstration, and hands-on activities in and outside class, students understand how to efficiently use library and databases. S/U grading.

310. Teaching Spanish in Elementary School. (4) Lecture, three hours.


373. Teaching Composition. (2) Designed for graduate students. Seminar on teaching writing in Spanish language courses. Introduction to composition theory. Instruction and practice in integrating writing into curricula, setting goals and standards, designing and sequencing course materials, evaluating and commenting on papers. May not be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

490. Using Technology in Foreign Language Classroom. (4) Discussion, two hours. Designed for graduate students. Theory and practice of using technology in foreign language classroom. Computer applications that facilitate instruction of grammar, discourse, culture, and composition, as well as evaluation and communication between students and instructor. S/U grading.


596. Directed Individual Study or Research. (4 to 8) Tutorial, to be arranged. Study or research in areas or subjects not offered as regular courses. No more than 4 units may be applied toward M.A. course requirements. S/U or letter grading.

597. Preparation for Graduate Examinations. (4 to 12) Tutorial, to be arranged. Preparation: official acceptance of candidacy by department. Individual preparation for M.A. comprehensive examination or Ph.D. qualifying examinations. May be taken only once for each degree examination and only in the form that comprehensive or qualifying examinations are to be taken. S/U grading.


See Communication Studies.

Statistics

College of Letters and Science

UCLA
8125 Math Sciences
Box 951554
Los Angeles, CA 90095-1554
(310) 825-8430
fax: (310) 206-5658
http://www.stat.ucla.edu

Jan de Leeuw, Ph.D., Chair

Professors
Peter M. Bentler, Ph.D.
William A. Clark, Ph.D.
Susan D. Cochran, Ph.D.
Dorota M. Dabrowska, Ph.D.
Jan de Leeuw, Ph.D.
Sander Greenland, Ph.D.
Edward E. Leamer, Ph.D. (Chaucaey J. Medbery
Professor of Management)
Ker-Chau Li, Ph.D.
Robert D. Mare, Ph.D.
William M. Mason, Ph.D.
Kevin F. McCardle, Ph.D.
Theodore M. Porter, Ph.D.
Dwight W. Read, Ph.D.
David L. Rigby, Ph.D.
Yingnian Wu, Ph.D.
Alan L. Yule, Ph.D.
Song-Chun Zhu, Ph.D.

Professors Emeriti
Richard A. Berk, Ph.D.
Thomas S. Ferguson, Ph.D.
Robert I. Jennrich, Ph.D.
James B. MacQueen, Ph.D.
Judea Pearl, Ph.D.
Sidney C. Port, Ph.D.
N. Donald Ylvisaker, Ph.D.

Associate Professors
Rebecca J. Emigh, Ph.D.
Mark H. Hansen, Ph.D.
Frederic R. Paik Schoenberg, Ph.D.
Janice L. Reiff, Ph.D.
Chiara Sabatti, Ph.D.

Assistant Professors
Hongquan Xu, Ph.D.
Quing Zhou, Ph.D.

Senior Lecturer
Maryam M. Esfandiari, Ph.D.

Lecturers
Nicolas Christou, Ph.D.
Gretchen G. Davis, M.S.
Robert L. Gould, Ph.D.
Vera Ioudina, Ph.D.
Vivian Lew, Ph.D.
Juana Sanchez, Ph.D.

Scope and Objectives

With the advent of fast computing and the subsequent flood of data detailing almost every aspect of our daily lives comes an urgent need for scientists trained in modern statistical methodologies.

For undergraduate students a broad range of courses covering applications, computation,
and theory is offered. In terms of statistical practice, undergraduate students have the opportunity to serve as statistical consultants on real projects from industrial clients. In designing the undergraduate offerings, departmental faculty members have drawn on their work in bioinformatics, sensor networks, environmental studies, finance, and medical research.

The graduate program is structured around three core course sequences that introduce students to the science of data: theoretical statistics, data analysis, and statistical computing. This balance reflects the scale and complexity of problems that statisticians are now routinely called to address. As with the undergraduate program, the interest of faculty members in various application areas weaves itself throughout the graduate offerings.

Courses and workshops for secondary school teachers of statistics are also offered in order to promote sound statistics pedagogy throughout the curriculum.

Reflecting diverse research interests, the Statistics Department is organized around several centers that collectively provide undergraduate and graduate students rich opportunities for specialized study. These include the Center for Applied Statistics, Center for Image and Vision Sciences, Center for Statistical Computing, Center for the Teaching of Statistics, Laboratory of Statistical Genomics, and Studio of Bio-Data Refining and Dimension Reduction.

Undergraduate Study

Undergraduate Courses

Students planning to pursue advanced degrees in statistics should enroll in the Statistics 100A, 100B, 100C sequence. The 110A and 110B sequence is less comprehensive than the 100 series. In particular, probability topics do not receive the same level of coverage. Courses 110A and 110B are offered each term. The remaining upper division courses are usually offered once or twice each year. The tentative class schedule for the forthcoming academic year is posted in the department office in February.

Statistics B.S.

The Statistics major is designed to provide a general introduction to the practice of statistics for students who intend to pursue study at the graduate level or seek employment in industry or government. Courses are selected to provide sufficient theoretical background for future graduate-level research work, exposure to modern techniques and practices, and experience in fields of application.

To enter the major, students should have successfully completed one lower or upper division Statistics Department course with a letter grade, have an overall grade-point average of 2.0 or better, and declare the Statistics major with the undergraduate adviser in 8117A Math Sciences, (310) 206-3742.

It is strongly recommended that students, in conjunction with the B.S. degree, pursue a minor in a substantive discipline that applies statistics. Students must consult with the undergraduate faculty adviser to ensure that the minor selected is one in which statistics is applied.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, Program in Computing 10A, Statistics 35A or 35B or 35C, 38, and one course from 10 through 14. All courses must be completed with a grade of C or better.

Transfer Students

Transfer applicants to the Statistics major with 90 or more units must complete as many of the following introductory courses as possible prior to admission: two years of calculus, one linear algebra course, and one statistics course.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

Required: Statistics 100A, 100B, 100C, 101A, 101B, 101C, 102A, 102B, 102C, 140SL, 141SL, and four upper division elective courses (at least two from statistics and at least one from mathematics) selected from 130A, 130C, 150 through 199, Mathematics 131A, 131B, 151A, 151B, 170B, 171, 172A, 172B. Elective courses from outside the department are selected in consultation with the undergraduate faculty adviser.

Only 8 units of course 199 may be applied toward the major. Courses 110A, 110B, 189, and 189HC may not be applied toward any of the major requirements.

Students planning to continue their study of statistics at the graduate level are strongly advised to include in their schedule as many of the following courses as possible: Mathematics 131A, 131B, 151A, 151B, 170B, 171.

All major courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better.

Statistics Minor

The Statistics minor is designed to provide a solid background in statistics for students majoring in other disciplines.

To enter the minor, students should have successfully completed one course from Statistics 10 through 14 with a letter grade, have an overall grade-point average of 2.0 or better, and file a petition with the undergraduate adviser in 8117A Math Sciences, (310) 206-3742.

Required Lower Division Courses (8 units):
- Statistics 35A or 35B or 35C, and Mathematics 3B or 31B.

Required Upper Division Courses (28 units):
- Seven upper division courses selected from one of the following options: (1) any two sequences from Statistics 100A, 100B, 100C, and 101A, 101B, 101C, and 102A, 102B, 102C, and one elective course, (2) two courses from each of the above sequences and one elective course, or (3) course 110A, any two courses from any two sequences, and two elective courses. Electives may be selected from any upper division statistics course. Statistics 199 may be applied as one of the electives for all options. Courses 105 and 189 may not be applied toward the minor. A minimum of 20 units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaalibrary/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Statistics offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Statistics.

Statistics

Lower Division Courses

10. Introduction to Statistical Reasoning. (5) Formerly numbered 10A.) Lecture, two hours; discussion, one hour; computer laboratory, two hours. Preparation: three years of high school mathematics. Not open for credit to students with credit for course 10H, 11, 12, 13, or 14 (or former Anthropology M80, Economics M40, Geography M40, Sociology M18, Statistics 10A, M11, or M12). Introduction to statistical thinking and understanding, including strengths and limitations of basic experimental designs, graphical and numerical summaries of data, inference, regression as descriptive tool. P/NP or letter grading.

10H. Introduction to Statistical Reasoning (Honors). (4) Lecture, three hours; discussion, two hours. Preparation: three years of high school mathematics. Not open for credit to students with credit for course 10, 11, M12, 13, Anthropology M80, Geography M40, or Sociology M18 (or former Statistics M11, M13, Economics M40, or Organismic Biology M22). Descriptive statistics, elementary probability, random variables, binomial and normal distributions. Large and small sample inference concerning means. Introduction to statistical software. Letter grading.
11. Introduction to Statistical Methods for Business and Economics. (5) Lecture, three hours; discussion, one hour; computer laboratory, one hour. Requisite or corequisite: Mathematics 3A or 31A. Not open for credit to students with credit for course 10, 10A, 10H, M12, 13, 14, 100A, 100B, 100C, Anthropology M80, Geography M40, Mathematics 170A, 170B, or Sociology M18 (or former Statistics M11, M13, or Organismic Biology M22). Elements of statistical analysis. Presentation and interpretation of data; descriptive statistics; theory of probability and basic sampling distributions; statistical inference, including principles of estimation and tests of hypotheses; introduction to regression and correlation. P/NP or letter grading.

12. Introduction to Statistical Methods for Geography and Environmental Studies. (5) (Formerly numbered M12.) Lecture, four hours; discussion, one hour; laboratory, one hour. Not open for credit to students with credit for course 10, 10A, 10H, M12, 14, Anthropology M80, Geography M40, or Sociology M18 (or former Statistics M11, Anthropology M80, Economics M40, Geography M40, or Sociology M18). Introduction to statistical thinking and understanding, with emphasis on techniques used in geography and environmental science. Underlying logic behind statistical procedures, role of variation in statistical thinking, strengths and limitations of statistical summaries, and fundamental ideas of model-based applications in geography and environmental science in laboratory work using professional statistical analysis package, including spatial statistics. P/NP or letter grading.

13. Introduction to Statistical Methods for Life and Health Sciences. (5) Lecture, three hours; discussion, one hour; laboratory, one hour. Not open for credit to students with credit for course 10, 10A, 10H, M12, 14, Anthropology M80, Geography M40, or Sociology M18 (or former Statistics M11, Economics M40, or Organismic Biology M22). Presentation and interpretation of data, descriptive statistics, introduction to correlation and regression and to basic statistical inference (estimation, testing of means and proportions, ANOVA) using both bootstrap methods and parametric models. P/NP or letter grading.

14. Introduction to Statistical Methods in Physical Sciences and Engineering. (5) (Formerly numbered 33S.) Lecture, three hours; discussion, one hour; laboratory, one hour. Requisite: Mathematics 31A. Not open for credit to students with credit for course 10, 10A, 10H, 11, M12, 14, Anthropology M80, Geography M40, or Sociology M18 (or former Statistics M11, Anthropology M80, Economics M40, or Organismic Biology M22). Introduction to conceptual and technical aspects of statistics, with attention to applications in basic sciences and engineering. Topics include data collection and experimental design, quantifying uncertainty in measurement, descriptive statistics, introduction to time series and regression. Lab component to keep students abreast of advances in data analysis on real data and fundamental techniques of computer statistical analysis, including bootstrap methods. P/NP or letter grading.

35A. Interactive and Computational Probability. (4) (Formerly numbered 35S.) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 35B. Basic introductory probability topics in interactive problem-driven manner. Various applets, demonstrations, and exercises to illus- trate fundamental properties of distributions, random number generation, combinatorics, expectation, variability, and sampling. Assignment of projects that require light computer programming. Emphasis on practical description, utilization, and graphical presentation of various probabilistic modeling techniques. P/NP or letter grading.

35B. Introduction to Probability with Applications to Poker. (4) Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 35A. Exploration of some major topics in introductory probability theory, especially discrete probability problems, that are useful in wide variety of scientific applications. Topics include conditional probability, law of large numbers, central limit theorem, Bayes theorem, univariate distributions, Markov processes, and Brownian motion. Emphasis on computer simulation in depth and discussion of computational approximations of solutions to complex problems using R, with examples of practical situations and concepts that arise naturally when playing Texas Hold’em and other games. P/NP or letter grading.

35C. Applied Sampling. (4) (Formerly numbered 34.) Lecture, three hours; discussion, one hour. Designed for lower division students in social or life sciences and those who plan to major in Statistics. Topics include methods of sampling from finite populations, sources of sampling and estimation bias, and methods of generating efficient and precise estimates of population characteristics. Practical applications of sampling methods via lectures and hands-on laboratory exercises. P/NP or letter grading.

88. Sophomore Seminars: Statistics. (2) Seminar, two hours. Requisite: one course from 10, 10A, 10H, 11, M12, 13, M13, 14. Not open to students with credit for course 35A or Sociology M18. Limited to 20 lower division students. Readings and discussions designed to introduce students to current statistical consulting research and fieldwork disciples. Culminating project may be required. P/NP or letter grading.

Upper Division Courses

100A. Introduction to Probability. (4) Lecture, three hours; discussion, one hour. Recommended preparation: course 35A or 35B or 35C. Requisites: Mathematics 32B, 33A. Not open to students with credit for Electrical Engineering 131A or Mathematics 170A; open to graduate students. Students may receive credit for only two of the following: courses 100A, 110A, Biostatistics 100A. Probability distributions, random variables, vectors, and expectation. P/NP or letter grading.

100B. Introduction to Mathematical Statistics. (4) Lecture, three hours; discussion, one hour. Requisite: course 100A. Survey sampling, estimation, testing, data summary, one- and two-sample problems. P/NP or letter grading.

100C. Linear Model with Experimental Design. (4) Lecture, three hours; discussion, one hour. Requisite: course 100B. Theory of linear models, with emphasis on matrix approach to linear regression. Topics include model fitting, extra sums of squares principle, testing general linear hypothesis in regression, inference procedures, Gauss/Markov theorem, examination of residuals, principle component regression, stepwise procedures. P/NP or letter grading.

101A. Introduction to Design and Analysis of Experiments. (4) Lecture, three hours; discussion, one hour. Requisites: one course from 10, 11, 12, 13, or 14, and Mathematics 32B. Fundamentals of collecting data, including components of experiments, randomization and blocking, completely randomized design and ANOVA, multiple comparisons, power and sample size, and block designs. P/NP or letter grading.

101B. Introduction to Data Analysis and Regression. (4) (Formerly numbered 120A.) Lecture, three hours; discussion, one hour. Requisites: course 35A or 35B or 35C and Mathematics 3B or 31B, or Mathematics 32B and 33A. Recommended: course 110A. Designed for juniors/seniors. Applied regression analysis, with emphasis on general linear model (e.g., multiple regression) and generalized linear model (e.g., logistic regression). Special attention to modern extensions of regression, including regression diagnostics, graphical procedures, and bootstrapping for statistical influence. P/NP or letter grading.

101C. Introduction to Regression and Data Mining. (4) (Formerly numbered 120B.) Lecture, three hours; discussion, one hour. Enforced requirement: course 101B. Designed for juniors/seniors. Applied regression analysis, with emphasis on general linear model (e.g., multiple regression) and generalized linear model (e.g., logistic regression). Special attention to modern extensions of regression, including regression diagnostics, graphical procedures, and bootstrapping for statistical influence. P/NP or letter grading.

102A. Introduction to Computational Statistics with R. (4) (Formerly numbered 135.) Lecture, three hours. Requisites: course 35A or 35B or 35C and Mathematics 3B or 31B, or Mathematics 32B and 33A. Introductory examination of programming in R. P/NP or letter grading.

102B. Matrix Computation and Optimization for Statistics. (4) (Formerly numbered 175.) Lecture, three hours. Requisite: one course from 10, 11, 12, 13, 14, 100A, or 110A. Introduction to matrix algebra and matrix computation that are most useful for statisticians. Use of computer exercises and R programming language. P/NP or letter grading.


105. Statistics for Engineers. (4) Lecture, three hours; discussion, one hour. Requisite: course 100A or Electrical Engineering 131A or Mathematics 170A. Mathematical foundation of basic concepts and techniques of statistics. Topics include joint distributions, limit theorems, maximum likelihood estimation, and hypothesis testing (including Neyman/Pearson paradigm and likelihood ratio tests), with emphasis on application of these concepts. Discussion of means for checking whether assumptions required for mathematical foundations are appropriate for given set of data. P/NP or letter grading.

110A-110B. Applied Statistics. (4) Lecture, three hours; discussion, one hour. P/NP or letter grading. Requisites: course 35A or 35B or 35C. Not open to students with credit for Electrical Engineering 131A. Students may receive credit for only two of the following: courses 100A, 110A, Biostatistics 100A. Probability distributions, random variables, vectors, and expectation. P/NP or letter grading.

110A. How to manage and analyze quantitative data using STATA statistical software. Graphical analysis and hypothesis testing, extra sums of squares principle, testing general linear hypothesis in regression, inference procedures, Gauss/Markov theorem, examination of residuals, principle component regression, stepwise procedures. P/NP or letter grading.

110B. Applied Statistics. (4) Lecture, three hours; discussion, one hour. P/NP or letter grading. Requisites: course 35A or 35B or 35C and Mathematics 3B or 31B, or Mathematics 32B and 33A. Not open to students with credit for Electrical Engineering 131A. Students may receive credit for only two of the following: courses 100A, 110A, Biostatistics 100A. Probability distributions, random variables, vectors, and expectation. P/NP or letter grading.

110A. How to manage and analyze quantitative data using STATA statistical software. Graphical analysis and hypothesis testing, extra sums of squares principle, testing general linear hypothesis in regression, inference procedures, Gauss/Markov theorem, examination of residuals, principle component regression, stepwise procedures. P/NP or letter grading.

110B. Applied Statistics. (4) Lecture, three hours; discussion, one hour. P/NP or letter grading. Requisites: course 35A or 35B or 35C and Mathematics 3B or 31B, or Mathematics 32B and 33A. Not open to students with credit for Electrical Engineering 131A. Students may receive credit for only two of the following: courses 100A, 110A, Biostatistics 100A. Probability distributions, random variables, vectors, and expectation. P/NP or letter grading.
130C. Statistical Analysis with SPSS. (4) Lecture, three hours. Requisite: one course from 10A, 10B, 10H, 11, 12, 13, 14, 100A, or 110A. Overview of Statistical Package for Social Sciences (SPSS) software intended for students in any major who have interest in data analysis. Though original design catered to students in social sciences, current development has implications with vast range of functionality from simple to more advanced data manipulation and analysis. Ease of use maintained that experts not acquainted to statistical programming. Ability of program to combine ease of use with varied levels of data exploration and inference has made it popularly used analytical tool.

130D. Statistical Programming, Computation, and Visualization in C/C++/VTK. (4) Lecture, three hours. Requisite: Program in Computing 10A or 10B or 12 or 20A. Intermediate programming and computation course, with emphasis on statistical and visualization aspects of research in biomedical, optical imaging, and high-dimensional data analysis. P/NP or letter grading.

140SL. Practice of Statistical Consulting. (4) Lecture, one hour; discussion, two hours. Enforced requisites: courses 88, 100B, 101B, one course from 130A through 130D. Limited to seniors. Opportunity to solve real data analysis problems for real community-based or campus-based clients. Students work in small groups with faculty member and client to frame client's question in statistical terms, create statistical model, analyze data, and report results. Weekly meetings in classroom setting to study basic consulting skills, share experiences, exchange ideas, and make reports. On-site visits as necessary. Courses 140SL and 141SL must be taken in consecutive terms. In Progress grading (credit to be given only on completion of course 141SL).

141SL. Practice of Statistical Consulting. (4) Seminar, one hour: research group meeting, two hours. Enforced requisite: course 140SL. Limited to seniors. Opportunity to solve real data analysis problems for real community-based or campus-based clients. Students work in small groups with faculty member and client to frame client's question in statistical terms, create statistical model, analyze data, and report results. Weekly meetings in classroom setting to study basic consulting skills, share experiences, exchange ideas, and make reports. On-site visits as necessary. Courses 140SL and 141SL must be taken in consecutive terms. Letter grading.

150. Data Analysis. (4) Lecture, three hours. Requisites: courses 100A and 100B, or 101B or 101C, or 110A and 110B, or one course from 10, 11, 12, 13 and one upper division statistics course. Practice in solving statistical problems, with coverage of basics of cleaning and checking data, exploratory analysis, model building, model checking, reporting results, working with “clients.” P/NP or letter grading.

C151. Experimental Design. (4) Formerly numbered C125.) Lecture, three hours. Requisite: course 100C or 101B or 110B. Basic principles, analysis of variance, randomization block designs, Latin squares, balanced incomplete block designs, factorial designs, fractional factorial designs, minimum aberration designs, robust parameter designs. Concurrently scheduled with course C260. P/NP or letter grading.

C152. Bootstrap, Jackknife, and Resampling Methods. (4) Formerly numbered C126.) Lecture, three hours; discussion, one hour. Requisite: one course from 10, 10H, 11, 12, 13, 14, 100A, or 110A. Simple intuitive introduction to practical application of statistics for experiments and surveys in business and biological, medical, physical, and social sciences. Resampling methods — bootstrap and permutation test — are taken from-free, require common sense (not calculus), yet have broader range of applications than classical parametric statistical procedures. Concurrently scheduled with course C226. P/NP or letter grading.

153. Statistical Analysis with Missing Data. (4) Lecture, three hours. Requisite: course 102A. Study of methods dealing with nonresponse and missing data, including introduction to terminology, limitations of simple methods, and modern methods for dealing with missing data, such as EM algorithm and multiple imputation. P/NP or letter grading.


C155. Introduction to Statistical Analysis of Environmental Data. (4) Lecture, three hours. Requisite: course 10. Routine intermediate applied statistics course, with emphasis on applications to environmental data and statistical computing with the language R. Statistical analysis and scientific report from real data required. Concurrently scheduled with course CM265. P/NP or letter grading.

C156. Data Management. (4) Lecture, three hours. Requisite: one course from 10, 11, 12, 13, or 14. Proper methods by which researchers should create, document, and store work in the context of basic consulting skills, share experiences, exchange ideas, and make reports. On-site visits as necessary. Courses 140SL and 141SL must be taken in consecutive terms. In Progress grading (credit to be given only on completion of course 141SL).

158. Statistical Analysis of Internet and World Wide Web Data. (Formerly numbered C158.) Lecture, three hours. Requisite: course 100B or 100C or 101B. Demography and statistical models of browsing behavior of World Wide Web users, models of Internet traffic data, and statistical methods for creating better Web search engines and spam filters. Use of large data sets to illustrate important issues and statistical solutions. Statistical software, some programming, handling of large data sets, and text mining, with emphasis on acquiring hands-on experience and on becoming active participants in current research debates. P/NP or letter grading.

C160. Site-Specifics Topics. (4) Seminar, three hours. Tracking of invisible marks on sites situated prominently in both physical and virtual (data) spaces. Documenta- tion of kinds of data that originate, terminate, or simply route through each location. Consideration of analyses (visual, computational, or simply informal), decisions that are made, and actions that are taken on basis of these data, whether they be human or automated responses. Documentation of how patterns of data acquisition and analysis dictate behaviors, enable or restrict movements, and shape local community. Alterations or additions to data flows that could improve quality of life for inhabitants of or visitors to sites. May be repeated for credit; however, only one C160 may be applied toward major or minor requirements. Concurrently scheduled with course C260. P/NP or letter grading.

161. Introduction to Pattern Recognition and Machine Learning. (4) Lecture, three hours. Requisites: course 102B. Mathematical introduction to fundamental concepts, theories, and algorithms for pattern recognition and machine learning that are useful for statistics modeling, image analysis, speech recognition, data mining, and computational biology. Topics include: Bayes decision theory, parametric and nonparametric learning, data clustering, dimension reduction, Adaboosting. May not be applied toward M.S. or Ph.D. requirements. P/NP or letter grading.

165. Statistical Methods and Data Mining. (4) Lecture, three hours. Requisite: course 100A. Introduction and overview of up-to-date statistical methods in microarray analysis designed for students in biostatistics, statistics, and human genetics who are interested in technology and statistical analysis of microarray experiments. Use of bioinformatics and biological thinking in understanding logic underlying many statistical methods. P/NP or letter grading.

170. Introduction to Time-Series Analysis. (4) Lecture, three hours; discussion, one hour. Requisite: course 100C or 110B or 120A. Exploration of standard methods in temporal and frequency analysis used in analysis of numerical time-series data. Examples provided through practical and student-developed techniques discussed. P/NP or letter grading.

M171 Introduction to Spatial Statistics. (4) (Same as Geography M171.) Lecture, three hours; laboratory, one hour. Requisite: one course from 10, 11, 12, 13, or 14. Introduction to methods of measurement and interpretation of geographic distributions and associations. P/NP or letter grading.

C180. Introduction to Bayesian Statistics. (4) Lecture, three hours; discussion, one hour. Requisites: Mathematics 26B, 33B. Recommended for juniors/seniors. Introduction to statistical inference based on use of Bayes theorem, covering foundational aspects, current applications, and computational issues. Topics include: Dirichlet and Beta priors, Markov Chain Monte Carlo, and statistical learning. Examples of applications include protein alignment algorithms and image denoising procedures. May not be applied toward Ph.D. in Statistics. Concurrently scheduled with course C265. P/NP or letter grading.

C182. Fundamentals of Scientific Writing. (2) Seminar, one hour. Development and perfection of student written communication skills through variety of scientific writing and reading assignments. Objectives and techniques of scientific writing and practice with different forms of professional writing. Analysis of quality of writing, including control, clarity, grammar, and mechanics. Concurrently scheduled with course C295. P/NP or letter grading.


C184. Data Mining. (2) Seminar, one hour. Development of oral and written presentations of statistical data. Objectives and techniques of scientific writing and practice with different forms of professional writing. Participation in oral presentations of student work. Concurrently scheduled with course C294. P/NP or letter grading.

CM185. Statistical Methods for Physical Sciences. (4) (Same as Atmospheric and Oceanic Sciences CM185.) Lecture, three hours. Designed for juniors/seniors. Statistical framework for data analysis in fields of atmospheric sciences, astronomy, geology, and chemistry, depending on class composition. Presentation of popular techniques in all fields, with emphasis on applications and data, not theory, although some understanding of theory is needed. Concurrently scheduled with course CM252. P/NP or letter grading.

186. Careers in Statistics. (1) Seminar, one hour. Discussion of applications of statistics by weekly guest speakers. How statistics is applied to legal questions, economic decisions, arts, environment, and other fields, with some emphasis on career paths in statistics. P/NP or letter grading.

195. Community or Corporate Internship in Statistics. (4) Tutorial, four hours. Limited to juniors/seniors. Internship setting in community agency or business. Students meet on regular basis with instructor and provide periodic reports of their experience. Individual contract with supervising faculty member required. P/NP or letter grading.

199. Directed Research in Statistics. (1 to 4) Tutorial, one hour. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. Individual contract required. P/NP or letter grading.

**Graduate Courses**

200A. Applied Probability. (4) (Formerly numbered M220A.) Lecture, three hours. Enrolled: course 100A or Mathematics 170A. Limited to graduate statistics students. Introduction to renewal theory, martingale, and selected topics from queuing, reliability, speech recognition, computational biology, mathematical finance, epidemiology. S/U or letter grading.


200C. Large Sample Theory, Including Resampling. (4) (Formerly numbered 200B.) Lecture, three hours. Enrolled: course 200B. Asymptotic properties of tests and estimates, consistency and efficiency, likelihood ratio tests, chi-squared tests. S/U or letter grading.


201B. Regression Analysis: Model Building, Fitting, and Criticism. (4) (Formerly numbered C217A.) Lecture, three hours. Enrolled: course 201A. Designed for graduate students. Applied regression analysis, with emphasis on general linear model (e.g., multiple regression) and generalized linear model (e.g., logistic regression). Special attention to modern extensions of regression, including regression diagnostics, graphical procedures, and bootstrapping for statistical inference. S/U or letter grading.

201C. Advanced Modeling and Data mining. (4) (Formerly numbered C217B.) Lecture, three hours. Enrolled: course 201B. Designed for graduate students. Building on tools of regression analysis (model fitting and criticism), exploration of recent advances in computer-intensive methods. Consideration of ensemble methods, techniques for data mining, and variety of other approaches that have emerged at boundaries between statistics, computer science, and machine learning. S/U or letter grading.

202A. Numerical Linear Algebra and Random Numbers. (4) (Formerly numbered 210B.) Lecture, three hours. Enrolled: course 202A. Survey of computational methods that are especially useful for statistical analysis. Exploration of computing in C as well as statistical package R. Topics include simulation, smoothing, regression, and principal component analysis. In-depth analysis of particular geometric computing problem with image processing applications, namely construction and inversion of planar tessellations. S/U or letter grading.

202C. Markov Chain Monte Carlo and Optimization. (4) Lecture, three hours. Enrolled: course 202B. Description of Markov chain Monte Carlo (MCMC) sampling techniques, with emphasis on optimization and statistical estimation. Topics include Gibbs samplers, Metropolis/Hastings importance sampling, and simulated annealing. Alternative optimization techniques, including Newton/Raphson, dynamic programming, belief propagation, and variational methods. S/U or letter grading.

204. Nonparametric Function Estimation and Modeling. (4) Lecture, three hours. Enrolled: course 200A. Introduction to many useful nonparametric techniques, yet have the ability to apply these to standard applications (homogeneity, nonparametric regression, and high-dimensional statistical modeling. Some semiparametric techniques and functional data analysis. Letter grading.

205. Introduction to Data with Qualitative and Limited Dependent Variables. (4) (Same as Sociology M242.) Lecture, three hours. Enrolled: courses 100A, 100B, and 100C, or Sociology 210A and 210B. Models for binary, polytomous, and ordered outcomes, discrete choice models, sample selection bias and qualitative response models; count outcomes; multilevel models; log-linear models. S/U or letter grading.

212. Program Evaluation and Policy Analysis. (4) Lecture, three hours. Enrolled: course 120B. Primarily focuses on methods of program evaluation. Randomized experiments, observational studies, and topics such as matching, stratification, covariation adjustment, and sensitivity analyses. Letter grading.

M213. Applied Event History Analysis. (4) (Same as Sociology M213B.) Lecture, three hours. Preparation: exposure to binary response models. Enrolled: Sociology 210A, 210B. Introduction to regression-like analyses in which outcome is “time to event.” Topics include logit models for discrete-time event history models; piecewise exponential hazards models; proportional hazards; parametric survival models; heterogeneity; multilevel survival models. S/U or letter grading.

216. High-Dimensional Data Analysis. (4) Lecture, three hours. Enrolled: courses 150A, 150B, 100C. Designed for graduate students. A quick discussion of several statistical methodologies useful for exploring voluminous data, including principal component analysis, clustering and classification, tree-structured analysis, neural network, hidden Markov models, sliced inverse regression (SIR), and principal Hessian direction (PHD). S/U or letter grading.


M221. Time-Series Analysis. (4) (Formerly numbered 221.) (Same as Earth and Space Sciences M204.) Lecture, three hours. Designed for graduate students. Introduction to exploratory methods for analysis of numerical time-series data. Basic topics in temporal and frequency analysis, followed by more recent topics. Examples in various fields including economics, signal processing, and atmospheric sciences. S/U or letter grading.

M222. Spatial Statistics. (4) (Same as Geography M272 and Urban Planning M215.) Lecture, three hours. Designed for graduate students. Survey of modern methods used in analysis of spatial data. Implementation of various techniques using real data sets from diverse fields, including neuroimaging, geography, seismology, demography, and environmental sciences. S/U or letter grading.

C225. Experimental Design. (4) Lecture, three hours. Enrolled: course 100C or 101B or 110B. Basic principles, analysis of variance, randomized block designs, Latin squares, balanced incomplete block designs, factorial designs, fractional factorial designs, minimum aberration designs, robust parameter designs. Concurrently scheduled with course C151. S/U or letter grading.

C226. Bootstrap, Jackknife, and Resampling Methods. (4) Lecture, three hours; discussion, one hour. Designed for graduate students. Simple intuitive introduction to practical application of statistics for experiments and surveys in business and biological, medical, physical, and social sciences. Resampling methods — bootstrap and permutation test — are tabelle-free and distribution-free, require common sense (naked eye) for interpretation, but offer applications than classical parametric statistical procedures. Concurrently scheduled with course C152. S/U or letter grading.


M231. Pattern Recognition and Machine Learning. (4) (Same as Computer Science M226.) Lecture, three hours. Designed for graduate students. Fundamental concepts, theories, and algorithms for pattern recognition and machine learning that are used in computer vision, image processing, speech recognition, data mining, statistics, and computational biology. Topics include Bayesian decision theory, parametric and nonparametric learning, clustering, complexity (VC-dimension, MDL, AIC), ICA/ICA/TCA, MDS, SVM, boosting. S/U or letter grading.

232A. Statistical Modeling and Learning in Vision and Science. (4) Lecture, three hours. Preparation: basic statistics, linear algebra (matrix analysis), computer vision, and pattern recognition. Introduction to broad range of algorithms for statistical inference and learning that could be used in vision, pattern recognition, speech, bioinformatics, data mining. Topics include Markov chain Monte Carlo computing, sequential Monte Carlo methods, belief propagation, partial differential equations. S/U or letter grading.

232B. Statistical Computing and Inference in Vision and Image Science. (4) Lecture, three hours. Preparation: basic statistics, linear algebra (matrix analysis), computer vision. Introduction to broad range of algorithms for statistical inference and learning that could be used in vision, pattern recognition, speech, bioinformatics, data mining. Topics include Markov chain Monte Carlo computing, sequential Monte Carlo methods, belief propagation, partial differential equations. S/U or letter grading.

233. Statistical Methods in Biomedical Imaging. (4) Lecture, three hours. Preparation: introductory probability theory course. While data compression and transmission are fundamental problems in information theory, field provides insights into fundamentally statistical problems of estimation, prediction, and model selection. Even new concepts of randomness emerge from this line of research. S/U or letter grading.

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C235. Data Management. (4) (Formerly numbered 235.) Lecture, three hours; discussion or seminar, one hour. Requires: one course from 10, 11, 12, or 14. Proper methods by which researchers should create, document, maintain, and utilize statistical databases. Basics of raw data formats to completion of data archive. Concurrently scheduled with course C156. S/U or letter grading.

C236. Introduction to Bayesian Statistics. (4) Lecture, three hours; discussion, one hour. Designed for graduate students. Introduction to statistical inference based on use of Bayes theorem, covering foundational aspects of Bayesian inference and computational issues. Topics include Stein paradox, nonparametric Bayes, and statistical learning. Examples of applications include protein alignment algorithms and image denoising procedures. May not be applied toward Ph.D. in Statistics. Concurrently scheduled with course C180. S/U or letter grading.

M237. Data and Media Arts. (4) (Same as Design I Media Arts M259.) Studio, six hours. Through expanding reach of telecommunications and emerging, sampling, and various data mining algorithms. Includes databases and data warehousing, exploratory analysis and visualization, clustering and pattern finding, sampling, and algorithms, data mining algorithms. Exploration, through discussions, of fundamental concepts such as complexity and randomness. Techniques that organize data, search for patterns, and create meaningful and/or expressive representations. Letter grading.

238. Vision as Bayesian Inference. (4) Lecture, three hours. Requires: course 100A or 200A. Formulation of vision as Bayesian inference using models developed for designing artificial vision systems. Applied to statistics, they define ideal observer models that can be used to model human performance and serve a benchmark. Letter grading.

240. Multivariate Analysis. (4) Lecture, three hours. Requires: course 200B. Distributions in several dimensions and general advancement of data collection technologies, almost every aspect of our lives can be "rendered" in data. Contemplation of use of data in creation of media art and design, each step in process of data collection, analysis, and representation. Topics include databases and data warehousing, exploratory analysis and visualization, clustering and pattern finding, sampling, and algorithms, data mining algorithms. Letter grading.


M242. Multivariate Analysis with Latent Variables. (4) (Same as Political Science M208D and Psycholo- gy M257.) Lecture, three hours. Introduction to models and methods for analysis of data hypothesized to be generated by unmeasured latent variables, including latent variable analogues of traditional methods in multivariate analysis. Causal modeling: theory testing via analysis of moment structures. Measurement models such as confirmatory, higher-order, and struc- tured-means factory analytic models. Structural equation models, including path and simultaneous equation models. Parameter estimation, hypothesis test- ing, and other statistical issues. Computer implementation. Applications. S/U or letter grading.


M245. History of Statistics. (4) (Same as History M240B.) Seminar, three hours. History of statistics ranging from ancient to recent. Development of mathematical methods; philosophical, political, and social issues that were linked to their emergence and use. S/U or letter grading.

M250. Statistical Methods for Epidemiology. (4) (Same as Biostatistics M211 and Epidemiology M211.) Lecture, four hours. Preparation: two terms of statistics (such as Biostatistics 100A, 100B). Requi- sites: Epidemiology 200B, 200C. Concepts and meth- ods tailored for analysis of epidemiologic data, with emphasis on tabular and graphical techniques. Ex- pansion of topics introduced in Epidemiology 200B and 200C and introduction of new topics, including principal components analysis, statistical methods for analyzing sensitivity and specificity sensitivity analysis. S/U or letter grading.

M251. Statistical Methods for Life Sciences. (4) (Same as Ecology and Evolutionary Biology M251.) Lecture, three hours. Requisite: 100A. Funda- ments of statistics as applied in life sciences, includ- ing statistical inferences for continuous and categori- cal data (estimation, testing of means and propor- tions), Multiple comparison tests, linear regression, and introduction to principle components analysis. Meth- ods to be implemented on computer with SAS. S/U or letter grading.


CM255. Introduction to Statistical Analysis of En- vironmental Data. (4) (Same as Environmental Sci- ence and Engineering M255.) Lecture, three hours. Designed for graduate students. Routine intermediate applied statistics course, with emphasis on applica- tions to environmental data and statistical computing with the language R. Statistical analysis and scientific report from real data required. Concurrently sched- uled with course CM185. S/U or letter grading.

257. Design, Analysis, and Modeling for Embed- ded Sensing. (4) Lecture, three hours; discussion, one hour. Recommended preparation: knowledge of probability and regression analysis. Limited to gradu- ate students. Analysis of data produced by embed- ded sensing, which is product of several technological advances such as low-power computing and commu- nications platforms, and robot devices. S/U or letter grading.

C260. Site-Specific Topics. (4) Seminar, three hours. Tracking of invisible flows of data through greater Los Angeles metropolitan area, with focus on small number of specific sites situated prominently in both physical and virtual (data) spaces. Documenta- tion of kinds of data that originate, terminate, or sim- ply route through each location. Consideration of analyses (visual, computational, or simply informal), decisions that are made, and actions that are taken on basis of these data, whether they be human or au- tomatized responses. Documentation of how patterns of data acquisition and analysis dictate behaviors, en- able or restrict movements, and shape local commu- nity. Alterations or additions to data flows that could improve quality of life for inhabitants of or visitors to sites. May be repeated for credit; however, only one C260 may be applied toward any graduate degree. Concurrently scheduled with course C160. S/U or letter grading.


285. Seminar: Computing for Statistics. (2 to 4) Seminar, one to three hours. Topics in various statisti- cal areas by means of lectures and informal confer- ences with staff members. S/U grading.

M286. Seminar: Statistical Problem Solving. for Population Biology. (4) (Same as Ecology and Evo- lutionary Biology M286.) Seminar, two hours. De- signed for graduate students. Statistical solutions to complex data problems and/or experimental design problems encountered by biology graduate students in their own research. S/U or letter grading.

287. Gene Expression and Systems Bio- logy. (2) Seminar, two hours. Designed for graduate students (open to undergraduate students with con- sent of instructor). With high-throughput technologies such as genomic sequencing, microarray gene ex- pressions, Chromatin-ImmuNoPrecipitation DNA chip (ChIP-chip), and mass spectrometry (MS/MS) pro- teomics, scientists are collecting genetic, genomic, and pathway data at rates far beyond imagination one decade ago. Such gigantic volumes of data produced cannot be analyzed and understood without highly sophisticated computational methods guided by mathematical and statistical principles. Cutting-edge genomics research from statistical data analytic point of view. S/U or letter grading.


291. Statistics Consulting Seminar. (4) Seminar, three hours. Preparation: at least one UCLA gradu- ate-level statistics course. Exposure to realistic statis- tical and scientific problems that appear in typical in- teractions between statisticians and researchers, with lectures centered on case studies conducted by faculty members and invited speakers from business and academic fields. Applied regression analysis and design of experiments, together with basic statistical programs. Presentations and written reports required. S/U or letter grading.

292. Graduate Student Statistical Packages Semi- nar. (1 to 2) Seminar, two hours. Introduction to vari- ous statistical packages. How to handle data in differ- ent packages (input, output, data management, treat- ment of missing data), general syntax of different pro- gramming languages, and good practice for writing own statistical functions. S/U grading.


STUDY OF RELIGION

See Religion, Study of...
Visiting Assistant Professors
Phil Allen
Tim Battle
Dan Bonnell
David F. Bridel
Liz Brohm
Adele Cabot
Gar C. Campbell
Scott A. Conte
Michael Donovan
Mary Jo DuPrey
Marilyn E. Fox
Brian M. Freeman
Evelyn Halus
Peggy Hickey
Nancy L. Keystone
Brian E. Kite
Jessica Kubzansky
Gulu Monteiro
Matt Petryl
Jeaninne B. Prospere
Benedicte Schoyen
Bruce Vaughn
Jonathan Wang
Jacqueline L. Wazir

Scope and Objectives

UCLA’s theater program offers comprehensive training for the profession, as well as serious study of theater’s long history and rich literature. Drawing on this vibrant heritage, the curriculum promotes an awareness of theater as a global phenomenon embodying the contributions of diverse cultures and explores theater as a forum for reflecting the human experience as revealed through the dynamics of theater production. With this in mind, students engage in the presentation of dramatic work in a community where creativity and critical thought combine in the exploration of the artistic and intellectual challenges inherent in the making of theater.

Manifesting talent and promise as well as representing a wide range of backgrounds and interests, prospective students are selected by the faculty through auditions and interviews in cities throughout the U.S.

At the undergraduate level, students receive education in acting, directing, history and criticism, musical theater, and playwriting, all within the rigorous liberal arts framework of the B.A. degree.

At the graduate level, the M.A. in Theater offers a flexible curriculum of graduate courses that provides a focus in theater scholarship or theater practice. For exceptional students who wish to pursue graduate education, the M.A. offers a foundation in theater history, criticism, or performance studies, or an area of theater practice such as dramatic writing, directing, design, or theater education outreach. Students in the M.F.A. program develop as artists and are given preprofessional training in the skills of theater, while Ph.D. students engage in critical investigations of the art form. In conjunction with their theater studies, students also have the opportunity to pursue elective courses in the area of film and television.

For current or specific information about the programs and faculty members, see http://www.filmtv.ucla.edu/dot.cfm.

Undergraduate Study

Theater B.A.

The Theater B.A. provides a liberal education by combining critical study of theater with experiential practice in one or more of its component parts. Students explore acting, design, directing, playwriting, and production to build a foundation for future creative work. Specialized and advanced training is available to prepare students for a variety of careers, further training, or graduate study. At the upper division level, students choose from an array of advanced elective courses in acting, design and production, directing, musical theater, playwriting, theater history, criticism, dramatic literature, and performance.

Admission

All applicants must meet the admission standards of UCLA and the departmental screening process. Applications are accepted only in November for admission to the following Fall Quarter. There are no mid-year admissions. Students must submit required supplemental materials directly to the Theater Department. All applicants must also sign up for an audition and/or interview at http://www.filmtv.ucla.edu/dot.cfm. There is a $50 fee for all auditions/interviews. Applicants may submit materials for consideration in one or more of the following areas: acting, design and production, directing, history and criticism, musical theater, and playwriting.

Preparation for the Major

Required: Theater 11, 12, 13, 14A, 14B, 14C, 50 (must be taken for 4 units total).

The Major

Required: A total of 61 upper division units, including Theater 101A, 101B, 101C, 150 (must be taken for 4 units total), and 38 upper division elective units selected from courses 101A through 199 within the elective sequences listed below.

Through some of these required courses, students are responsible for completing specific production assignments related to production activity of the theater curriculum.

The acting electives include fundamental and advanced courses in all aspects of performance training that prepare students for careers in performance. There is some performance in projects, but emphasis is on class and studio work. Upper division advanced courses explore verse, scene study, comedy, cabaret, movement, and combat.

The design and production electives introduce design principles and investigate the design of scenery, lighting, costumes, and sound for theater, film, and television in lower division courses. Four design and production areas of study are available at the upper division level — scenic design, costume design, lighting design, and sound design. Students select from an array of design skills courses to develop proficiency in essential areas of rendering, drafting, painting, computer-aided design, and technology. Courses in art, history, and philosophy build an understanding of the social history of visual ideas. A sequence of courses in each area of study examines design principles and practice specific to each field.

The directing electives explore the basic theories of play direction, as well as text analysis and craft fundamentals. Advanced courses emphasize psychological aspects of director-actor communication and development of specific directorial and production styles.

The history and criticism of theater and drama electives include the study of fundamental cultural, social, ethical, and political issues in the context of artistic expression enriched by historical perspective. The curriculum promotes an awareness of the theater as a global phenomenon embodying the contributions of diverse cultures and explores the verbal and visual elements of its language as revealed through the dynamics of theater production.

The Ray Bolger Musical Theater Program electives train selected students in acting, singing, and dance for the musical theater and provide knowledge of musical theater history. Additional courses provide hands-on training with professional artists and a range of performing experiences from workshops to full productions.

The playwriting electives include specialized and advanced courses that prepare students to write one-act and full-length plays, books and lyrics for music theater, and scripts for the one-person show.

Due to curriculum changes, students in the Theater major are no longer allowed to change their major to Film and Television at the end of their sophomore year.

Theater Minor

The Theater minor is designed for students who wish to augment their major program of study with a series of courses that promote the study of theater as a global phenomenon for reflecting the human experience. The minor consists of a selection of lower division courses that expose students to the fundamentals of theatrical production, as well as acting, writing, and directing. Upper division courses offer more focused study of those areas, as well as theater design, history, education, and theater of non-Western cultures.

To enter the minor students must be in good academic standing (minimum 2.0 grade-point average), have completed at least one theater course with a grade of C or better, and file a petition at the Student Services Office, 103 East Melnitz Building, (310) 206-8441. All degree requirements, including the specific requirements for this minor, must be fulfilled within the unit maximum set forth by each student's school or College.
Required Lower Division Courses (6 to 10 units): Theater 10 and one course from 15, 20, 28A, 28B, 28C. 30.

Required Upper Division Courses (22 to 27 units): Theater 150, one course from 102A through 102E, M103A through M103G, 105, 106, 107, 108, M109, 110, 111A, 111B, 111C, or 113, and four courses from 118A, 118D, 121, 123, 130A, 138, 139, C146A, C146B, C146C, 149, 195.

A minimum of 20 units applied toward the minor requirements must be in addition to units applied toward major or minor requirements in another department or program, and at least 16 units applied toward the minor must be taken in residence at UCLA. Transfer credit for any of the above is subject to department approval.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdn.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of Theater offers Master of Arts (M.A.), Master of Fine Arts (M.F.A.), and Doctor of Philosophy (Ph.D.) degrees in Theater.

Theater

Lower Division Courses

1A-1B-1C. Introduction to Dance for Musical Theater. (1-1-1) Studio, four hours. Designed for Theater majors. Introduction to basic music theater dance technique. Each course may be repeated once for credit. Letter grading.

2. Theater in Performance: International Theater Festival. (5) Lecture, three hours; discussion, two hours. Exploration of theater in performance as revealed in productions and guest artists of UCLA International Theater Festival, with emphasis on collaborative role of theater artists and active role of audience. Students view selected productions, go back stage to discover how they are realized, and meet creative team. Letter grading.

10. Introduction to Theater. (5) Lecture, three hours; discussion, one hour. Exploration of theater in production, with emphasis on collaborative role of theater artists and active role of audience. Understanding of and access to live theatrical event and enhanced appreciation of value of theater to society; development of critical skills through consideration of representative examples of theatrical production from Europe, America, Asia, and Africa. Letter grading.

11. Approaches to Interpretation of Theater and Performance. (5) Lecture, four hours. Introduction to basic methods of interpretation in theater and performance throughout world. Topics illustrated by faculty members and guest speakers, visits to off-campus theaters, and reading from contemporary plays. Letter grading.

12. Introduction to Performance. (4) Lecture, two hours; studio, four hours. Investigation of phenomenon of performance and role of the performer in the theatrical event, including interpretation of drama through performance. Examination of various forms of theatrical performance and styles of expression, and development of acting, voice, and movement skills. Letter grading.

13. Play Reading and Analysis. (5) Lecture. three hours. Provides base for subsequent study in theater. Development of techniques of play reading and habits of scholarship useful to further study in each of theater's subdisciplines, including acting, directing, design, playwriting, and critical study. Letter grading.

14A-14B-14C. Introduction to Design. (5-5-5) Lecture, three hours; studio, six hours. Exploration of visual interpretation of drama. Study of styles and techniques of design, collaborative role of designer, principles of design for scenic, lighting, costumes, and sound. Both technical and aesthetic groundwork for further study. Letter grading.

15. Introduction to Directing. (4) Lecture, two hours; studio, four hours. Prerequisite: course 11. Examination of role of the director in theatrical production and theories of play direction, with emphasis on analysis and interpretation of dramatic work and its realization in production. Letter grading.

20. Acting Fundamentals. (4) Studio, four hours. Introduction to interpretation of drama through art of actor. Development of individual insights, skills, and disciplines in presentation of dramatic material to audience. P/NP or letter grading.


23. Musical Literacy for Singing Actors I. (2) Studio, three to four hours. Introduction to reading and understanding musical notation, musical terminology, and basic to complex rhythm-reading and sight-singing in C major. Letter grading.


26. Alexander Techniques. (2) Studio, three hours. Study and practice in Alexander techniques as method of developing balance, poise, and coordination of body and mind. Exploration of use of rhythm to expand movement potential of actors and relevant use of visual arts and animal studies to character development and to expansion of movement potential. P/NP or letter grading.

27. Vaudeville and Physical Comedy. (2) Studio, three hours. Exploration of many aspects of comedy using American vaudeville traditions, acts, and performers as historical base to experience importance of rhythm, timing, delivery, speech, and body language in all styles of comedy, to find value of improvisation/ imagination as well as innovative writing skills in all comic forms, to discover how comedy draws on so many art forms, including music/songs, dance, storytelling, clowning, magic, design, and turnbuckle stunts, and to build overall confidence/ ease in comic performance skills. P/NP or letter grading.

28A-28B-28C. Acting, Voice, and Movement Workshops I. (2-2-2) Studio, three to six hours. Study of beginning acting technique, scene study, and development of voice and movement skills. May be repeated for a maximum of 12 units. Letter grading.

28D-28E-28F. Acting, Voice, and Movement Workshops II. (2-2-2) Studio, six hours. Study of beginning acting technique, scene study, and development of voice and movement skills. May be repeated for a maximum of 12 units. Letter grading.

30. Dramatic Writing. (1 to 4) Studio, three hours. Exploration and development of creative writing skills for one or more of various forms of entertainment media. May be taken for maximum of 8 units. Letter grading.


35A-35B-35C. Singing for Musical Theater I. (1-1-1) Studio, four to five hours. Exploration of musical literacy and development of singing techniques for musical theater. Basic voice training to explore how voice works, learn your own appropriate and consistent voice, and learn to preserve voice health. How to build stamina and range. Letter grading.

50. Theater Production. (1 to 2) Laboratory, three to six hours. Laboratory experience in various aspects of theater production, including stage management or member of production crew. May be repeated for a maximum of 8 units. Letter grading.

72. Production Practice in Theater, Film, Video, and Digital Media. (1 to 6) Lab, three hours. Exploration and laboratory experience in one or more of various aspects of production and postproduction practice for entertainment media, including theater, film, video, and digital media. May be taken for a maximum of 8 units. Letter grading.

Upper Division Courses

101A. Making Tradition. (5) Lecture, four hours; discussion, one hour. Examination of traditional performance traditions in terms of how they were produced, including training techniques, archive practices, and forms of history. Examples may include classical Greek tragedy, Noh and Kyogen, Zazu and Chuangi, Quem Quemio/English medieval festival plays, Sanskrit drama, Yoruba/Egungun, Yaqiue deer dance, depending on faculty and resources available. Letter grading.

101B. Reconstructing Theatrical Past. (5) Lecture, three hours; discussion, one hour. Reconstruction of historical and aesthetic ways: reconstruction of performance spaces such as New Globe and of specific productions and traditions such as neoclassicism that seek to reinteract classical traditions. Letter grading.

101C. Deconstructing Theater. (5) Lecture, three hours; discussion, one hour. Exploration of deconstructive practices such as fragmentation, abstraction, and absurdism, with focus on theatrical movements, directorial adaptations, cultural translations, and new forms. Letter grading.

102A. Theater of Japan. (5) Lecture, three hours. Exploration of major theater traditions of Japan from emergence of earliest theatrical activity to the present, including investigation of Noh, Bunraku, and Kabuki performance traditions. Letter grading.

102B. Theater of Southeast Asia. (5) Lecture, three hours. Examination of representative theatrical genre from various geographical areas in Southeast Asia to illustrate importance and contribution that theater plays in society. Letter grading.

102C. Cross-Cultural Currents in Theater. (5) Lecture, three hours. Exploration of interculturalism in theater, with focus on 20th-century alternatives to naturalism. Analysis of historical materials and dramatic texts to investigate cultural, aesthetic, ethical, and social implications of borrowing from other cultures. Letter grading.
102E. Theater of Non-European World. (5) Lecture, three hours; discussion, one hour. Survey of theater forms found in the non-European world in which primary attention is concentrated on examination and analysis of traditional dance-drama and puppet theaters of Asia, Southeast Asia, South Asia, Middle East, and Africa. Analogous forms from European theater included for comparative purposes. P/NP or letter grading.

M103A. African American Theater History: Slavery to Mid-1800s. (4) (Same as Afro-American Studies M103A.) Lecture, three hours. Designed for juniors/seniors. Exploration of extant materials on history and literature of theater as developed and performed by African American artists in America from slavery to mid-1800s. Letter grading.

M103B. African American Theater History: Minstrel Stage to Rise of American Musical. (4) (Same as Afro-American Studies M103B.) Lecture, three hours. Designed for juniors/seniors. Exploration of extant materials on history and literature of theater as developed and performed by African American artists in America from minstrel stage to rise of American musical. Letter grading.

M103C. Origins and Evolution of Chicano Theater. (5) (Same as Chicana and Chicano Studies M103C.) Lecture, three hours. Analysis and discussion of historical and political events from 1965 to 1980, as well as theatrical traditions that led to emergence of Chicano Theater. Letter grading.

M103D. Contemporary Chicano Theater: Beginning of Chicano Theater Movement. (5) (Same as Chicana and Chicano Studies M103D.) Lecture, three hours. Analysis and discussion of historical and political events from 1980 to the present, including Chicana and Chicano theater since 1980, including discussion of Chicana playwrights, magic realism, Chicano comedy, and Chicano American musical. Letter grading.

104. African American Theater History: Theater from 1865 to 1920. (5) (Formerly numbered 120A.) Lecture, two hours; discussion, one hour. Study of history of African American theater from its beginnings in legends and rituals of ancient Mexico to work of Luis Valdez (late 1960s). P/NP or letter grading.

104A-104B-104C. History of American Theater. (5-5-5) Lecture, three hours. Development of acting skills through scene work which provides students with opportunity to rehearse, perform, and critique scenes. May be repeated once for credit. P/NP or letter grading.

105. Main Currents in Theater. (5) Lecture, three hours. Critical examination of leading theories of the age, from Aristotelian approach to Collections of Getty Center. (4) (Same as Honors Collegium M120C.) Lecture, four hours; discussion, one hour. Drawing from objects in Collections of Getty Center, focus on five parallel historical periods in which political, social, and aesthetic philosophies of the age is examined in musical and dramatic performance. Letter grading.


M104. Modern Theater: Minstrel Stage to Rise of American Musical. (4) Seminar, four hours. Limited to 15 students. Exploration of extant materials on history and literature of theater as developed and performed by African American artists in America from slavery to mid-1800s. Letter grading.

M108. Undergraduate Seminar: History and Criticism. (5) Seminar, four hours. Limited to 15 students. Selected topics in history and criticism of theater and performance. May be repeated twice for credit. P/NP or letter grading.

111-111B-111C. Selected Topics in European Theater. (5-5-5) Lecture, three hours. Investigation in depth of selected areas of study in traditions of European performance to be arranged by historical period, nation of tradition, genre, or other categories. May be repeated twice for credit. P/NP or letter grading.

M112. Interpreting Performance: Examination of Social, Historical, and Cultural Models for Performing Arts. (5) (Same as Honors Collegium M154.) Lecture, two hours; discussion, two hours. Examination of nature of performance in theory and practice and of social, historical, and cultural contexts in which performance traditions have evolved. Attendance at approximately five designated performances/events required. P/NP or letter grading.

113. Special Topics in Critical Studies. (5) Lecture, three or four hours. Consult Schedule of Classes for author, period, genre, or subject to be studied in specific term. May be repeated for credit. P/NP or letter grading.


116A-116B-116C. Acting II. (4-4-4) Studio, six hours. Development of acting skills through scene study, use of self, examination of characterization exercises and their application to contemporary American scenes. Letter grading.

118A. Creative Dramatics. (4) Lecture/laboratory. Studies of principles and procedures of improvisational approach to drama, as done with children from nursery school to junior high. Letter grading.

118B. Advanced Creative Dramatics. (2 to 4) Lecture, four hours; other, to be arranged. Practical application of creative drama process. Exploration of inter-relationships of the arts to traditional disciplines of learning. May be repeated once for credit. Letter grading.

118C. Interactive Theater. (4) Laboratory. Active, problem-solving process of theater exercises and games designed to increase social and political awareness of problems and ideas fundamental to intellectual development, exercises and games nurture skills and attitudes useful in facilitating discussions between actors and audience participants. Use of techniques of sensory awareness, movement, pantomime, improvisation, and characterization. Letter grading.

118D. ArtsBridge Teaching Practicum. (4) Lecture, four hours. Requires: courses 118A, 118B. Development of K-12 teaching materials to integrate theater, dance, music, and visual arts into specific core curricula. Collaboration with classroom teacher to identify core subject to be taught. Language arts, science, history, mathematics, and social sciences are possible curricular areas. Development of evaluation of students' performance effectiveness of incorporating theater materials into curricula. Weekly meetings to discuss teaching strategies and prepare written lesson plans. Incorporate California Teaching Content Standards, objectives, motivation, detailed implementation of lesson plan, and ideas for assessment. Classroom work culminates in thoroughly documented final project evaluated by ArtsBridge student, classroom teacher, and UCLA faculty members. P/NP or letter grading.


119B. Theater for the Child Audience: Performance. (4) Lecture, two hours; laboratory, four hours. Preparation: audition prior to first class meeting. Designed to provide opportunity for students to work together as an ensemble, creating through improvisation a theater presentation for a young audience. Emphasis on testing theoretical concepts through ensemble work, rehearsal, and evaluation of an original production for possible presentation outside the classroom.

120A-120B. Acting and Performance in Film. (5-5) Lecture, six hours. Exploration of acting and performance in film. Through screenings of performance-driven films, class discussion, and acting exercises, examination of methods, styles, and performances of some of world’s most highly regarded actors and their work. Letter grading.

121. Acting Workshop. (2) Laboratory, to be arranged. Requires: course 20. Courses 160, 163A, 163B, and 163C may be taken concurrently. Workshops which provide students with opportunity to rehearse, perform, and critique scenes. May be repeated once for credit.


125A-125B-125C. Movement and Combat II. (1-1-1) (Formerly numbered 125A, 125B.) Studio, three to four hours. Physical awareness for actors, concentrating on warming up body, relaxation, control, stunts, gymnastics, martial arts, and use of weapons. Letter grading.

125D-125E-125F. Movement and Combat III. (1-1-1) Studio, three to four hours. Physical awareness for actors, concentrating on warming up body, relaxation, control, stunts, gymnastics, martial arts, and use of weapons. Letter grading.


128A-128B-128C. Acting, Voice, and Movement Workshops II. (2-2-2) Studio, four to six hours. Study of advanced acting technique, scene study, and development of voice and movement skills. May be repeated for a maximum of 12 units. Letter grading.

128D-128E-128F. Acting, Voice, and Movement Workshops II. (2-2-2) Studio, six hours. Study of advanced acting technique, scene study, and development of voice and movement skills. May be repeated for a maximum of 12 units. Letter grading.

CM129. Contemporary Topics in Theater, Film, and Television. (2) Same as Film and Television CM3129. Lecture, two hours; screenings, two hours. Limited to junior/senior and graduate theater/film and television students. Examination of creative process in theater, film, and television, with consideration of writing, direction, production, and performance. Overview of individual contributions in the collaborative effort; examination of distinctiveness and interrelations among these arts. Individual units include participation of leading members of theater, film, and television professions. May be repeated twice for credit. Concurrently scheduled with course CM229.

130A. Fundamentals of Playwriting I. (5) Lecture, three hours; discussion, one hour. Study and analysis of dramatic structure, character, and narrative leading to guided completion and critique of student-written one-act play. Letter grading.

130B. Fundamentals of Playwriting II. (4) Lecture, three hours. Requisite: course 130A. Study in original material for the theater, its preparation and development. Designed to give further insight into critical and creating aspects of short and full-length plays and guidance in completing one-act and full-length plays. May be repeated twice for credit.

130C. Writing for American Musical Theater. (4) Lecture/laboratory, three hours. Study of practice and technique necessary for writing the libretto for musical theater: opening numbers, romance, subplots, and comedy. May be repeated once for credit.

131A-131B-131C. Intermediate Playwriting. (5-5-5) Lecture, three hours. Letter grading. 131A. Play Strategies and Styles. Requisite: course 30 or 130A. Exploration of play forms and writing of one-act play. 131B. One-Act Play. Requisite: course 131A. Preparation and writing of one-act play and/or outlining of full-length play. May be repeated twice for credit with consent of instructor. 131C. Full-Length Play. Requisites: courses 131A, 131B. Preparation and writing of full-length play. May be repeated twice for credit with consent of instructor.


C133A-C133B-C133C. Script Development Workshops. (4 to 8 each) Lecture, three hours; studio, four to four hours. Guided process of script development, with emphasis on collaboration, artistic growth, and professional process. Each course may be taken for a maximum of 8 units. Concurrently scheduled with courses C433A-C433B-C433C. Letter grading.


136. Advanced Acting for the Stage. (4) Lecture/laboratory. Requisite: course 123. Study and practice of art of acting through a progression to more advanced acting problems. May be repeated twice for credit. Concurrent enrollment with same instructor not permitted. Total units for courses 136, 137A, 137B, and 137C may not exceed 12 units. Letter grading.

137A-137B-137C. Continuum Study in Acting for the Stage. (4-4-4) Studio, six hours. Requisite: course 123. Technique of characterization and performance in advanced complex acting styles. May be repeated once for credit.

138. Special Problems in Performance Techniques. (4) Lecture/laboratory. Study of complex problems in voice, movement, and acting. May be repeated twice for credit.

139. Play Reading and Analysis. (5) Lecture, three hours. Investigation of dramatic texts, with focus on play structure, plot, character, dialog, ideas, and various other elements essential to effective theatrical interpretation and realization. Letter grading.

C140A. Introduction to Programming for Entertainment Design. (4) Studio, three hours. Study and practice in object-based programming using MAX/MSP programming language. May be repeated once for credit. Concurrently scheduled with course C440A. Letter grading.

C140B. Advanced Programming for Entertainment Design. (4) Studio, three hours. Study and practice in object-based programming using MAX/MSP programming language to control sound and video. May be repeated once for credit. Concurrently scheduled with course C440B. Letter grading.

C140C. Advanced Projects in Programming for Entertainment Design. (4) Studio, three hours. Advanced projects using object-based programming to control sound and video. May be repeated once for credit. Concurrently scheduled with course C440C. Letter grading.

144A-C144B-C144C. Advanced Sound Design. (4-4-4) Lecture, four hours; laboratory, four hours. Concurrently scheduled with courses C444A-C444B-C444C. Letter grading.

144A. Lecture, four hours; laboratory, four hours. Study of sound and acoustics as they relate to performance environments, techniques associated with recording, mixing, processing, automation, and reproduction of dialogue, music, and music tracks for theater sound design. May be repeated once for credit. Letter grading.

144B. Lecture, four hours; laboratory, four hours. Advanced study and practice in preparation and recording of theater sound designs, with emphasis on analysis of script and score, conceptual development of the design, and multitrack recording techniques to realize the design. May be repeated once for credit. Letter grading.

144C. Lecture, four hours; laboratory, four hours. Study and practice in processing and mixing of live and recorded sound; mix-down of multitrack recordings; preparation of sound tracks and sound reinforcement in the theater. Study of creation of sound effects, control of MIDI data, and design techniques for music theater. May be repeated once for credit. Letter grading.

145. Costume Design for the Theater. (4) Lecture/laboratory. Design of costumes for theatrical presentations. Study of use of silhouette, fabrics, color, and decoration as related to theatrical characterizations. May be repeated once for credit. Letter grading.

C146A-C146B-C146C. Art and Process of Entertainment Design. (4-4-4 to 8) Lecture. Conceptualization, design, and prototyping of interactive theatrical events. Each course may be repeated once for credit. Concurrently scheduled with courses C446A-C446B-C446C. Letter grading.

C146A. (4) Lecture, three hours. Exploration of original forms of media-rich entertainment experience through lectures, presentations, and seminar participation. May be repeated once for credit. Concurrently scheduled with courses C446B-C446C. Letter grading.

C146B. (4) Lecture, three hours. Prototype development, two to five proposals to be more completely defined and developed. Students form collaborative teams for further conceptual development of their project proposals. May be repeated once for credit. Letter grading.

C146C. (4 to 8) Lecture, three to six hours. Prototype development; conceptual refinement and technological realization of prototypes, which may entail creation of elaborate proposals containing storyboards, budgets, and models or may involve production of short “performances” demonstrating entertainment potential of concepts or prototypes. May be repeated once for credit. Letter grading.

147A. Drafting. (4) Development of visual communication skills through drafting. Exploration of drafting for scenic and lighting designs. May be repeated once for credit. Letter grading.

147B. Rendering. (4) Introductory course in basic skills necessary for drafting and rendering for scenic and costume, and lighting design for theater, film, and television. May be repeated once for credit. Letter grading.

148. Special Courses in Design and Technical Theater. (4) Lecture, three hours. Group study of selected subjects in design and technical theater. May be repeated twice for credit.

149. Introduction to Design. (5) Lecture, three hours. Exploration of interpretation of drama through design, including study of styles and techniques of design, collaborative role of designer, principles of design for scenery, lighting, costumes, and sound. Both technical and aesthetic groundwork for further study. Investigation of techniques for realization of design in production. Letter grading.

150. Theater Production and Performance. (1 to 2) Laboratory, three to six hours. Requisite: course 50. Laboratory experience in various aspects of theater production, including performance in a project or production, stage management, member of a crew, or assignment as designer or assistant on a production. May be repeated for a maximum of 8 units. Letter grading.

C151A. Scenic Design. (4) (Formerly numbered 151A) Lecture/studio, four hours. Requisites: courses 14A, 14B, 14C. Study of scenic design for proscenium, thrust, and arena configurations, multisite productions, and music theater. May be repeated once for credit. Concurrently scheduled with course C451A. Letter grading.

C151B. Scenic Design for Theater. (4) (Formerly numbered 151B) Lecture/studio, four hours. Requisites: courses 14A, 14B, 14C. Study of scenic design for proscenium, thrust, and arena configurations, multisite productions, and music theater. May be repeated once for credit. Concurrently scheduled with course C451B. Letter grading.

C151C. Production Design for Film, Television, and Video. (4) Lecture/hours. Study of role of art director, scenic design for single-camera and multicamera production, and set decoration. May be repeated once for credit. Concurrently scheduled with course C451C. Letter grading.

C152A. Lighting Design. (4) (Formerly numbered 152A) Lecture/studio, four hours. Requisites: courses 14A, 14B, 14C. Study of lighting, with emphasis on imagination, text analysis, metaphor, and conceptualization, investigation of design research process, composition, and style leading to visual presentation of design. May be repeated once for credit. Concurrently scheduled with course C452A. Letter grading.

C152B. Lighting Design. (4) Lecture/hours. Requisites: courses 14A, 14B, 14C. Study of lighting, with emphasis on imagination, text analysis, metaphor, and conceptualization, investigation of design research process, composition, and style leading to visual presentation of design. May be repeated once for credit. Concurrently scheduled with course C452B. Letter grading.

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C152B. Lighting Design for Theater. (4) (Formerly numbered 152B.) Lecture/studio, four hours. Requi- sites: courses 14A, 14B, 14C. Study of lighting design for proscenium, thrust, and arena configurations, mu- sic theater, and concert lighting. May be repeated once for credit. Concurrently scheduled with course C452B. Letter grading.


C153A. Costume Design. (4) (Formerly numbered 153A.) Lecture/studio, four hours. Requisites: courses 14A, 14B, 14C. Imagination as impetus for design, text analysis, metaphor, and conceptualization. Investi- gation of design research process, composition, and style leading to visual presentation of design. May be repeated once for credit. Concurrently scheduled with course C453A. Letter grading.


C154A. Sound Design. (4) (Formerly numbered 154A.) Lecture/studio, four hours. Requisites: courses 14A, 14B, 14C. Exploration of sound design for theater and techniques for mixing, rein- forcement, and signal processing. Topics include use of delay, equalization, and microphone placement for theater sound reinforcement. Study of creation of sound effects, control of MIDI data, and design tech- niques for musical theater. May be repeated once for credit. Concurrently scheduled with course C454A. Letter grading.

C154B. Sound Design for Theater. (4) (Formerly numbered 154B.) Lecture/studio, four hours. Requi- sites: courses 14A, 14B, 14C. Exploration of sound design for theater and techniques for mixing, rein- forcement, and signal processing. Topics include use of delay, equalization, and microphone placement for theater sound reinforcement. Study of creation of sound effects, control of MIDI data, and design tech- niques for musical theater. May be repeated once for credit. Concurrently scheduled with course C454B. Letter grading.


C155A. Perspective Drawing. (2) Studio, four hours. Requisite: course 147A or 147B. Introduction to use of pencil and pen to communicate scenic designs, including one- and two-perspective, form light, shade, and texture rendering.

C155B. Watercolor Rendering. (2) Studio, four hours. Requisite: course 147A or 147B. Study of watercolor techniques as they relate to interpretation of scenic designs, including painting of brick, wood, stone, fab- rics, and other surfaces. Letter grading.

C155C. Marker Rendering. (2) Studio, four hours. Requisite: course 147A or 147B. Study and practice of marker rendering techniques as a means of commu- nication for scenic and costume designers. Letter grading.

C155D. Model Making. (2) Studio, four hours. Requi- site: course 147A or 147B. Study of the model for rep- resentation of scenic designs from initial working pro- totypes to full-scale models. Use of a wide variety of materials and techniques for execution of the model. Letter grading.

C155E. Life Drawing. (2) Studio, four hours. Requi- site: course 147A or 147B. Study and practice in drawing of human form. Letter grading.

C155F. Costume Rendering. (2) Studio, four hours. Requisite: course 147A or 147B. Study of scenic paint- ing techniques and materials and their real- ization of color design and elevations. May be repeat- ed once for credit. Letter grading.

C155G. Scene Painting Techniques. (2) Studio, four hours. Requisite: course 147A or 147B. Study of sce- nic painting techniques and materials for their real- ization of color design and elevations. May be repeat- ed once for credit. Letter grading.

C155H. Selected Topics in Graphic Representation of Design. (2) Studio, six hours. Group study of selected subjects in techniques for interpretation of design for theater. May be repeated once for credit. Letter grading.

C156A. Introduction to Computer-Assisted Draft- ing. (4) Studio, four hours. Investigation of drawing and editing techniques, drawing floor plan sections, and elevation drawings using AutoCAD. Concurrently scheduled with course C456A. Letter grading.


160. Fundamentals of Play Direction. (5) Lecture, two hours; laboratory, four hours. Required of Theater majors. Course 121 may be taken concurrently. Basic theories of play direction and their application through preparation of scenes under rehearsal conditions.


163A. (4) Lecture/studio. Requisite: course 15. Inten- sive development of primary directing skills and pro- cess, including text analysis and exploration of craft fundamentals as a basis for director/actor communi- cation and effective staging. Students direct scenes from plays under laboratory conditions. Letter grad- ing.


163D. Directing Project for the Stage. (5) Discus- sion, three hours; laboratory, four to eight hours. Requi- sites: courses 163A, 163B, 163C. Application of stage directing techniques in production of short play or project. Students direct one-act play or project. May be repeated once for credit. Concurrently sched- uled with course C263D. Letter grading.

170. Design and Production Project. (4) Laborato- ry, eight hours. Requisites: courses 14A, 14B, 14C. Experience as stage manager or designer, including participation in preparation and realization of scenic, lighting, costume, or sound designs, or stage man- agement in production. May be repeated once for credit. Letter grading.

171A. Advanced Theater Laboratory. (1 to 4) Hours to be arranged. Creative participation as actor or stage manager in public presentation of depart- mental productions. May be taken for a maximum of 4 units.

171B. Advanced Theater Laboratory. (1 to 4) Hours to be arranged. Creative participation in real- ization of production elements related to public pre- sentation of departmental productions. May be taken for a maximum of 4 units.

172. Production Practice in Theater, Film, Video, and Digital Media. (1 to 8) (Formerly numbered C172.) Studio, three to eight hours. Exploration and laboratory experience in one or more various aspects of production and postproduction practice for enter- tainment media, including theater, film, video, and digital media. May be repeated for maximum of 24 units. Letter grading.
173A. Design Assignment: Assistant Designer. (2) Studio, six hours. Requisites: courses 14A, 14B, 14C. Laboratory experience as an assistant designer, including preparation in participation and realization of scenic, lighting, costume, or sound designs. May be repeated twice. Letter grading.

173B. Production Design Assignment: Designer. (2) Studio, six hours. Requisites: courses 14A, 14B, 14C. Laboratory experience as a designer, including preparation and realization of scenic, lighting, costume, or sound designs. May be repeated twice. Letter grading.


174B. Project in Stage Management. (3) Studio, nine hours. Requisite: course 174A. Laboratory experience in the professional duties of assistant stage manager, including participation as an assistant stage manager in preproduction, rehearsal, and performance phases of a production. May be repeated once for credit. Letter grading.

174C. Project in Stage Management. (4) Studio, twelve hours. Requisite: course 174A. Laboratory experience in professional duties of stage manager, including participation as stage manager in preproduction, rehearsals, and production phases of production. Problems of unions, auditions, organization, scheduling, and responsibilities of lengthy run. May be repeated three times for credit. Letter grading.

175A-175D. Summer Theater Workshops. (4 or 8 each) Laboratory, 12 to 24 hours. Participation in various aspects of theater production and performance. Offered in summer only. Letter grading.


M178. Film and Television Acting Workshop. (2) (Same as Film and Television M177.) Laboratory, four hours. Workshop providing opportunities for students to rehearse, perform, and evaluate scenes. Three different production styles to which performers may need to adjust are (1) preproduction rehearsals with director, (2) single-camera experience, and (3) multiple-camera experience. May be repeated twice for credit. Letter grading.

180. Senior Project. (4) Lecture or studio, three hours. Requisites: courses 101A, 101B, 101C. Preparation of conceptual or creative project to provide culminating experience in production of creative or research work. May be repeated twice for credit. Letter grading.

181. Career Development for Actors. (2) Lecture, three hours; fieldwork, three hours. Limited to seniors. Study of business practices, career entry, and development for actors. P/NP or letter grading.

C185A. Role of Producer in Professional Theater. (2) (Formerly numbered C190A.) Lecture, three hours. Study of structure governing economic and artistic decision-making processes in professional theater of Africa, Caribbean, Europe as scheduled with course C285A. P/NP or letter grading.

C185B. Role of Management in Educational and Community Theater. (2) (Formerly numbered C190B.) Lecture, three hours. Study of artistic, social, and economic administration of educational and community theater. Concurrently scheduled with course C285B. P/NP or letter grading.

M187. Art Alive: Art and Improvisation in the Museum. (4) (Formerly numbered M193.) (Same as Honors M145.) Seminar, four hours. Offered in collaboration with Los Angeles County Museum of Art (LACMA). Interpretation of art in collection through acting, dialogue, movement, and music. Research into history and production of creative performance piece required. P/NP or letter grading.

195. Theater, Film, and Television Internship. (2, 4, or 8) (Formerly numbered 192.) Tutorial, eight, 16, or 24 hours. Limited to juniors/seniors. Internship at various theaters, studios, or entertainment organizations acounting creative contributions, organization, and work of professionals in their various specialties. Students meet on regular basis with instructor and provide periodic reports of their experience. May be taken for maximum of 8 units. Individual contract with supervising faculty member required. Letter grading.

199. Directed Research or Senior Project in Theater. (2 to 8) Tutorial, three hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Cumulating paper or project required. Individual contract required. P/NP or letter grading.

**Graduate Courses**

202A. Seminar: Western Classical Theater. (4) Discussion, three hours. Designed for graduate students. Examination of theatrical production and dramatic form in the Greek and Roman periods. May be repeated twice for credit.

202B. Seminar: Medieval Theater. (4) Discussion, three hours. Designed for graduate students. Selection of studies of theatrical production and dramatic form in the Middle Ages. May be repeated twice for credit.

202C. Seminar: Renaissance and Baroque Theater. (4) Discussion, three hours. Designed for graduate students. Selected studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1485 to the early 18th century. May be repeated twice for credit.

202D. Seminar: Bourgeois and Romantic Theater. (4) Discussion, three hours. Designed for graduate students. Selected studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1700 to 1870. May be repeated twice for credit.

202E. Seminar: Modern Consciousness in Theater. (4) Discussion, three hours. Designed for graduate students. Selected studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1870 to present. May be repeated twice for credit.

202F. Seminar: Modern Realism. (4) Discussion, three hours. Designed for graduate students. Selected studies of theatrical production and dramatic form in English and Continental theater from 1870 to present. May be repeated twice for credit.

202G. Seminar: Modern Theatricalism. (4) Discussion, three hours. Designed for graduate students. Selected studies in symbolism and avant-garde theater. Exploration of dream experience and private psyche, religious experience, and revitalization of myth and ritual. May be repeated twice for credit.

202M. Seminar: American Theater. (4) Discussion, three hours. Designed for graduate students. Selected studies in development of theatrical production and dramatic writing in American theater. May be repeated twice for credit.

202P. Seminar: Traditions of African Theater. (4) Discussion, three hours. Designed for graduate students. Selected studies of traditional theater forms such as those indigenous to Ghana, Nigeria, and other African nations and their diaspora (Haiti, Jamaica, and other areas of the Caribbean) through examination of character, structure, performance modes, and archetypes. May be repeated twice for credit.

202R. Seminar: East Asian Theater. (4) Discussion, three hours. Designed for graduate students. Selected topics in theater forms of East Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202S. Seminar: Southeast Asian Theater. (4) Discussion, three hours. Designed for graduate students. Selected topics in theater forms of South Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202T. Seminar: Southeast Asian Theater. (4) Discussion, three hours. Designed for graduate students. Selected topics in theater forms of Southeast Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

203. Theater Ethics and Issues. (5) Seminar, four hours. Designed for graduate students. Investigation of a selected area of theater and drama study that explores significant issues and ethical considerations of the modern world. May be repeated four times for credit.

204. Theater Genres. (5) Seminar, four hours. Designed for graduate students. Investigation of history and literature of the theater as manifested in one or more of its major forms or genres. May be repeated four times for credit.


206. Themes in World Theater and Drama. (5) Seminar, four hours. Designed for graduate students. Selected topics in world theater, drama, production, and/or architecture organized on a thematic basis. May be repeated four times for credit.

207A-207B. Theater Aesthetics. (4-4) Designed for graduate students. Discussion of critical writings in aesthetics of theater and theories of the theater. 207A. Classical and Medieval Theories of Art and Theater; 207B, Renais- sance Theories of Art and Theater to the Present.

208A-208B. Dramaturgy I, II. (4-4) Lecture, three hours; laboratory, one hour. Designed for graduate students. Letter grading. 208A. Theoretical and practical aspects of the dramaturge's work in contemporary theater. 208B. Requisite: course 208A. Continuation of study of theory and practice of dramaturgy.

208C. Practicum in Dramaturgy. (2 to 12) Laboratory, to be arranged. Requisites: courses 208A, 208B. Demonstration of competence in practice of dramaturgy through completion of approved dramaturgical assignment. May be taken for maximum of 12 units. Letter grading.

209. Theater Authors. (5) Designed for graduate students. Investigation of work of a theater artist from historical, critical, and dramatic literature, costume, and community theater. Concurrently scheduled with course 208A, 208B, 208C. P/NP or letter grading.

210. Topics in World Theater and Drama. (5) Designed for graduate students. Investigation of selected topics in world theater, drama, production, and architecture. May be repeated four times for credit.

216A. Approaches to Representation. (5) Lecture, three hours; laboratory, one hour. Overview of strategies of representation from classical aesthetic theories to postmodern constructions of them. May be repeated once for credit. Letter grading.

216B. Approaches to History. (5) Lecture, three hours; laboratory, one hour. Overview of key methodological, theoretical, and debates in historiography of theater and performance linked to plays and performances appropriate to approach. Letter grading.

216C. Approaches to Identification. (5) Lecture, three hours; laboratory, one hour. Overview of key theories, methodologies, debates, and performance texts of identificatory structure between audience member or scholar and theatrical or performance object. Letter grading.

220. Graduate Forum. (1 to 2) Seminar, one hour. Limited to graduate theater students. Presentation and discussion of issues informing and affecting contemporary theater. May be repeated four times for credit. S/U grading.
221. Introduction to Performance Studies. (5) Seminar, three hours. Investigation of performance as a sustaining practice in traditional disciplines such as theater, music, and dance and as lens to focus thinking about human experience in fields such as philosophy, literature, cultural anthropology, linguistics, education, and law. Emphasis on establishing interdisciplinary dialogue across many fields. Letter grading. CM229. Contemporary Topics in Theater, Film, and Television. (2) (Same as Film and Television CM229.) Lecture, two hours; screenings, two hours. Limited to graduate students. Examination of contemporary film and television students. Examination of creative process in theater, film, and television, with consideration of writing, direction, production, and performance. Overview of individual contributions in the collaborative effort; examination of distinctive and interrelations among these arts. Units of the Independent study. May be repeated twice for credit. Concurrently scheduled with course CM129.

230A-230B-230C. Writing for the Contemporary Theater. (4 to 8 each) Lecture, three hours; studio, two hours. Designed for graduate students. Letter grading. 230B. One-Act Play. Analysis of strategy and dramatic structure of selected contemporary short plays leading to the guided completion and critique of student-written one-act plays. 230C. Full-Length Play. Analysis of dramatic structure of selected contemporary full-length plays leading to the guided completion and critique of a student-written full-length play. 230D. Performance and Text. Exploration of structural strategies, political implications, and technical demands of selected contemporary American plays leading to the guided completion and critique of student work.

231. Special Topics in Playwriting. (4) Lecture, three hours. Analysis and practice of various aspects of playwriting. Variable content selected from topics such as comedy writing, docudrama, experimental theater, writing for alternative audiences, or children’s theater. May be repeated twice for credit. Letter grading.

232. Manuscript Analysis. (4) Lecture, three hours. Designed for graduate students. Critical and constructive study of dramatic techniques as employed by playwrights and screenwriters in selected examples of contemporary work. May be repeated once for credit.


242. Introduction to Design in Production. (4) Lecture or studio, four hours. Introduction to process of design for entertainment, collaborative role of designer, and realization of designs in production. May be repeated once for credit. Letter grading.

243A-243B-243C. Scenic Design. (4-4-4) Advanced study and practice in scenic design for the theater. Emphasis as it applies to design, text analysis, metaphor, and conceptualization. Investigation of design research process, composition, and style leading to visual presentation of the design. May be repeated once for credit.

244A-244B. Advanced Theater Production. (2 to 8 each) Studio, 12 to 24 hours. Designed for graduate students. Creative participation in preparation and presentation of a theatrical production. Each course may be taken for a maximum of 8 units. Letter grading.

245A. Production Management. (4) Lecture, three hours. Study in production management for the theater. Examination of professional duties of production manager, including spans across many fields. Letter grading.

245B. Production Management. (4) Lecture, three hours. Required: course 245A. Advanced study in production management for the theater, with focus on planning, problem solving, advising theatrical management, and professional management in a seasonal and repertory environment. Problems of resource allocation, unions, organizational structure, scheduling, and budgeting to establish a creative and collaborative environment. Letter grading.


246A-246B-246C. History of Costume. (4-4-4) Lecture/studio. Designed for graduate students. Study of history of costume as a manifestation of cultural, social, economic, and political influences to provide a historical framework for design of costumes for the theater, film, and television. History survey and in-depth exploration of a selected period, with study of influences of diverse cultures. Letter grading.

246D. History of Costume Design. (4) Lecture, four hours. Study of historical development of costume as a manifestation of social, cultural, economic, and political influences as an example framework for design of costumes for the theater, film, and television. History survey and in-depth exploration of a selected period, with study of influences of diverse cultures. Letter grading.

247. Collaborative Project in Design and Production. (3 to 4) Studio, four hours. Designed for graduate students. Collaborative project in design, including analysis, conceptual development, and preparation of scenic, lighting, costume, or sound designs. May be repeated once for credit. Letter grading.

248. Directing I. (4) Lecture, four hours; studio, 24 hours. Designed for graduate students. Development of directorial skills of analysis, planning, staging, and criticism through medium of written preparations and directing of scenes. Letter grading.

249. Directing Post-Realist Drama. (4) Lecture, four hours; studio, 24 hours. Designed for graduate students. Problems in direction of post-realist plays through interpretation and laboratory scene work. Letter grading.

250. Production Project in Direction for the Stage. (2 to 8) Discussion, one hour; studio, 24 to 30 hours. Designed for graduate students. Direction of a dramatic work, with discussion and critique of work in progress. May be repeated for a maximum of 20 units. Letter grading.

251. Directing Classical and Historical Drama. (4) Lecture, four hours; studio, 30 hours. Designed for graduate students. Problems in interpretation and direction of historical or classical drama through medium of laboratory scene work. Letter grading.

260. Directing I. (4) Lecture, four hours; studio, 24 hours. Designed for graduate students. Development of directorial skills of analysis, planning, staging, and criticism through medium of written preparations and directing of scenes. Letter grading.

261. Directing Post-Realist Drama. (4) Lecture, four hours; studio, 24 hours. Designed for graduate students. Problems in direction of post-realist plays through interpretation and laboratory scene work. Letter grading.

262. Directing Post-Realist Drama. (4) Lecture, four hours; studio, 24 hours. Designed for graduate students. Direction of a dramatic work, with discussion and critique of work in progress. May be repeated for a maximum of 20 units. Letter grading.

263D. Directing Project for the Stage. (5) Discussion, three hours; laboratory, four to eight hours. Required: courses 163A, 163B, 163C. Application of stage directing techniques in production of short play or project. Students direct one-act play or project. May be repeated once for credit. Concurrently scheduled with course C163D. Letter grading.

264. Directing Classical and Historical Drama. (4) Lecture, four hours; studio, 30 hours. Designed for graduate students. Problems in interpretation and direction of historical or classical drama through medium of laboratory scene work. Letter grading.

265. Modern Theories of Production. (4) Examination of modern theories of production from emergence of the director in the 19th century to the present. Investigation of different responses to problems of creating a vital theatrical event in context of ongoing evolution of theater as an art form. Examination of contribution of significant directors and movements; relation between theater and other forms of representation. Letter grading.

266. Theatrical Conceptualization. (4) Examination of process of conceptualization in dramatic production; centrality of theatrical conceptualization in interpretation of dramatic text, exploration of range of possibilities inherent in different theatrical spaces and options in design components. Consideration of visual arts and music as sources of stimulus for theatrical conceptualization, with focus on collaborative aspect of theatrical production. Letter grading.

272. Production Practice in Theater, Film, Video, and Digital Media. (1 to 8) (Formerly numbered C227.) Studio, three to eight hours. Exploration and laboratory experience in one or more various aspects of production and postproduction practice for entertainment media, including theater, film, video, and digital media. May be repeated for a maximum of 24 units. Letter grading.

285A. Role of Producer in Professional Theater. (2) (Formerly numbered C294A.) Lecture, three hours. Designed for graduate students. Study of structure governing economic and artistic decision-making processes in professional theater of America. Concurrently scheduled with course C185A. S/U or letter grading.

295B. Role of Management in Educational and Community Theater. (2) (Formerly numbered C294B.) Lecture, three hours. Designed for graduate students. Study of artistic, social, and economic criteria of management of educational and community theater. Concurrently scheduled with course C185B. S/U or letter grading.

299A-299B. Special Studies in Theater Arts. (2 to 4 each) Lecture/discussion. Designed for graduate students. Seminar study of problems in theater arts, organized on topic basis. May be repeated once for credit.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

420A-420B-420C. Advanced Acting I. (4 to 8-4-4) Studio, six to 18 hours. Letter grading.

420A. (4 to 8) Studio, six to 18 hours. Development of an internal technique, beginning with an autodrama which is a dramatization of one’s personal history. Scene work follows, with emphasis on off-stage preparations, improvisations capturing the circumstances, life of the character, and intentions of the scene. Letter grading.

420B. (4) Studio, six to 18 hours. Scene work, usually from 20 to 30 minutes in length. Continuation of work on off-stage preparation, with further development of how the actor goes about doing research and fieldwork on the character being played. Letter grading.

420C. (4) Studio, six to 18 hours. Development of an external technique through comedy and of skits, improvisation, physical humor, delivery of a line, rhythm, timing, and public cabaret. Fusion of the internal; use of action and objective with the external. Letter grading.

421A-421B-421C. Advanced Acting II. (4 or 8 each) Studio/laboratory, six to 18 hours. Letter grading. 421A. Extending the idea of autobiography and using it as art. The actor as performance artist. Playing characters quite removed from oneself. Using language. Using Shakespeare and oneself to play him. 421B. Continuation of study through language and movement. Further work on actions, objectives, and researching the role. 421C. Comedy workshop. Exploration of craft of comedy and development of cabaret piece.


424A-424B-424C. Advanced Voice and Speech I. (2 or 4 each) Studio/laboratory, three to six hours. Development of voice and speech techniques for the stage, including those of relaxation, breathing, resonance, and development of speaking voice. Speech training uses International Phonetic Alphabet to create tonal and accent, as well as systematic approach to creating dialect charts. Letter grading.

425A-425B-425C. Advanced Movement I. (2 or 4 each) Studio, three to six hours. Extension of second-year work, with increased demands on voice/speech, range, resonance, and breathing capacity extension. Application of ear training and International Phonetic Alphabet to creation of dialect and accents, as well as systematic approach to creating dialect charts. Letter grading.

425D-425E-425F. Advanced Movement II. (2 or 4 each) Studio/laboratory, three to six hours. Presentation of a more complete picture of stage movement and its relationship to theater, music, and dance. Advancement of physical training of individual actors to their maximum potential. Experience in techniques and discovery of origins of a variety of acrobatic and dance disciplines, including ballet, ballroom, period dance, and circus techniques. Letter grading.

425G-425H-425I. Advanced Movement III. (2 or 4 each) Studio, three to six hours. Advanced physical training in more movement, dance, or combat discipline: capoeira, martial arts, ballet, ballroom, period dance, circus techniques. Letter grading.

426A-426B-426C. Alexander Techniques. (2 or 4 each) Studio, three to six hours. Study and practice in Alexander techniques as method of developing balance, poise, and coordination of body and mind. Exploration of use of rhythm to expand movement potential of actors and relevant use of visual arts and animal studies to character development and to expansion of movement potential. Letter grading.


430A-430B-430C. Advanced Studies in Playwriting. (4 to 8 each) Lecture, three hours. Limited to M.F.A. playwriting students. Guided completion of full-length scripts for the stage.

431. Special Topics in Playwriting. (4) Discussion, three hours. Designed for M.F.A. playwriting program students. The design, and manifestation of various aspects of playwright’s art. Variable content selected from topics such as comedy writing, docudrama, writing for alternative audiences, adaptation from stage to screen, children’s theater, or improvisational techniques. May be repeated twice for credit.


433A-434B-434C. Script Development Workshop. (4 each) Lecture, three to eight hours. Study, four to 24 hours. Designed for graduate students. Guided process of script development, with emphasis on communication, artistic growth, and professional process. Each course may be taken for a maximum of 8 units. Concurrently scheduled with courses C133A-C133B-C133C. Letter grading.


440A. Introduction to Programming for Entertainment Design. (4) Studio, three hours. Study and practice in object-based programming using MAX/MSP programming language. May be repeated once for credit. Concurrently scheduled with course C140A. Letter grading.

440B. Advanced Programming for Entertainment Design. (4) Studio, three hours. Study and practice in object-based programming using MAX/MSP programming language to control sound and video. May be repeated once for credit. Concurrently scheduled with course C140B. Letter grading.


441A-441B-441C. Lighting Design. (4-4-4) Lecture/ studio. Letter grading.

441A. (4) Lecture/studio. Study and practice in lighting the actor, emphasizing textual and character analysis from lighting designer’s perspective, conceptual development with the director, effect of light on dynamics of staging, use of color in light, and relationship of lighting designer to the actor. May be repeated once for credit. Letter grading.

441B. (4) Lecture/studio. Study of use of light and color to define spatial character, light on scenery and costumes, lighting for arena/thrust theaters, multisensory productions, lighting patterns, and moving scenery. May be repeated once for credit. Letter grading.


441D. Scenic Projection and Media Techniques. (4) Lecture/laboratory. Designed for graduate students. Advanced study and practice in scenic projection and media techniques, with emphasis on analysis, design, and execution of theatrical projection and photographic technique for the stage.

442A-442B-442C. Costume Design. (4-4-4) Lecture/studio. Advanced study and practice in costume design for theater. Imagination as impetus for design, text analysis, metaphor, and conceptualization. Investigation of design research process, period style, and character analysis leading to visual presentation of the design. Study of costume design for theatrical productions, ballet, opera, and musical theater. May be repeated once for credit. Letter grading.

443. Problems in Design. (2 or 4) Lecture/laboratory, four hours (additional hours as required). Study and practice in design techniques for theater. May be repeated for a maximum of 12 units. Letter grading.

444A. Lecture, four hours; laboratory, four hours. Study of sound and acoustics as they relate to performance environments, techniques associated with recording, mixing, processing, automation, and reproduction of dialogue, effects, and music tracks for theater sound design. May be repeated once for credit. Letter grading.

444B. Lecture, four hours; laboratory, four hours. Advanced study and practice in preparation and recording of theater sound designs, with emphasis on analysis of script and score, conceptual development of designs, and multitrack recording techniques to realize the design. May be repeated once for credit. Letter grading.

444C. (4) Lecture, four hours; laboratory, four hours. Study and practice in processing and mixing of live and recorded sound; mix-down of multitrack recordings; preparation of sound tracks and sound reinforcement in theater. Study of creation of sound effects, control of MIDI data, and design techniques for music theater. May be repeated once for credit. Letter grading.

445A-445B. Production Design for Film, Television, and Entertainment Media. (4-4) Lecture/studio, four hours. Study and practice in design of scenic environments for film, video, and performance media, including effect of differing media on design choices, role of production designers and art directors, and design for single- and multiple-camera production. Each course may be repeated once for credit. Letter grading.

446A. (4) Lecture, three hours. Exploration of original forms of media-rich entertainment experience through lectures, presentations, and seminar participation. Students form collaborative teams to conceive and propose interactive entertainment events. May be repeated once for credit. Letter grading.

446B. (4) Lecture, three hours. Prototype development; two to five proposals to be more completely defined and developed. Students form collaborative teams for further conceptual development of their project proposals. May be repeated once for credit. Letter grading.

446C. (4 to 8) Lecture, three to six hours. Prototype development; conceptual refinement and technological realization of prototype projects. Two to three projects; two to six conceptual reiterations of elaborate proposals containing storyboards, budgets, and models or may involve production of short “performances” demonstrating entertainment potential of concepts or prototypes. May be repeated once for credit. Letter grading.

448A-448B. Costume Design for Film, Television, and Entertainment Media. (4-4) Lecture/studio, four hours. Study and practice in design of costumes for live and virtual characters in film, television, and entertainment media, including effect of differing media on design choices. Each course may be repeated once for credit. Letter grading.

449. Design Thesis Project. (4) Lecture/studio, four hours. Series of group design projects that serve as comprehensive examination for M.F.A. degree in entertainment design. Review and evaluation of projects by design faculty members from all areas of curriculum. Letter grading.

C451A. Scenic Design. (4) Lecture/studio, four hours. Imaginative as impetus for design, text analysis, metaphor, and conceptualization. Investigation of design research process and the conceptual reprogramming leading to visual presentation of design. May be repeated once for credit. Concurrently scheduled with course C151A. Letter grading.
Lecture/studio, four hours. Study of scenic design for proscenium, thrust, and arena configurations, multitset productions, and music theater. May be repeated once for credit. Concurrently scheduled with course C151B. Letter grading.

C451C. Production Design for Film, Television, and Video. (Formerly numbered C463.) Lecture/studio, four hours. Study of role of art director, scenic design for single-camera and multicamera production, and set decoration. May be repeated once for credit. Concurrently scheduled with course C151C. Letter grading.

C452A. Lighting Design. (4) Lecture/studio, four hours. Study of lighting, with emphasis on imagination, text analysis, metaphor, and conceptualization. Investigation of composition and control of light and color in relation to actor. May be repeated once for credit. Concurrently scheduled with course C152A. Letter grading.

C452B. Lighting Design for Theater. (4) Lecture/ studio, four hours. Study of lighting design for proscenium, thrust, and arena configurations, music theater, and concert lighting. May be repeated once for credit. Concurrently scheduled with course C152B. Letter grading.


C453A. Costume Design. (4) Lecture/studio, four hours. Imagination as impetus for design, text analysis, metaphor, and conceptualization. Investigation of design research process, composition, and style leading to visual presentation of design. May be repeated once for credit. Concurrently scheduled with course C153A. Letter grading.

C453B. Costume Design for Theater. (4) Lecture/ studio, four hours. Study of costume design for proscenium, thrust, and arena configurations, multi-set productions, and music theater. May be repeated once for credit. Concurrently scheduled with course C153B. Letter grading.

C453C. Costume Design for Film and Television. (4) Lecture/studio, four hours. Study of current professional costume design and wardrobe practices in film and television, including effect of differing media on design choices. May be repeated once for credit. Concurrently scheduled with course C153C. Letter grading.

C454A. Sound Design. (4) Lecture/studio, four hours. Introduction to sound and audio in acoustic, audio, and digital domain. Study and practice of techniques for recording, editing, and creating soundscapes. May be repeated once for credit. Concurrently scheduled with course C154A. Letter grading.

C454B. Sound Design for Theater. (4) Lecture/stu- dio, four hours. Exploration of sound design for thea- ter and techniques for mixing, reinforcement, and signal processing. Topics include use of delay, equalization, and microphone placement for theater sound reinforcement. Study of creation of mood effects, control of MIDI data, and design techniques for musical theater. May be repeated once for credit. Concurrently scheduled with course C154B. Letter grading.

C454C. Sound for Film and Television. (4) Lecture/ studio. Study of current professional sound recording, re-recording, mixing, and synchronization practices for film and television. Concurrently scheduled with course C154C. Graduate students expected to produce designs demonstrating a higher level of proficiency and skill. Letter grading.


C455A. Perspective Drawing. (2) Studio, four hours. Requisite: course 147A or 147B. Introduction to use of pencil and pen to communicate scenic designs, including one- and two-paint perspective, form light, shade, and textures. Graduate students expected to produce drawings demonstrating a higher level of proficiency and skill. Letter grading.

C455B. Watercolor Rendering. (2) Studio, four hours. Requisite: course 147A or 147B. Study of watercolor techniques as they relate to interpretation of scenic designs, including painting of brick, wood, stone, fabrics, and other surfaces. Graduate students expected to produce drawings demonstrating a higher level of proficiency and skill. Letter grading.

C455C. Marker Rendering. (2) Studio, four hours. Requisite: course 147A or 147B. Study and practice of marker rendering techniques as a means of communication for scenic and costume designers. Letter grading.

C455D. Model Making. (2) Studio, four hours. Requis- ite: course 147A or 147B. Study of the model for representation of scenic designs from initial working pro- totypes to finished color models. Use of wide variety of materials and techniques for production of the model. Graduate students expected to produce models demonstrating a higher level of proficiency and skill. Letter grading.

C455E. Life Drawing. (2) Studio, six hours. Requi- site: course 147A or 147B. Study and practice in drawing of human form. Letter grading.

C455F. Costume Rendering. (2) Studio, four hours. Requisite: course 147A or 147B. Study of techniques for rendering the costume, with emphasis on figure, clothing, and fabrics. Letter grading.

C455G. Scene Painting Techniques. (2) Studio, four hours. Requisite: course 147A or 147B. Study of scenic painting techniques and materials and their realization of color design and elevations. May be repeat- ed once for credit. Letter grading.

C455H. Selected Topics in Graphic Representation of Design. (2) Studio, six hours. Group study of selected subjects in techniques for interpretation of design for theater. May be repeated once for credit. Letter grading.

C456A. Introduction to Computer-Assisted Drafting. (4) Studio, four hours. Investigation of drawing and editing techniques, drawing floor plan sections, and elevation drawings using AutoCAD. Concurrently scheduled with course C156A. Letter grading.


C456D. Introduction to Computer-Assisted Drafting. (4) Studio, four hours. Investigation of drawing and editing techniques, drawing floor plan sections, and elevation drawings using Vectorworks. Concurrently scheduled with course C156D. Letter grading.


C457C. Requisites: courses C457A, C457B. Draping, pattern, and fitting techniques for period garments.


C459A-C459B. Directing for Theater, Film, and Televi- sion. (4-4) Lecture, three to eight hours. Designed for graduate students. Advanced directing for a maximum of 4 units. Letter grading.


C462. Directed Acting. (8 or 12) Studio, 12 or 30 hours. Designed for graduate students. Advanced problems in directing for theater, film, and television. May be repeated for maximum of 24 units. Letter grading.

C463. Production Project in Direction for the Stage (8 or 12 units). Studio, 24 hours. Designed for gradu- ate students. Creative participation as director in con- ceptualization and preparation of a dramatic work. Letter grading.

C472. Production Practice in Theater, Film, Video, and Digital Media. (1 to 8) (Formerly numbered C472.) Studio, three to eight hours. Exploration and laboratory experience in one or more various aspects of production and postproduction practice for entertain- ment media, including theater, film, video, and digital media. May be repeated for maximum of 24 units. Letter grading.

Scope and Objectives

The professional urban planner works on the creation and management of the urban environment, including its physical, economic, and social elements. Housing, transportation, air and water quality, the preservation of historic communities, and the development of community-level economic and employment programs are some of the tasks undertaken by recent graduates of the UCLA Department of Urban Planning. Graduates have taken positions in local, state, and national governments, and increasingly with nonprofit and private companies whose products and services affect the urban environment. While most UCLA graduates find positions in the U.S., the program offers the opportunity to specialize in development planning abroad, including rural development, and many graduates have found positions in Latin America, Africa, and Asia.

The program offers an undergraduate minor in Urban and Regional Studies, a two-year Master of Arts degree, and a Ph.D. degree. Concurrent degree programs allow students to combine study for an M.A. in Urban Planning with work toward an M.B.A. in the John E. Anderson Graduate School of Management, a J.D. in the School of Law, an M.Arch. I in the Department of Architecture and Urban Design, or an M.A. in Latin American Studies. The department takes pride in its collegial atmosphere. It features a lively mix of students from diverse academic backgrounds, drawn from many foreign countries and from every avenue of American life. It includes many members of racial and ethnic minority groups, and more than half the students are women. Student organizations provide an interesting program of extracurricular activities.

Undergraduate Study

Urban and Regional Studies Minor

The scale, diversity, balkanized governance, and natural environment of Southern California all contribute to making it an extraordinary natural laboratory for learning about urban and regional issues, whether the focus is on immigration, employment, the built environment, transportation, poverty, natural resources, or a host of other challenges. The Urban and Regional Studies minor offers undergraduate students a means of addressing some of these issues from an interdisciplinary perspective, giving a balanced mixture of theory, practice, and service learning courses.

To enter the minor, students must be in good academic standing with an overall grade-point average of 2.0 or better, have completed 90 or more units, and complete either Urban Planning 120 or 121 with a grade of C or better. An introductory course in geography, political science, or sociology is recommended. For further information, contact the program director or counselor at (310) 206-4613.

Required Courses (28 units): (1) Urban Planning 120 or 121 with a grade of C or better; (2) five elective courses from at least two departments, selected as follows: (a) at least three courses from Public Policy 10A, 104, C115, M120, C147, Urban Planning 120 (unless taken under item 1), 121 (unless taken under item 1), 130, C133, 141, M150, CM160, CM165, M175, C184 and (b) two courses from Anthropology 167, Chicana and Chicano Studies 181, Geography 150, History 145A, 145B, Management 175, Political Science 143B, Sociology 158 (students may petition to include a School of Public Affairs course not listed above to fulfill an elective requirement); (3) capstone project that may be satisfied by one of the following: (a) Urban Planning 185SL — service learning project or (b) Urban Planning 199 or a 199 in the College of Letters and Science with a faculty mentor affiliated with this minor — individual research project.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Successful completion of the minor is indicated on the transcript and diploma.
Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees


Urban Planning

Upper Division Courses

120. Introduction to Cities and Planning. (4) (Formerly numbered 191.) Lecture, three hours. Survey of urban history and evolution in the U.S., urban social theory, current growth trends, system of cities, urban economy and economic restructuring, traditional and alternative location theories, urban transportation, and residential location and segregation. P/NP or letter grading.

121. Urban Policy and Planning. (4) (Formerly numbered 182.) Lecture, three hours. Examination of current urban planning and policy issues and debates, such as normative theories of good urban form, metropolitan organization and governance, economic development and growth management, edge cities, spatial mismatch hypothesis, urban poverty, racial/ethnic inequality, gender and urban structure, sustainability, and future of cities. P/NP or letter grading.

M122. Policy, Planning, and Community. (4) (Formerly numbered M195.) (Same as Asian American and Chicano Studies M122.) Lecture, three hours. Examination of nature and extent of urban and rural poverty confronting Latina/Latino population in the U.S. Special emphasis on antipoverty policies of government and nonprofit organizations and planning and economic development strategies. Attention also to literature on the underclass. Letter grading.

141. Planning for Minority Communities. (4) (Formerly numbered 167.) Lecture, three hours. Introduction to inner-city policy issues on three separate levels: (1) each student develops comprehensive inner-city urban program using materials from Alternatives Inner-City Future Exercise, (2) each student is expected to identify value assumptions and theories of social justice implicit or explicit in alternative intervention programs, and (3) each student is expected to participate in regional economy, with emphasis on minority issues which affect implementation. P/NP or letter grading.

M150. Transportation Geography. (4) (Formerly numbered M149.) (Same as Geography M149.) Lecture, three hours. Designed for juniors/seniors. Study of geographical aspects of transportation, with focus on characteristics and functions of various modes and on complexities of intra-urban transport. P/NP or letter grading.

M160. Environmental Politics and Governance. (4) (Same as Environment M164.) Lecture, three hours. Environmental planning is more than simply finding problems and fixing them. Each policy must be negotiated and implemented within multiple, complex systems of governance. Institutions and politics matter deeply. Overview of how environmental governance works in practice and how it might be improved. Concurrently scheduled with course C260. Letter grading.

M162. Land Use and Development. (4) (Same as Environment M162.) Lecture, four hours. Examination of institutional and historical evolution of land use in the U.S. Comparison and contrasting of how cities have affected women's opportunities for participative consultation with instructor. P/NP or letter grading.

130. Fundamentals of Urban and Regional Economics. (4) Lecture, three hours. Preparation: one quarter in economics course, of which at least one should be related to service learning requirement and may be used to fulfill capstone requirement for minor. Students are matched to a nonprofit agency through Center for Community Learning and must complete minimum of 30 hours of work. Duties and responsibilities to be set by students and sponsoring organizations. Required for U.S. and Canadian planning programs.

133. Political Economy of Urbanization. (4) Lecture, three hours. Introduction to new approaches to urban studies, basic concepts and analytical approaches of urban political economy, with major emphasis on American urban problems and restructuring of modern metropolis. Topics include historical geography of urbanization, development and transformation of urban spatial structure, suburbanization and metropolitan political fragmentation, urban fiscal crisis, and role of urban social movements. Concurrently scheduled with course C233. P/NP or letter grading.

CM137. Southern California Regional Economy. (4) (Formerly numbered CM196.) (Same as Labor and Workplace Studies M180.) Lecture, three hours. Introduction to inner-city policy issues on three separate levels: (1) each student develops comprehensive inner-city urban program using materials from Alternatives Inner-City Future Exercise, (2) each student is expected to identify value assumptions and theories of social justice implicit or explicit in alternative intervention programs, and (3) each student is expected to participate in regional economy, with emphasis on minority issues which affect implementation. P/NP or letter grading.

M140. Issues in Latina/Latino Poverty. (4) (Formerly numbered M121.) (Same as Chicana and Chicano Studies M121.) Lecture, three hours. Examination of nature and extent of urban and rural poverty confronting Latina/Latino population in the U.S. Special emphasis on antipoverty policies of government and nonprofit organizations and planning and economic development strategies. Attention also to literature on the underclass. Letter grading.

CM141. Planning for Minority Communities. (4) (Formerly numbered 167.) Lecture, three hours. Introduction to inner-city policy issues on three separate levels: (1) each student develops comprehensive inner-city urban program using materials from Alternatives Inner-City Future Exercise, (2) each student is expected to identify value assumptions and theories of social justice implicit or explicit in alternative intervention programs, and (3) each student is expected to participate in regional economy, with emphasis on minority issues which affect implementation. P/NP or letter grading.

M150. Transportation Geography. (4) (Formerly numbered M149.) (Same as Geography M149.) Lecture, three hours. Designed for juniors/seniors. Study of geographical aspects of transportation, with focus on characteristics and functions of various modes and on complexities of intra-urban transport. P/NP or letter grading.

M160. Environmental Politics and Governance. (4) (Same as Environment M164.) Lecture, three hours. Environmental planning is more than simply finding problems and fixing them. Each policy must be negotiated and implemented within multiple, complex systems of governance. Institutions and politics matter deeply. Overview of how environmental governance works in practice and how it might be improved. Concurrently scheduled with course C260. Letter grading.

M162. Land Use and Development. (4) (Same as Environment M162.) Lecture, four hours. Examination of institutional and historical evolution of land use in the U.S. Comparison and contrasting of how cities have affected women's opportunities for participative consultation with instructor. P/NP or letter grading.

CM165. Environmentalism: Past, Present, and Future. (4) (Formerly numbered CM188.) (Same as Environment M132 and Geography M115.) Lecture, three hours. Exploration of history and evolution of modern environmental ideas, movements or countermovements they spawned, and new and changing nature of social and environmental issues. Introduction to early ideas of environment, historical roots, and more recent reshaped environmental thought, and how this was later transformed by 19th-century ideas and rise of American conservation movement. Review of political and economic practices of American environmental thought and contemporary environmental questions as they relate to broader set of questions about nature of development, sustainability, and equity in environmental debates. Exploration of issues in broad context, including global climate change, rise of pandemics, deforestation, and environmental justice impacts of war. Concurrently scheduled with course C266. Letter grading.

CM166. Global Environment and Development: Problems and Issues. (4) (Formerly numbered CM128.) (Same as Geography M128.) Lecture, three hours; discussion, one hour. Designed for juniors/seniors. Questions of population, resource use, Third World poverty, and environment. Analysis of global economic restructuring and its connections to changing organization of production and resulting environmental impacts. Case studies from Africa, Latin America, Asia, and the U.S. Concurrently scheduled with course C266. P/NP or letter grading.

M170. Human Environment: Introduction to Architecture and Urban Planning. (4) (Formerly numbered M180.) (Same as Urban Design M170.) Lecture, three hours; outside study, nine hours. Kinds of problems that arise in creating and maintaining environment for urban activities, and approaches and methods of architecture and urban planning in helping to cope with such problems. Complexities involved in giving expression to human needs and desires in provision of shelters and movement systems, to possibilities and limitations of technology and building forms, and to issues involved in relating human-made to natural environment. Students encouraged to comprehend major urban issues both as citizens and as potential technical experts. P/NP or letter grading.

M171. Planning Issues in Latina/Latino Communities. (4) (Formerly numbered M122.) (Same as Chicana and Chicano Studies M122.) Lecture, three hours. Exploration of socioeconomic, demographic, and political forces that shape low-income communities and analyses of planning intervention strategies. Emphasis on community and economic development and environmental equity. Letter grading.

M175. Women and the City. (4) (Formerly numbered M194.) (Same as Women's Studies M175.) Lecture, three hours. Limited to juniors/seniors. Examination of relationship between women and cities: (1) how cities have affected women's opportunities for economic and social equality, (2) women's contributions to development of U.S. cities, and (3) contemporary strategies and efforts to create urban environments that reflect women's needs and interests. P/NP or letter grading.

C184. Looking at Los Angeles. (4) Lecture, three hours. Introduction to history and physical form of Los Angeles, with emphasis on cultural, social, economic, and political issues in development of Los Angeles. Concurrently scheduled with course C284. Letter grade.

185SL. Community-Based Research in Planning. (4) Seminar, one hour; fieldwork, three hours. Preparation: at least four Urban and Regional Studies minor courses, of which at least one should be related to subject area of service learning setting. Limited to junior/senior minor students. Students are matched to service learning setting and must complete minimum of 30 hours of work. Duties and responsibilities to be set by students and sponsoring organizations. Required for U.S. and Canadian planning programs. Readings to be determined in consultation with instructor. P/NP or letter grading.
Graduate Courses

M201. Theories of Architecture. (4) (Same as Architecture and Urban Design M201.) Lecture; three hours. Exploration of conceptual and historical structures that shape current issues in architectural theory. Readings in primary texts serve as framework for understanding nature of speculative inquiry in architectural context. Letter grading.

M202A. Public Control of Land Development. (3 to 6) (Same as Law M268.) Lecture; three hours. Analysis of legal and constitutional constraints on land-use planning and development; administrative and environmental regulatory processes, including relationship between law and planning, formulating land-use legislation, zoning, subdivision controls, eminent domain, taxation, urban development, environmental law, and negotiation. Theory and doctrine applied to case studies; research paper and/or examination required.

M202C. Seminar: Urban Affairs. (3 to 6) (Same as Law M316.) Seminar; one hour; two field trips. Consideration of selected aspects of housing law and policy, including current federal and state housing subsidies; remedies of housing consumers; impacts of market discrimination against children, racial minorities, and women; and local governmental laws influencing cost and supply, such as antispeculation and rent control legislation. Catalytic role of economic and community development in expansion of housing supply also considered.

M204. Research Design and Methods for Social Policy. (4) (Same as Public Policy M218.) Lecture, three hours; discussion, nine hours. Limited to graduate students. How to become more sophisticated consumers and producers of qualitative and quantitative policy research. In first half of course, formal principles of research design; in second half, various data collection methods, including ethnography, interviewing, and survey design. Letter grading.

205. Seminar: Master's Thesis/Comprehensive Examination. (4) Seminar; three hours. Designed for second-year Ph.D. students to prepare for student research and client projects. Through discussion of each other's work, participants learn how to design and implement research/client project. Administrative issues and common implementation problems. S/U grading.

M206A. Introduction to Geographic Information Systems. (4) (Same as Public Policy M224A.) Lecture; three hours; laboratory, one hour. Preparation: one graduate-level statistics course, familiarity with one packaged statistics program, Principles of Geographic Information Systems (GIS) and applied techniques of using spatial data for mapping and analysis. Topics include data quality, data manipulation, spatial analysis, and information systems. Use of mapping and spatial analysis to address a planning problem. Letter grading.

M206B. Advanced Geographic Information Systems. (4) (Same as Public Policy M224B.) Lecture, four hours; laboratory, four hours. Requisite: course M206A or Public Policy M224A. Principles and skills of geographic analysis and modeling; managing, processing, and interpreting spatial data. Especially useful for students interested in environmental, demographic, suitability, and transportation-related research. Aerial, modeling (Spatial Analyst), network analysis, and digital terrain modeling (TranSCAD). Letter grading.

207. Applied Microeconomics for Urban Planning. (4) Lecture; three hours. Preparation: passing score on microeconomics examination given first day of class. Basic and practical use of economics in analyzing public resource allocation problems. Topics include review of marginal analysis, difference between equity and efficiency, public goods and free rider problem, environmental pricing, public service pricing, and conflicts between individual and collective rationality. Letter grading.

208. Seminar: Advanced Research Methods. (4) Seminar; three hours. Limited to first-year Ph.D. students. Advanced critical analysis of research design and epistemology; quantitative and qualitative methodologies prominent in social sciences and field of urban planning. S/U or letter grading.

209. Special Topics in Planning Theory. (4) Lecture; three hours. Topics in planning theory selected by faculty members. May be repeated for credit. S/U or letter grading.

210A. Advanced Planning Theory. (4) Lecture; three hours. Required of first-year Ph.D. students. Major ideas and theories of planning that have influenced its development from the early-19th century to the present. Letter grading.

210B. Comparative Histories of Planning. (4) Lecture; three hours. Limited to Ph.D. and advanced M.A. students. Examination of history and historical method in planning through group discussion, oral presentations, and written work. Organization of course into three parts to develop critical historical skills: historiography and historical methods, critique of planning histories of Los Angeles, and writing of urban histories. S/U or letter grading.

210C. Colloquium in Planning Theory. (4) Lecture; one hour; discussion, two hours. Requisite: course 210A. Limited to Ph.D. students. Introduction to some central theoretical issues of contemporary planning.

211. Law and the Quality of Urban Life. (4) Lecture; three hours. An examination of law as an urban system, directed primarily toward those interested in intersection of law and policy: broad array of urban issues examined, as is law's role as a partial cause and cure of urban problems. Examination of law as a changing process rather than a collection of principles, so that students develop facility to interact with law and lawyers in a positive and forceful manner.

212. International/Comparative Planning Workshop. (4) (Same as Law M206.) Lecture, 90 minutes; discussion, 90 minutes. Recom- mendation; preparation by student required. Students meet in field settings to field project. Letter grading.

215. Spatial Statistics. (4) (Same as Geography M227 and Statistics M222.) Lecture; three hours. Designed for graduate students. Survey of modern methods used in analysis of spatial data. Implementation of various techniques using real data sets from diverse fields, including neuroimaging, geography, seismology, demography, and environmental sciences. S/U or letter grading.

217A-217B. Comprehensive Planning Project. (4) Seminar; two hours; field trip, five to 10 days. Topics of planning and policy in various international or domestic sites. Topics may include urban design and governance; land use; environmental issues; transportation, infrastructure planning, housing development, community development, and physical planning. May be repeated for credit. Letter grading.

M219. Advanced Policy Analysis. (4) (Same as M222.) Lecture; three hours. Preparation: course 220A or equivalent as demonstrated by passing score on mathematics proficiency examination given first day of course 220A. Introduction to concepts of statistical inference and modeling, with emphasis on urban planning applications. Topics include simple sampling, hypothesis testing, analysis of variance, correlation, and simple and multiple regression. Use of computer as tool in statistical analysis and modeling. Letter grading.

220A. Quantitative Analysis in Urban Planning I. (4) Lecture; three hours; laboratory, 90 minutes. Preparation: passing score on basic mathematics proficiency examination given first day of course 220A. Introduction to mathematical and statistical concepts and methods with applications in urban planning. Review of basic mathematical concepts fundamental to planning, linear and nonlinear functions focusing on growth curves and mathematics of finance; data measurement and display; descriptive statistics and probability concepts. Computer as tool in analysis of planning-related data. Letter grading.

220B. Quantitative Analysis in Urban Planning II. (4) Lecture; three hours; laboratory, 90 minutes. Requisite: course 220A or equivalent as demonstrated by passing score on mathematics proficiency examination given first day of course 220A. Introduction to concepts of statistical inference and modeling, with emphasis on urban planning applications. Topics include sampling, hypothesis testing, analysis of variance, correlation, and simple and multiple regression. Use of computer as tool in statistical analysis and modeling. Letter grading.


222. Introduction to Histories and Theories of Urban Planning. (4) Lecture, 90 minutes; discussion, 90 minutes. Preparation: courses 210A and 217A. Examination of methods which integrate theory and practice through readings and individual and collective analyses of each student's fieldwork experience. Students must be working in a field setting to enroll. Job fair is held at end of Fall Quarter to place students in field settings. Students combine course 222 with one term of course 496 to meet fieldwork requirement. Letter grading.

226A. Introduction to Computer-Aided Architectural Design, Two-Dimensional. (4) (Same as Architecture and Urban Design M226A.) Lecture, three hours; laboratory, one hour. Concepts of hardware, software, and networks; paint, draft, multimedia, DTP, and presentation programs; CAD in office environment. Letter grading.


229. Special Topics in Planning Methods. (4) Lecture; three hours. Topics in planning methodology selected by faculty members. May be repeated for credit. S/U or letter grading.

M230. Introduction to Regional Planning. (4) (Same as Public Policy M241.) Lecture, three hours. Critical and historical survey of evolution of regional planning theory and practice, with particular emphasis on relations between regional planning and developments within Western social and political philosophy. Major concepts include regions and regionalism, territorial community, and social production of space. Letter grading.
C233. Political Economy of Urbanization. (4) Formerly numbered C233.) Lecture, three hours. Introduction to new approaches to urban studies: basic concepts and analytical approaches of urban political economy, with major emphasis on American urban problems and restructuring of modern metropolises. Topics include historical geography of urbanization, development and transformation of urban spatial structure, suburbanization and metropolitan political fragmentation, urban fiscal crisis, and role of urban social movements. Concurrently scheduled with course C233S, S/U or letter grading.

C234A. Development Theory. (4) Lecture, three hours. Review of basic literature and schools of thought on development theory through analysis of impact of mercantilism, capitalism, socialism, and socialization on urban and rural social and economic structures in the Third World. Presentation, through evaluation of theoretical writings and case studies, of complexity and diversity of developing countries. Emphasis on linkages between policy and rural and urban impacts. Gives students important background for courses C234B, M234C, and many of the other planning courses addressing Third World issues. Letter grading.

C234B. Rural Development Issues. (4) Lecture, three hours. Recommended preparation: course 234A. Development more thoroughly of themes raised in earlier courses may include peasant-rural development and rural women, agricultural ecology, comparative land reform, agrarian revolution, and special problems of tropical development. May be repeated for credit with consent of instructor. Letter grading.

M234C. Resource-Based Development. (4) (Same as Geography M229.) Discussion, three hours. Recommended preparation: course 234A. Some major issues associated with development of specific natural resources. Topics include nature of particular resource or region associated with it, its previous management, and role of the state, corporations, and local groups, and environmental and social impact of its development. Letter grading.

235A-235B. Urbanization in Developing World I, II (4-4) Lecture, 90 minutes; discussion, 90 minutes. Course 235A is requisite to 235B. Questions of urbanization and planning in first term; rural development in second term. Case studies from Latin America, Africa, and Asia. Lectures, student presentations, and policy debates. Letter grading.

M236A. Theories of Regional Economic Development I. (4) (Same as Public Policy M240.) Lecture, three hours; discussion, one hour. Introduction to theories of location of economic activity, trade, and other forms of contact between regions, processes of regional growth and decline, reasons for different levels of economic development, relations between more and less developed regions. Letter grading.

M236B. Globalization, (4) Lecture, three hours. Required: course M236A. Application of theories of regional economic development, location, and trade learned in course M236A to contemporary process known as globalization. Examination of nature and effects of globalization on development, employment, and social structure, along with implications for policy. Letter grading.

C236. Advanced Workshop on Regions in World Economy. (4) Lecture, three hours. Required: course 236B. Advanced workshop on regional development examining changes in organization of production systems, their geographies, and processes which affect regional performance in globalized environment. Letter grading.

C237A. Sectoral Analysis. (4) Lecture, three hours; laboratory, one hour. Introduction to methods and procedures of sectoral investigation as applied to regions, industries, and their labor forces. Current theories and conceptions of industrial structure and industrial change. Investigation of characteristics and trends of industry subsystems in Los Angeles resulting that can be of aid to planning and shaping economic development. Letter grading.

C237B. Urban and Regional Economic Development Applications. (4) Lecture, three hours. Survey and analysis of economic development strategies in the U.S. Because economic development strategies seek to modify or shape existing conditions, focus on how policies attempt to harness dynamics associated with new forms of industrialization, intensified global competition, and interrelationships among capital, labor, and the state. Letter grading.

C237C. Southern California Regional Economy. (4) Lecture, three hours. Introduction to regional economy, with emphasis on Los Angeles key economic sectors, labor market composition, and review of conflicting portrayals depicting dynamics of region. Two all-day bus tours of key economic regions and guest lectures by regional experts included. Concurrently scheduled with course CM137. Letter grading.

238. Advanced Seminar: Urban and Regional Development. (4) Seminar, two hours; discussion, two hours. Designed for Ph.D. students. Advanced research seminar on major issues in urban and regional development theory and/or policy. Topics usually reflect faculty research projects and change from year to year. May be repeated for credit.

239. Special Topics in Urban and International Development. (4) Lecture, three hours. Exploration of planning needs of various social groups in urban settings, using existing literature and research studies to determine appropriate mechanisms of planning for multiple publics. Analysis of communities in Los Angeles metropolitan area to gain insights into practical, theoretical, and methodological problems of planning for multiple publics. Generally taken in first year.

251. Planning for Multiple Publics. (4) Lecture, three hours. Exploration of planning strategies for multiple publics emerging from large-scale planning projects. Students develop mitigation measures to address identified adverse consequences. S/U or letter grading.

253. Sprawl. (4) Lecture, three hours. Suburbs are not new, but metropolitan areas in the U.S. and elsewhere continue to grow rapidly at their edges in ways that many consider poorly planned. Discussion of causes and impacts of sprawl and what, if anything, should be done about it. Letter grading.

254. Transportation, Land Use, and Urban Form. (4) (Same as Public Policy M220.) Lecture, three hours. In three hours. Historical evolution of urban form and transportation systems, intrametropolitan location theory, recent trends in urban form, spatial mismatch hypothesis, and land use patterns in central and metropolitan areas. Letter grading.

255. Transportation Planning. (4) (Same as Public Policy M244.) Lecture, three hours. Examination of how planners analyze, manage, and operate transportation systems. Measuring system performance, intelligent transportation systems, transportation system demand management, parking management, freight movement and facilities, public transit evaluation and management, paratransit, bicycle and pedestrian planning, transportation for elderly and disabled. Letter grading.

256. Travel Behavior Analysis. (4) (Same as Public Policy M221.) Lecture, three hours. Required: courses 207 and 220B, or Public Policy 201 and 203. Descriptions of travel patterns in metropolitan areas, recent trends and projections into future, overview of travel forecasting methods, trip generation, trip distribution, mode split traffic assignment, critique of traditional travel forecasting methods and new approaches to travel behavior analysis. Letter grading.
M257. Transportation Economics, Finance, and Policy. (4) (Same as Public Policy M227.) Lecture, three hours. Transportation finance and economics; concepts of efficiency and equity in transportation finance; historical evolution of highway and transit finance; current issues in highway finance; private participation in road finance, toll roads, road costs and cost allocation, truck charges, congestion pricing; current issues in transit finance; transit fare and subsidy policies, contracting and privatization of transit services. S/U or letter grading.

M258. Transportation and Environmental Issues. (4) (Same as Public Policy M223.) Lecture, three hours. Regulatory structure linking transportation, air quality, and energy issues, chemistry of air pollution, overview of transportation-related approaches to air quality enhancement; new car tailpipe standards; vehicle inspection and maintenance issues; transportation demand management and transportation control measures; alternative fuels and electric vehicles; corporate average fuel economy and global warming issues; growth of automobile worldwide fleet; automobile in sustainability debate. Letter grading.

C260. Environmental Politics and Governance. (4) Lecture, three hours. Environmental planning is more than simply finding problems and fixing them. Each policy must be negotiated and implemented within multiple, complex systems of governance. Institutions and politics matter deeply. Overview of how environmental governance works in practice and how it might be improved. Concurrently scheduled with course CM165. Letter grading.

261. Land-Use Planning: Processes, Critiques, and Innovations. (4) Lecture, three hours. Understanding of techniques, processes, strategies, and dilemmas of land-use planning. Despite strong critiques and demonstrated shortcomings, land-use control remains integral part of planning practice. How does land-use control work? How has it evolved? What are problems with traditional land-use control mechanisms? What are new innovations in land-use planning? How do we assess land-use planning effectiveness? What is role of land-use planning in good society? S/U or letter grading.

M262A. Toxics Reduction: Science, Engineering, and Policy Issues. (4) (Same as Environmental Health Sciences M249.) Lecture, three hours. Lecture, three hours. Public health experts, industrial engineers, and planners are being asked to assess risks biologically active chemicals present and to take such risks into account in planning process. Examination of potential for toxins reduction and current state of government and industry activities in this area. Letter grading.

262B. Urban Environmental Problems: Water Resources. (4) Lecture, three hours. Water is life and wealth in California, which has world’s most extensive long-distance, interbasin water transfer system. To date, water resources planning has been devoted almost exclusively to adding facilities for water delivery. But conflicts over additional developments have basically precluded further extension of this system, despite growing pressures to increase supplies. Examination of environmental impacts, geography, use of water, and consideration of resource planning.

M262C. Pollution Prevention. (2) (Same as Environmental Health Sciences M239.) Seminar, one hour. Designed for graduate students. Series of talks by academics, policymakers, industry representatives, and public interest advocates addressing opportunities and obstacles to adopting principles of pollution prevention, including several case studies of specific policies and industry initiatives in this area. S/U grading.


M264. Environmental Law. (3 to 6) (Same as Law M290.) Lecture, three to three and one-half hours. Examination of the field of environmental law through analysis of various legal issues and public policy: legal consequences of public decision-making strategies and allocation of primary responsibility for various environmental decisions. Focus on air pollution and Clean Air Act as a means of illustrating policy issues underlying the field.

C265. Environmentalism: Past, Present, and Future. (4) Lecture, three hours. Exploration of history and role of major environmental ideas and countermovements they spawned, and new and changing nature of modern environmentalism. Introduction to early ideas of environment, how rise of modern sciences shaped ideas, and how this was later transformed by 19th-century ideas and rise of American conservation movements. Review of politics of American environmental thought and contemporary environmental questions as they relate to broader set of questions about nature of development, sustainability, and equity in environmental debate. Exploration of issues in broad context, including global climate change, risks of pandemics, deforestation, and environmental justice impacts of war. Concurrently scheduled with course CM165. Letter grading.


M267. Environmental and Resource Economics and Policy. (4) (Same as Public Policy CM250.) Lecture, three hours. Requisites: courses 207 and 220B, or Public Policy 204 and 208. Survey of ways economic science shaped and reshaped ideas about environmental management. Overview of analytical questions addressed by environmental economists which bear on public policies. Letter grading.


269. Special Topics in Environmental Analysis and Policy. (4) Three hours. Topics in environmental analysis and policy selected by faculty. May be repeated for credit. S/U or letter grading.

M270. Homelessness: Housing and Social Service Issues. (4) (Same as Public Policy M204.) Lecture, 90 minutes; discussion, 90 minutes; one field trip. Review of current status of homelessness; who homeless are, what social services and housing are available, and proposed programs — appropriate architecture, management, and sources of funding. Outside speakers include providers of services to homeless. Letter grading.

271. Community Economic Development. (4) Lecture, three hours. Introduction to principles and issues underlying the field of community economic development and neighborhood development strategies. Overview of basic approach, important concepts, resources, and language of the field, and major strategies for revitalization of low-income neighborhoods. Letter grading.

M272. Real Estate Development and Finance. (4) (Same as Architecture and Urban Design M272.) Lecture, two hours; workshop, two hours; outside study, eight hours. Requisites: courses 20A, 220B. Recommended for first-year students in community development and built environment area of concentration. Introduction to real estate development process specifically geared to students in planning, architecture, and urban design. Financial decision model, market studies, designs, loan packages, development plans, and design studies. Lecture, projects, and group projects integrated development process with proposed design solutions that are interactively modified to meet economic feasibility tests. S/U or letter grading.

273. Site Planning. (4) Lecture, 90 minutes; laboratory, 90 minutes. Requisite: course 274. Introduction to principles of site planning for urban areas. S/U or letter grading.

274. Introduction to Physical Planning. (4) Lecture/workshop, 90 minutes; discussion, 90 minutes. Designed for students with no prior physical planning background and for first-year M.A. students in community development and built environment, design and transportation planning and policy. Focus on role of U.S. housing policy and role of government agencies and community organizations. Is problem housing or economic development? Should interventions be directed toward inner city housing markets or through neighborhood strategies? What lessons can be learned from experiences of other countries? Letter grading.

M275. Community Development and Housing Policies: Roles of State, Civil Society, and Nonprofits. (4) (Same as Public Policy M243 and Social Welfare M290U.) Lecture, three hours; outside study, nine hours. Designed for graduate students. Examination of role of U.S. housing policy and role of government agencies and community organizations. Is problem housing or economic development? Should interventions be directed toward inner city housing markets or through neighborhood strategies? What lessons can be learned from experiences of other countries? Letter grading.

M276. Urban Housing and Community Development. (3 to 4) (Same as Law M287.) Lecture, three hours; discussion, one hour. Examination of past 40 years of federal and state programs to stem urban decline and improve housing in the U.S.; comparison and contrast of legal and policy initiatives in areas of public housing, housing segregation, mortgage subsidies, landlord/tenant law, urban renewal, and community organizing. Research paper required. Letter grading.

277. Historic Preservation: Principles and Practices. (4) Lecture, 90 minutes; discussion, 90 minutes. Overview of preservation field, including history and theory, current legislation, tax incentives, preservation planning, landmark and district surveys and designations, adaptive reuse, citizen involvement, and social issues.

278. Qualitative Research Methods for Planners and Designers. (4) Lecture, 90 minutes; discussion, 90 minutes. Emphasis on conceptualizing research projects using grounded theory; relation to survey data. Techniques include content analysis, user needs analysis, participatory observation, questionnaire construction, interview techniques. Projects include students’ own research.

279. Seminar: Public Space. (4) Seminar, three hours. Investigation of changes in production, consumption, design, and meaning of public space and analysis of socioeconomic, political, and cultural factors that lie behind them. Letter grading.

280. Affordable Housing Development. (4) Lecture, three hours. Overview of basic concepts, and skills utilized in nonprofit development initiatives, especially by community-based organizations. Focus on nonprofit provision of subsidized housing, emphasizing way professionals and civic groups fund projects from private, governmental, and philanthropic sources. Use of client projects and negotiation exercises. S/U or letter grading.
M209. Strategic Planning for Public and Nonprofit Organizations. (4) (Same as Public Policy M247 and Social Welfare M241F.) Lecture, three hours; outside study, nine hours. Design for graduate students. Technical processes of problem solving regarding substantive social welfare problems at community level. This form of community practice fills niche between professional and knowledge and skill set possessed by agency and program administrators on one hand and by policy analysts and policymakers on other. Letter grading.

M291. Introduction to Sustainable Architecture and Community Planning. (4) (Same as Architecture and Urban Design CM247A.) Lecture, three hours. Relationship of built environment to natural environment through whole life approach, with focus on sustainable design of buildings and planning of communities. Emphasis on energy efficiency, renewable energy, and appropriate use of resources, including materials, water, and land. Letter grading.

M292. Elements of Urban Design. (4) (Same as Architecture and Urban Design M271.) Lecture, three hours. Introduction of basic knowledge of elements and methods of urban design. Multidisciplinary approach leading to understanding of political, socioeconomic, and technological framework of urban systems and its dynamic interrelations. S/U or letter grading.

M293. Politics, Ideology, and Design. (4) (Same as Architecture and Urban Design M293.) Lecture, three hours. Exploration of cultural and political context of architecture and planning work. Examination of theory and practice from variety of perspectives applied to set of urban physical environments and to set of current spatialized concepts. Consideration of theoretical propositions that are shaping present urban and architectural debate and concrete case studies where politics and ideology shape design process. Letter grading.

294. Housing in Developing Countries: Policy Objectives and Options. (4) Lecture, three hours. Examination of relevance of public policies and their intended and unintended effects on housing demand and supply in developing countries. How definition of housing problems, and scope of solutions, has changed over time. Critical assessment of some key solutions that have been tried in past, their advantages, shortcomings, and resultant trade-offs, and likely directions for future housing policy. Letter grading.

296. Special Topics in Emerging Planning Issues. (2 to 4) Discussion, one to three hours. Topics in newly emerging planning issues such as role of cutting edge technology, innovative policies, and experimental programs. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, one to three hours. Topics in newly emerging planning issues such as role of cutting edge technology, innovative policies, and experimental programs. May be repeated for credit. S/U grading.

404. Joint Planning/Architecture Studio. (4) (Same as Architecture and Urban Design M404.) Lecture, one hour; discussion, one hour; studio, four hours. Opportunity to work on joint planning/architecture project for a client. Outside speakers; field trips. Examples of past projects include Third Street Housing, Santa Monica; New American House for nontraditional households; Pico-Aliso Housing, Boyle Heights; working with resident leaders at Los Angeles City public housing developments.

470. Introduction to Occupational and Environmental Health Education. (2 or 4) (Same as Community Health Sciences M470.) Lecture, three hours. Preparation: at least three social sciences courses. Designed to provide students with understanding of problem areas of occupational and environmental health and education interventions which can be applied. Letter grading.

496. Field Projects. (4) Tutorial, four hours. May not be repeated for credit. S/U grading.

501. Cooperative Program. (2 or 8) Preparation: consent of UCLA graduate adviser and graduate dean, and host campus instructor; department chair, and graduate dean. Use to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

596. Research in Planning. (4) Tutorial, four hours. May be repeated once for credit. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (4) Tutorial, four hours. May be repeated once for credit. S/U grading.

598. Preparation for M.A. Thesis in Urban Planning. (4) Tutorial, four hours. May be repeated but may be applied toward degree only once; may be repeated for credit by Ph.D. students. S/U grading.


UROLOGY
David Geffen School of Medicine

UCLA 66-143 Center for the Health Sciences
Box 951738
Los Angeles, CA 90095-1738
(310) 825-5088
http://www.uclaulogy.com

Chairs
Jean B. deKernion, M.D., Chair
Bernard M. Churchill, M.D., Vice Chair

Director
Mark S. Litted, M.D., M.P.H., Director of Medical Student Education

Scope and Objectives
The fundamental goal of the Department of Urology is to teach medical students the general principles of diagnosis and management in diseases of the genitourinary tract. Urology encompasses a wide scope of human illness, including conditions that are congenital and acquired, pediatric and adult, male and female, malignant and benign. The department functions to acquaint students with the skills necessary to manage these conditions in the initial stages and over the long term. Instruction spans all four years of the undergraduate medical school curriculum but is concentrated during the clinical rotations. Students spend one week on the urology service during the third year and may return for an additional four-week elective rotation during the fourth year. The clinical experience includes time spent in the faculty and resident clinics, on ward rounds, and in didactic conferences that cover general urology, urological subspecialties, uropathology, and uroradiology. Urology teaching settings include the UCLA, Harbor-UCLA, Olive View-UCLA, UCLA-Santa Monica Hospital, and West Los Angeles VA Medical Centers.

For further details on the Department of Urology and a listing of the courses offered, see http://www.uclaulogy.com.
Upper Division Course

199. Directed Research in Urology. (2 to 8) Tutorial, two hours. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper required. May be repeated for credit. Individual contract required. P/NP or letter grading.

WOMEN’S STUDIES
Interdepartmental Program
College of Letters and Science

UCLA
2225 Rolfe Hall
Box 951504
Los Angeles, CA 90095-1504
(310) 206-8101
fax: (310) 206-7700
e-mail: womens@women.ucla.edu
http://www.womensstudies.ucla.edu

Christine A. Littleton, J.D., Chair

Faculty Advisory Committee
Emily K. Abel, Ph.D. (Health Services)
Ruth H. Bloch, Ph.D. (History)
Karen B. Brodkin, Ph.D. (Anthropology)
Sondra Hale, Ph.D. (Anthropology)
Rhonda Hammer, Ph.D., ex officio
Sandra Harding, Ph.D. (Education)
Grace K. Hong, Ph.D. (Asian American Studies)
Rachel C. Lee, Ph.D. (English)
Christine A. Littleton, J.D. (Law)
Purnima Mankekar, Ph.D. (Asian American Studies)
Elizabeth A. Marchant, Ph.D. (Spanish and Portuguese)
Kathleen A. McHugh, Ph.D., ex officio (English, Film, Television, and Digital Media)
Kathryn Norberg, Ph.D. (History)
Sule Ozler, Ph.D. (Economics)
James A. Schultz, Ph.D., ex officio (Germanic Languages)
Sharon J. Trisweek, Ph.D. (History)
Juliet A. Williams, Ph.D., ex officio

Scope and Objectives
The Women’s Studies Program provides interdisciplinary academic programs that span departments, disciplines, and ideologies. The undergraduate program offers a Bachelor of Arts degree and a minor; the graduate program offers the Master of Arts and Ph.D. degrees.

The programs provide students the opportunity to study the full range of human experience and arrangements of social organization from the perspectives of those whose participation has been traditionally distorted, omitted, neglected, or denied — women in their racial, class, sexual, national, and cultural diversity. Students develop critical reasoning and analytical skills, research and communication skills, a deep appreciation for complexities of power and asymmetries in gender relations across time, class, and cultures, and conceptual tools for social change. Emphasis on multidisciplinary, multiethnic, and transnational approaches assures a broader exposure to the humanities and social sciences than is commonly available within disciplinary confines. A background in women’s studies offers unique contextual validation for today’s gender contro-versies and prepares students for a wide range of career and life choices.

The faculty members who teach women’s studies courses come from various College of Letters and Science departments, area studies centers, and professional schools. Many professionals within and outside the University contribute their time, expertise, and enthusiasm. A governance committee composed of the chair, faculty members, and graduate and undergraduate student representatives sets program policies and curricula.

The program works closely with undergraduate and graduate student associations to promote student activism and community service among its majors, minors, and graduate students. It also assists other student groups with extracurricular programming on feminist issues. Research in women’s studies is promoted in cooperation with the Center for the Study of Women.

Undergraduate Study

Women’s Studies B.A.
The interdisciplinary major in Women’s Studies may be taken alone or in conjunction with another Letters and Science major. In the case of a double major, no more than five courses may be applied toward both majors.

Admission
To be admitted to the major, students must have completed Women’s Studies 10, be in good standing, and formally register with the program. They are encouraged to declare their major as early as possible and to discuss their proposed course of study with the chair or undergraduate adviser.

Students are encouraged to draw on the University’s diverse resources in creating their program of study. They may pursue traditional and/or innovative subjects in fields ranging from the humanities and fine arts to the social and life sciences. In addition to courses on the women’s studies approved list, students may petition to have diverse courses accepted, including courses outside the College of Letters and Science, independent studies, or field study courses.

All courses applied toward the major must be taken for a letter grade, and students must have a grade-point average of 2.0 or better in women’s studies courses to receive credit for completing the program. Courses in which they receive a grade of C- or lower may not be applied toward the core requirements in the major.

Preparation for the Major

Required: Women’s Studies 10. Students must also complete departmental lower division requirements, as applicable, for upper division women’s studies courses in the disciplines.

Transfer Students

Transfer applicants to the Women’s Studies major with 90 or more units must complete the following introductory courses prior to admission to UCLA: one multidisciplinary feminist perspectives on women and society course and departmental lower division requisite courses.

Refer to the UCLA Transfer Admission Guide at http://www.admissions.ucla.edu/prospect/adm_tr.htm for up-to-date information regarding transfer selection for admission.

The Major

The major is designed to (1) impart core concepts in theory and critical analysis, research design, and methods, (2) provide exposure to a range of feminist scholarship across disciplines, and (3) enable students to acquire a depth of knowledge within one or two disciplinary or topical fields of inquiry. To achieve this goal, the major is divided into three categories.

Required: At least 13 upper division courses (minimum of 4 units each) as follows:

1. Three core courses, including (a) one feminist theory course from Women’s Studies 110A or 110B or M110C, (b) course 130 or one course on the study of American ethnic minority women from the approved list of women’s studies credit courses issued each term by the program, and (c) course 187

2. A distribution of at least four courses, each from a different department or discipline, selected from the approved list of women’s studies courses

3. Six additional concentration courses from one or two of the disciplines in which the core and distribution courses have been taken. Students may petition for interdisciplinary or topical concentrations such as feminist theory, women of color, women’s health, or lesbian studies. If two fields are selected, the ratio of the six courses may be divided 3-3 or 4-2

One upper division tutorial (minimum of 4 units) selected from course 195, 197, or 199 may be applied toward the concentration requirement for the major. This limit does not apply to Women’s Studies 198A or 198B.

Honors Program

The honors program is open to advanced junior and senior Women’s Studies majors with a 3.6 grade-point average in women’s studies courses and a minimum 3.4 overall GPA who have no outstanding Incomplete grades, and to majors who demonstrate ability to do honors work by submitting a paper to the program chair for approval. Students wishing to undertake honors in the major are encouraged to complete Women’s Studies 187 by Spring Quarter of the junior year or Fall Quarter of the senior year.
Women's Studies
Lower Division Course

10. Introduction to Women's Studies: Feminist Perspectives on Gender and Sexuality. (5) Lecture, three hours; discussion, two hours. Introduction to study of women and men in society, covering comparative issues of social, political, and economic position in the workplace, family, cultural institutions; historical basis of women's subordination; the female experience; the male relationship; intersections between women and men; sections of ethnicity, class, and gender; violence against women; cultural images of women and men; social roles of women and men and movement for social change. P/NP or letter grading.

Upper Division Courses


M101C. Special Topics in Lesbian and Gay Literature. (5) Same as English M101C and Lesbian, Gay, Bisexual, and Transgender Studies M101C.) Lecture, four hours. Enrolled requisite: English Composition 3 or 3H. Variable specialized studies course in lesbian and gay literature. Topics focus on particular problem or issue in terms of its relationship to lesbian and gay culture and writing. May be repeated for credit. P/NP or letter grading.

M104C. Diversity in Aging: Roles of Gender and Ethnicity. (4) Same as Gerontology M104C and Social Welfare M104C.) Lecture, four hours. Exploration of complexity of variables related to diversity of the aging population and variability in aging process. Examination of gender and ethnicity within context of both physical and social aging, in a multidisciplinary perspective utilizing faculty from a variety of fields to address issues of diversity. Letter grading.

105. Topics in Women and Medicine. (4) Lecture/discussion, three hours. Examination of medical conditions of women in context of issues that impact women's health, healthcare, and healthcare providers. Discussion of birth control, concepts and self-care; consideration of a woman's health specialty and ways to deliver healthcare to women. Exploration of roles and lifestyles of female physicians. P/NP or letter grading.

M106. Imaginary Women. (4) Same as Honors College, Legum M106.) Seminar, four hours. Designed for juniors/seniors. Study of four female cultural archetypes — absconding wife/mother, the intellectual woman, and warrior woman — as they appear in their classical and modern manifestations in Euro-American and American cultures. P/NP or letter grading.

M107A. American Women Writers. (5) Same as English M107A.) Lecture, four hours. Enrolled requisite: English Composition 3 or 3H. Survey of literary works by American women writers, with emphasis on roles of women, portrayal of nature and society, and evolution of forms and techniques in writing by American women. P/NP or letter grading.

Women's Studies Minor

The Women's Studies minor augments and enriches study in a traditional field. Students participating in this program are required to complete both a departmental major and the Women's Studies minor.

To enter the minor, students must have an overall grade-point average of 2.0 or better and file a petition in 2225 Rolfe Hall. They are encouraged to declare the minor as early as possible and to discuss their proposed course of study with the chair or undergraduate adviser.

Required Lower Division Course (4 units): Women's Studies 10.

Required Upper Division Courses (28 units):
(1) One feminist theory course from Women's Studies Studies 110A or 110B or M110C, 2.0 or 187 or an equivalent senior research seminar approved in advance, and (3) five upper division elective courses (minimum of 4 units each) from the approved list of women's studies courses issued each term by the program. At least three elective courses must be taken in departments other than the major department. No more than 4 units of courses 195 through 199 may be applied.

All minor courses must be taken for a letter grade, with an overall grade-point average of 2.0 or better. Courses in which students receive a grade of C-- or lower may not be applied toward the core requirements in the minor. Successful completion of the minor is indicated on the transcript and diploma.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmqrintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Women's Studies Program offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Women's Studies.
M114. Introduction to Lesbian, Gay, Bisexual, and Transgender Studies. (5) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M114.) Lecture, three hours; discussion, one hour. Introduction to history, politics, culture, and scientific study of lesbians, gay men, bisexuals, and transgendered people; examination of sexuality and gender as categories for investigation; interdisciplinary theories and research on minority sexualities and genders. P/NP or letter grading.

M115. Topics in Study of Sexual and Gender Orientation. (5) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M115.) Lecture/discussion, three hours. Requisite: course 10 or M114. Studies in arts, humanities, social sciences, and/or life sciences on aspects of sexual orientation, gender identity, and lesbian, gay, and/or bisexual issues; variable topics may include cultural representations, historical and political change, life and health experiences, and queer or transgender theories; multithetic and cross-cultural emphases. May be repeated for credit. Letter grading.

M116. Sexuality and the City: Queer Los Angeles. (4) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M116.) Lecture, four hours. Examination of ancient goddesses and heroines. (Same as Honors Collegium M118.) Lecture, three hours. Examination of ancient goddesses and heroines — European, Neolithic, Near Eastern, Celtic, Scandinavian, Balto-Slavic, Indo-Iranian, and Greco-Roman — using translations of ancient texts, archaeological evidence, and feminist methodology in order to discover implications of ancient patriarchy on modern society. P/NP or letter grading.


M127. Women in Russian Literature. (4) (Same as Russian M127.) Lecture, three hours. Requisite: course 10 or seniors. Lectures and readings in English. Introduction to “alternative tradition” of women’s writings in Russia and the Soviet Union. Emphasis on individual author and the relationship of her work compared with those found in works of contemporary male writers. P/NP or letter grading.


M129. Women of Color in the U.S. (4) Lecture/discussion, three hours. Requisite: course 10. Exploration of experiences of African American, Asian American, Chicanas, and Native American women in order to assess their contributions to arts, sciences, liberal arts, social sciences, and gender. Contemporary and/or historical and/or theoretical perspectives on racism and its relation to feminism as defined by women of color. P/NP or letter grading.

M132A. Chicana Feminism. (4) (Same as Chicana and Chicano Studies M110.) Lecture, three hours. Requisite: course 10 or Chicana and Chicano Studies 10A. Examination of theories and practices of women who identify as “Chicana feminist.” Analysis of writings of Chicana who do not identify as feminist but whose practices attend to gender inequities faced by Chicanas both within Chica/Chicana community and dominant society. Attention to Anglo-European and Third World influences.

M132B. Contemporary Issues among Chicanas. (4) (Same as Chicana and Chicano Studies M114.) Lecture, two and one-half hours. Requisite: course 10. Overview of conditions facing Chicanas in the U.S., including issues on family, immigation, reproduction, employment conditions. Comparative analysis of issues with other Latinas. P/NP or letter grading.


M133A-M133B. History of Women in Europe. (4-4) (Same as History M133A-M133B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History of social, political, and cultural roles of women in Western Europe from early Middle Ages to the present. P/NP or letter grading. M133A. 800 to 1715; M133B. 1715 to the Present.

M133C. History of Prostitution. (4) (Same as History M133C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. History of prostitution from ancient times to the present. Topics include toleration in medieval Europe, impact of syphilis, black market prostitution in early 19th-century Europe, white slavery scare, and contemporary global sex trade. Readings include novels, primary sources, and testimony by sex workers. P/NP or letter grading.


M135. Topics in Study of Sexual and Gender Orientation. (4) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M115.) Lecture, three hours; discussion, one hour. Requisite: course 10 or M114. Topics may include changing norms, romantic friendships, medical discourse, liberation politics, post-Stonewall culture, AIDS, transsexualism, queer theory and politics. P/NP or letter grading.

M137E. Work Behavior of Women and Men. (4) (Same as Psychology M137E.) Lecture, two and one-half hours. Requisite: course 10 or Psychology 10. Designed for seniors. Examination of work behavior of women and men. Topics include relationship of career choice, job findings, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence of work and family roles. P/NP or letter grading.

138. Gender and Popular Culture. (5) Lecture, three hours; screenings, two hours. Limited to juniors/seniors. Conceptual tools and critical skills necessary to rigorously interrogate gender politics of popular culture in the U.S. context. Consideration of theories of popular culture and exploration of distinctive power and ideological force exerted by popular culture in American public life. Examination of specific representations of male and female bodies to understand visual vocabulary of gender in popular culture, as well as relationships between visual stereotypes and redefinitions of power. Consideration of content拳 pure transformative potential of pop culture and exploration of capability and limits of popular culture as agent of social change.


M140. Women’s Studies in French Literature. (4) (Same as French M140.) Lecture, three hours. Exploration of a selected aspect of the situation of women in French literature as author, character, symbol, etc. P/NP or letter grading.

M141. Women, Health, and Aging: Policy Issues. (4) (Same as Gerontology M141 and Health Services CM141.) Lecture, three hours; discussion, one hour. Preparation: two upper division social sciences courses, two upper division biological sciences courses. Social and economic context of older women’s aging, major physical and psychological changes older women experience, delivery of health services to this population, and policies that respond to their health needs. Letter grading.

M144. Women's Movement in Latin America. (4) (Same as Chicana and Chicano Studies M144.) Lecture, four hours. Designed for juniors/seniors. Overview of women's movements in Latin America and Caribbean to examine diverse social movements and locations from which women have launched political and gender struggles. Discussion of forms and women's consciousness that have emerged out of indigenous rights movements, environmental struggles, labor movements, Christian-based communities, peasant and rural organizing, and new social movements that are concerned with race, sexuality, feminism, and human rights. Through comparative study of women's movements in diversity of political systems as well as national and transnational arenas, students gain understanding of historical contexts and political conditions that give rise to women's resistance, as well as major debates in field of study. P/NP or letter grading.

M146. Feminist Geography. (4) (Same as Geography M146.) Lecture, four hours; discussion, one hour. Critical engagement of gender as concept of geographic inquiry. Gender as spatial process, analysis of feminist geographic theory and methods, landscapes of gender, and representation of gender. Spaces of femininity, masculinity, and sexuality. P/NP or letter grading.

M147A. Psychology of Lesbian Experience. (4) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M147A and Psychology M147A.) Lecture, two hours; discussion, one hour. Required: course 10 or Lesbian, Gay, Bisexual, and Transgender Studies M114 or Psychology 10. Recommended for juniors/seniors. Review of research and theory in psychology and women's studies to examine various aspects of lesbian experience, impact of heterosexism/stigma, gender role socialization, minority status of women and lesbians, identity development within a multicultural society, changes in psychological theories about lesbian women in sociocultural context. P/NP or letter grading.

M147B. History of Women in Colonial British America and Early U.S., 1600 to 1860. (4) (Same as History M147C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to history of early American women from initial confrontation of English women with Native American cultures and African slave culture to rise of women's rights movement in the mid-19th century. P/NP or letter grading.

M147C. Transnational Women's Organizing in Americas. (4) (Same as Chicana and Chicano Studies M147.) Lecture, four hours. Feminist theories of transnational organizing, Examination of gender and race as central to processes of globalization and essential to economic and political struggles encompassed in transnational power relations. Exploration of how questions of race and gender influence global economic restructuring, labor market expansion, and their communities. In time when people, capital, cultures, and technologies cross national borders and growing frequency, discussion of process of accelerated globalization that has been linked to feminization of labor and migration, environmental degradation, questions of diaspora, sexuality, and cultural displacement, as well as growing global militarization. Problems and issues created by global capital, cultural, social, and political responses envisioned by transnational organizing. P/NP or letter grading.

M147D. History of Women in the U.S., 1860 to 1980. (4) (Same as History M147D.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to major themes in history of American women from abolition of slavery and Civil War to rise and consequences of second-wave feminism. P/NP or letter grading.


M149. Media: Gender, Race, Class, and Sexuality. (5) (Same as Communication Studies M149.) Lecture, four hours; activity, one hour. Required: senior/upper division Communication Studies and Women's Studies majors by permission. Course examines cultural productions that give rise to women's resistance, as well as major debates in field of study. P/NP or letter grading.

M150. Women's Movement in Latin America. (4) (Same as Anthropology M150.) Lecture, three hours. Requisite: Anthropology 12. Examination of structures and networks that include and support women's movements in Latin America and Caribbean. Critical analysis of ways in which social and political contexts shape and are shaped by women's movements. P/NP or letter grading.


M152. The Media and Aggression Against Women. (4) (Same as Communication Studies M152.) Lecture, four hours. Social scientific study of intersection between mass media and men's aggression against women. Particular consideration of sexual aggression, pornography, and characteristics of aggressive men. Analysis of interaction between "nature and nurture" and theoretical and empirical issues. P/NP or letter grading.


M155. Women's Voices: Their Critique of Anthropology. (4) (Same as Anthropology M155.) Lecture, three hours. Preparation: introductory socio-cultural anthropology course. The anthropology of Japan has long viewed Japan as a homogeneous whole. Restoration of duality and contradiction in it by listening to voices of Japanese women in various historical contexts. P/NP or letter grading.

M155G. Women and Social Movements. (4) (Same as Anthropology M155G.) Lecture/discussion, three hours. Recommended preparation: prior women's studies or anthropology courses. Comparative study of social movements (e.g., nationalist, socialist, liberal/reform), beginning with Russia and China and including Cuba, Nigeria, Guinea-Bissau, Mozambique, Nicaragua, and Iran. Analysis of women's participation in social transformations and the centrality of gender interests. P/NP or letter grading.

M156. History of Women in the U.S.: Rebellious Women of 20th Century. (4) Lecture, three hours. Limited to juniors/seniors. Introduction to major and minor figures and movements in the women's movement in the U.S., including themes from politics, sports, civil rebellions, and body. Examination of dramatic challenges to gender roles over course of the 20th century through actions of rebellious women who led way for myriad of changes in women's lives. Offered in summer only. P/NP or letter grading.

M158. Women in Italian Culture. (4) (Same as Italian M158.) Lecture, three hours; discussion, one hour. Examination of role of women in Italian society through history, politics, literature, film, and art. Italian majors required to read texts in Italian. P/NP or letter grading.

M159. Pornography and Evolution. (4) (Same as Communication Studies M159.) Lecture, three hours. Discussion of theories and research on why pornography exists and its effects. Use of topic to illustrate value of evolutionary theory to social sciences generally. Letter grading.

M160. Sociology of Gender. (4) (Same as Sociology M160.) Lecture, three hours; discussion, one hour. Required: course 10 or Sociology 1. Examination of processes by which gender is socially constructed. Topics include distinctiveness between biological sex and the social gender, causes and consequences of gender inequality, and reactions of gender relations in modern industrial societies. P/NP or letter grading.

M163. Gender and Work. (4) (Same as Sociology M163.) Lecture, three hours. Required: course 10 or Sociology 1. Exploration of relationship of gender to work, concentrating on the U.S. experience but also including some comparative material. Particular emphasis on analysis of causes and consequences of job segregation by gender and of wage inequality. P/NP or letter grading.

M164. Politics of Reproduction. (4) (Same as Sociology M164.) Lecture, three hours; discussion, one hour. Title refers to intersection between politics and life cycle. Topics include social construction of gender and population, reproductive issues, politicization of mothers, motherhood, and mothering, surrogacy, and new reproductive technologies. Letter grading.

M164A. Women, Violence, Globalization, India, Philippines, Singapore, Vietnam. (4) (Same as Asian American Studies M164.) Lecture, four hours. Study of various forms of violence done on women not only in and of themselves but in light of larger systems of oppression, with India, Philippines, Vietnam, Singapore, and South Asian cultures. Letter grading.

M165. Psychology of Gender. (4) (Same as Psychology M165.) Lecture, three hours. Preparation: prior women's studies or anthropology courses. Consideration of psychological literature relevant to understanding contemporary sex differences. Topics include sex-role development and role conflict, physiological and personality differences between men and women, sex differences in intellectual abilities and achievement, and impact of gender on social interaction. P/NP or letter grading.

M166. Women in Socialist and Post-Socialist States. (4) (Same as Sociology M166.) Lecture, three hours; discussion, one hour. Exploration of diverse aspects of women's lives in socialist and post-socialist states. Although transition from socialism occurs differently, gender differences are everywhere central to democratization and marketization. Discussion of ways in which state policies affect women. Letter grading.

M167. Lesbian Sexualities. (4) (Same as Lesbian, Gay, Bisexual, and Transgender Studies M167 and Sociology M167.) Lecture, three hours; discussion, one hour. Sociological perspectives on formation, control, and resistance of lesbian, gay, bisexual, and transgendered people. Variable topics include identity and community; age, class, gender, and racial diversity; and analysis of contemporary issues affecting contested sexualities. Letter grading.
186. Feminist Economics in Globalizing World. (4) (Formerly numbered 188.) Lecture, four hours. Preparation: satisfaction of Letters and Science Writing II requirement. Requisite: course 10. Designed for juniors/seniors. Overview of field of feminist economics, with emphasis on development experiences in globalizing world economy. Overview of gender inequalities and application of labor theory of unpaid work, patterns of employment and unemployment, and wage gaps between men and women in different historical periods; feminist critiques of economics and of theoretical debates within gender and development field on topics such as structural adjustment, feminization of labor force, and poverty; examination of efforts and proposals by governments, international policy-making institutions, and civil society organizations to make economic policies and structures gender-equitable. P/NP or letter grading.

CM170. Alternate Traditions: In Search of Female Voices in Contemporary Literature. (5) (Formerly numbered M170.) (Same as Comparative Literature CM170.) Seminar, three hours. Designed for upper division literature majors. Investigation of narrative texts by contemporary French, German, English, American, Spanish American, African, and Asian women writers from cross-cultural perspective. Common themes, problems, and techniques. May be concurrently scheduled with course CM270. Undergraduate students read all works in translation. P/NP or letter grading.

M170C. History of Women in China, A.D. 1000 to the Present. (4) (Same as History M170C.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Topics include women and family, women in Confucian ideology, women in literatuer culture, feminist movement, and women and communist revolution. P/NP or letter grading.

171A. Women, Gender, and Law: Jurisprudence of Sexual Equality. (4) Lecture, four hours. Requisite: course 10 or Political Science 10 or Philosophy 6 or 9. Recommended preparation: M10A or M10B. Exploration of models of equality described and/or advocated by legal theorists primarily in the U.S. — equality of opportunity, equality of outcome, equality of respect, etc. — using specific problems of women (e.g., sexual harassment, pregnancy leave policy, access to safe and effective reproductive control technologies) for purposes of comparison and critique. Specific topics may vary by instructor (e.g., consideration of sexual equality theories to issues of gender equality, legal status of women in countries outside the U.S. or from perspectives of international human rights). May be repeated for credit on topic or instructor change. P/NP or letter grading.

M172. The Afro-American Woman in the U.S. (4) (Same as Afro-American Studies M172 and Psychology M172.) Lecture, two and one-half hours. Designed for juniors/seniors. Impact of social, psychological, political, and economic forces which impact on interpersonal relationships of Afro-American women as members of a large society and as members of their biological and ethnic group. P/NP or letter grading.

M173B. Women in 20th-Century Japan. (4) (Same as History M173B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Impact of social, psychological, political, and economic forces which impact on interpersonal relationships of Afro-American women as members of a large society and as members of their biological and ethnic group. P/NP or letter grading.

M175. Women and the City. (4) (Formerly numbered M194.) (Same as Urban Planning M175.) Lecture, three hours. Limited to juniors/seniors. Examination of historical cases illustrating how cities have affected women's opportunities for economic and social equality; (2) women's contributions to development of U.S. cities, and (3) contemporary strategies and efforts to create urban environments that reflect women's needs and interests. P/NP or letter grading.

CM178. Critical Media Literacy and Politics of Gender: Laboratory. (2) (Same as Education CM178L.) Laboratory, two hours. Corequisite: course CM178L. Use of range of pedagogical approaches to theory and practice of critical media literacy that necessarily involves understanding of new technologies and media forms. Study of both theory and production techniques to inform student analysis of media and critical media literacy projects. Concurrently scheduled with course CM278L. Letter grading.

M180B. Historical Perspectives on Gender and Science. (4) (Same as History M180B.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Historical cases illustrating how gender enters practices and concepts of science. Topics include gendered conceptions of nature, persons of "man of science," role of women in scientific revolution, scientific investigations of women and femininity. P/NP or letter grading.

185. Special Topics in Women's Studies. (4) Lecture, three hours. Preparation: prior one women's studies course. Designed for juniors/seniors. Specialized or advanced study in one area within women's studies. May be repeated for credit with topic and/or instructor change. P/NP or letter grading.


M186A. Global Feminism, 1850 to the Present. (4) (Same as History M186A.) Lecture, three hours; discussion, one hour (when scheduled). Designed for juniors/seniors. Introduction to movements for women's rights (educational, political, economic, sexual, and reproductive) around world and over one and one-half centuries. P/NP or letter grading.

187. Senior Research Seminar: Women's Studies. (4) (Formerly numbered 197.) Seminar, three hours. Requisites: courses 10, and 110A or 110B or M110C. Designed for advanced junior or senior Women's Studies majors or minors. In-depth study of major theme in feminist research. Themes vary by instructor and term. Students pursue independent research related to course theme, with guidance from instructor, then share and critique other student works in progress. Letter grading.

195. Internship in Women's Studies. (2 or 4) Tutorial, eight hours. Requisites: course 110A or 110B or M110C and at least one 200- to 300-level women's studies course. Internship may be repeated. Limited to juniors/seniors. Internship in supervised setting in community agency, organization, or business approved by program. Content of student work is determined by discipline. May be focused on some aspect of women's studies. Students meet on regular basis with instructor, provide periodic reports on their experience on-site, and submit final report. Must be taken for 4 letter-graded units to be applied toward Women's Studies major or minor. May be repeated for maximum of 8 units. Individual contract with supervising faculty member required. P/NP or letter grading.

197. Individual Studies in Women's Studies. (4) Tutorial, four hours. Preparation: at least two upper division women's studies courses. Requisite: course 110A or 110B or M110C. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Content may include themes in feminist discourse, application of feminist theoretical perspectives to disciplinary field, or emerging areas of inquiry. Assigned reading and tangible evidence of mastery of subject matter required. Individual contract required. Letter grading.


199. Directed Research in Women's Studies. (2 or 4) Tutorial, to be arranged. Preparation: at least two upper division women's studies courses, minimum 3.0 grade-point average in one area within women's studies. Directed reading and write honors thesis under direct supervision of disciplinary women's studies major or minor. Supervised individual research or investigation under guidance of faculty sponsor and faculty cosponsor. Individual contract required. Letter grading.

Graduate Courses

201. Feminist Knowledge Production: Early/Modern. (4) Lecture/discussion, three hours. Examination of early and modernist feminist theories and epistemologies in context of global flows of people, ideas, and goods and in diverse socioeconomic settings. Evaluation of varied forms of feminist knowledge production and of multi and interdisciplinary critiques of theories of modernity. Letter grading.


203. Research Methods in Studies of Women and Gender. (4) Lecture/discussion, three hours. Preparation: prior or concurrent enrollment in graduate research methods course in discipline or focus area, one or more undergraduate or graduate courses in women's studies. Requisites: courses 201, 202. Topical orientation in advanced critique of sexist research methods/models of inclusion of women in research and theory, nonexist research methods from conception through interpretation, what constitutes "feminist" research, inclusiveness and attention to diversity issues, appropriate frameworks in comparative research. Supplements disciplinary offerings on research methods. Letter grading.

204. Current Research in Women's Studies. (1) Seminar. To be arranged. Designed for graduate students in any discipline conducting research on women/gender-related issues. Attendance and participation in Feminist Research Seminar sponsored by Center for Study of Women, Gender, and Difference in interdisciplinary women's studies research and theory, with their significance and methodology discussed and critiqued in depth. May be repeated for credit. S/U grading.
205. Gender and Politics of Information. (4) Seminar, three hours. Designed for graduate students. Examination of gender constructions embedded in information technologies. Critical feminist assessment of information as resource and commodity; impact of Internet and information technologies on women and men and gendered distinctions between who builds and who "owns" information technology resources; race, class, gender relations in cyberspace and electronic communications. Letter grading.

210. Topics in Women and Public Policy. (4) Lecture, four hours. Designed for graduate women's studies students. Introduction to background, decision-making processes, and current debates over public policy directly affecting women in one or more major spheres of public life (e.g., work, family, political system, healthcare, legal regulation). Topics may focus on public health, political science, medicine, workplace studies, and social welfare. May be repeated for credit with topic or instructor change. Letter grading.

215. Topics in Study of Sexuality and Gender. (4) Seminar, three to four hours. Designed for graduate students. Multidisciplinary studies on aspects of sexual orientation, gender identity, queer and trans gender theory, interdisciplinary research on minority sexualities, and social construction/deconstruction of gender. May be repeated for credit with topic or instructor change. Letter grading.

220. Cultural Studies in Gender, Race, and Sexuality. (4) Seminar, three hours. Designed for graduate students. In-depth study of representations of gender and sexuality in literature and performance culture, with special attention to race. Topics include flow of artistic cultural production across national borders, theorizing femiqueer as diasporic or multicultural formation. Letter grading.

M238. Feminist Theory. (4) (Same as Sociology M238.) Seminar, three hours. Designed for graduate students. Analysis of current American feminist theory relevant to sociologists. Exploration of critiques of second wave feminism by working class feminists and/or feminists of color, feminist scholars from other countries, and recent "antifeminist" feminists. Discussion of directions for future feminist sociology. Letter grading.

CM243. Women Healers, Ritual, and Transformation. (4) (Same as World Arts and Cultures CM240.) Lecture, four hours. Designed for graduate students. Examination of role of women healers, historically and within contemporary culture-specific contexts. Exploration of psychological functions served by myths and rituals and how they inform the understanding of gender and healing practices. Concurrently scheduled with course CM143S. S/U or letter grading.

M252. Selected Topics in Sociology of Gender. (4) (Same as Sociology M252.) Lecture, two hours; discussion, two hours. Designed for graduate students. Seminar on selected topics in sociology of gender. May be repeated for credit. Letter grading.

M255. Cross-Cultural Perspectives on Gender. (4) (Same as Sociology M255.) Seminar, three hours. How does gender manifest itself in lives of different groups of women in the U.S. and abroad? Are universal analytical categories or united feminist movements possible or is gender too different cross-culturally? S/U or letter grading.

M259A-M259B. History of Women. (4-4) (Same as History M259A-M259B.) Seminar, three hours. Course M259A is history of women's and social issues seen in U.S. and comparative context. In Progress (M259A) and letter (M259B) grading.

M261. Gender and Music in Cross-Cultural Perspective. (4) (Same as Ethnomusicology M261.) Seminar, three hours. Designed to foster in-depth understanding of gender in study of music as culture. Topics range from ethnography of gender and sexuality, (de)construction of narratives of resistance, and gender representation to gendered politics via musical production. S/U or letter grading.

M263P. Gender Systems. (4) (Same as Anthropology M263P.) Seminar, three hours. Current theoretical developments in understanding gender systems cross-culturally, with emphasis on relationship between systems of gender, economy, ideological systems, and social inequality. Selection of ethnographic cases from recent literature. S/U or letter grading.

M266. Feminist Theory and Social Sciences Research. (4) (Same as Education M266.) Lecture, four hours. Examination of how diverse feminist social theories of last quarter century have both challenged and reinforced conventional social sciences theories and their methodologies. Introduction especially to feminist standpoint theory, distinctive critical theory methodology now widely used in social sciences. Letter grading.

CM270. Alternate Traditions: In Search of Female Voices in Contemporary Literature. (5) (Same as Comparative Literature CM270.) Seminar, three hours. Preparation: reading knowledge of one appropriate foreign language. Investigation of narrative texts by contemporary French, German, English, American, Spanish, African, and Asian women writers from cross-cultural perspective. Common themes, problems, and techniques. May be concurrently scheduled with course CM170A. Graduate students required to prepare papers based on texts read in original languages whenever possible. S/U or letter grading.

CM278. Critical Media Literacy and Politics of Gender: Theory and Production. (4) (Same as Education CM278.) Seminar, three hours. Corequisite: course CM278L. Use of range of pedagogical approaches for theory and practice of critical media literacy that necessarily involves understanding of new technologies and media forms. Study of both theory and production techniques to inform student analysis of media and critical media literacy projects. Concurrently scheduled with course CM178A. Letter grading.

CM278L. Critical Media Literacy and Politics of Gender: Laboratory. (2) (Same as Education CM278L.) Laboratory, two hours. Corequisite: course CM278. Hands-on production experience as integral component of course CM278. Concurrently scheduled with course CM178L. Letter grading.

285. Special Topics in Women's Studies. (4) Lecture/discussion, four hours. Designed for graduate students. Selected topics or special problems. In-depth study of aspects of feminist theory or research methods or gender analysis within disciplinary studies and in comparison with other social sciences, humanities, health sciences, and arts, or professional programs. May be repeated for credit with topic or instructor change. Letter grading.

296. Doctoral Roundtable. (2) Research group meeting, two hours. Preparation: satisfactory completion of M.A. program first year. Requisites: at least two courses from 201, 202, 203, 210. Limited to Ph.D. students. Interactive seminar with focus on disciplinary and interdisciplinary issues, feminist scholarship, research presentation, and professional development. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Requisite or corequisite: course 495. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curricular and instruction at UCLA. May be repeated for credit. S/U grading.

495. Feminist Pedagogy. (2) Seminar, two hours. Preparation: appointment as teaching assistant in Women's Studies Program. Introduction to feminist methods of teaching, with emphasis on reciprocity and dialogue and de-emphasis on hierarchy. Required of students while serving as teaching assistants during first year in undergraduate women's studies courses. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research. (2 to 12) Tutorial, to be arranged. Requisites: courses 201, 202, 203. Directed individual research and study in area related to women's studies/gender studies, arranged individually by student with instructor. May be repeated for credit. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. (2 to 12) Tutorial, eight hours. Limited to graduate women's studies students. Reading and preparation for written M.A. comprehensive examination or Ph.D. qualifying field examinations. May be repeated for a maximum of 12 units. S/U grading.


World Arts and Cultures

School of the Arts and Architecture

UCLA
150 Kaufman Hall
Box 951608
Los Angeles, CA 90095-1608
(310) 825-3951
fax: (310) 825-7507
e-mail: wacinfo@arts.ucla.edu
http://www.wac.ucla.edu

David H. Gere, Ph.D., Co-Chair
Angelia Leung, M.A., C.M.A., Co-Chair
Donald J. Cosentino, Ph.D., Graduate Adviser

Professors
Judith F. Baca, M.A.
Donald J. Cosentino, Ph.D.
Irina Dosamantes-Beaudry, Ph.D.
Susan L. Foster, Ph.D.
Michael O. Jones, Ph.D.
Victoria E. Marks, B.A.
Judy M. Mitomo, M.A.
Peter Nabokov, Ph.D.
Allen F. Roberts, Ph.D.
David J. Roussève, B.A.
Peter M. Sellers, B.A.
Christopher A. Waterman, Ph.D.

Professors Emeriti
Judith B. Alter, Ed.D.
Elise A. Dunin, M.A.
Pia S. Gilbert
Marta E. Savignano, Ph.D.
Carol J. Scrotch, M.A.
Marion Scott
Donis Siegel
Alegra Fuller Snyder, M.A.
Emma Lewis Thomas, Ph.D.

Associate Professors
Daniel Z. Froot, M.F.A.
David H. Gere, Ph.D.
Angela Leung, M.A., C.M.A.
Colin H. Quigley, Ph.D.

Assistant Professors
Lucy M. Burns, Ph.D.
Lionel A. Popkin, M.F.A.
Cheng-Chieh Yu, M.F.A.

Lecturers
Hassan E. Christopher
The department is an interdisciplinary unit that crosses cultural and artistic communities of Los Angeles, law, and various academic disciplines — management, education, cultural policy, communication, and other technologies along with hybrid forms of cultural expression utilizing both emerging and classically based vocabularies are encouraged.

The cultural studies concentration provides students with an introduction to key issues, problems, and debates in the study of art and creativity in cultural context. Beyond the required set of core courses, students select from a range of courses offered in the World Arts and Cultures Department and in other departments. Students may also consider courses from ethnic and area studies programs and may organize their course of study in relation to particular interests or professional goals (e.g., international comparative studies, intercultural studies, area specializations such as Africa, Asia, or Latin America, minority discourse, gender or women’s studies).

Students who wish to confer with the departmental student affairs officer regarding program planning and major requirements should contact Wendy Temple at (310) 825-8537.

Admission
New students are admitted to the major for Fall Quarter only. All applicants are reviewed individually, based on submission of a written research paper, transcripts, two letters of recommendation, and two personal essays. These materials are requested from students in mid-December, after the general UC application is received and processed, and are due back in the department in January. For freshman applicants, college placement test scores are also considered. Students interested in the dance concentration must participate in a February audition.

Current UCLA students who petition to change their major are required to meet with the student affairs officer prior to application. They are advised to take world arts and cultures courses during the term in which they apply to the program. They must have a minimum 2.0 overall grade-point average and no more than 120 quarter units. Students interested in the cultural studies concentration may apply at the beginning of Fall, Winter, and Spring Quarters. Those interested in the dance concentration may apply at the beginning of Fall and Spring Quarters and are expected to participate in an audition.

The Major
The major consists of 93 to 95 units of coursework for the dance concentration and 85 to 87 units for the cultural studies concentration, including either the 10-unit senior honors project or the two-course 8- to 10-unit upper division senior focus.

Required: A core of 9 courses (32 units): World Arts and Cultures 1, 2 (taken twice), 70, 85, 100A or 100B, 101, 102, 103.

Twelve units of coursework in culture/performance studies are also required, selected from World Arts and Cultures C109A through C183 and 199, or outside the department subject to consent of the faculty adviser.

In addition, the following courses are required: Cultural Studies Concentration: Twelve units of arts practice electives selected from World Arts and Cultures 5 through 16 and 55 through 69 or from courses offered by other departments subject to consent of the faculty adviser; courses 20, 121; and 12 units selected from courses 120 through C142.

Dance Concentration: World Arts and Cultures 16, 45, 67, 69; 14 units of movement techniques selected from courses 5 through 15 and 20.

Scope and Objectives
Guided by an interdisciplinary faculty of artists, arts scholars, and ethnographers, the academic programs in the Department of World Arts and Cultures (WAC) are organized around three fundamental missions: (1) the formulation of critical and intercultural insights into the nature of human creativity, (2) the creation and interdisciplinary study of dance and other body-based modes of performance, and (3) mutually beneficial engagement with the diverse cultural and artistic communities of Los Angeles.

The department is an interdisciplinary unit that finds its raison d’etre in a set of intellectual and artistic problems rather than an established academic discipline. The programs of teaching, research, and performance are unified around a shared concern with problems of cultural identity and differences, the meaning of tradition in contemporary societies, the forging of connections between critical theory and artistic practices, and the changing social roles and responsibilities of artists and scholars of the arts, both in the U.S. and worldwide.

The undergraduate program offers concentrations in dance and cultural studies. The graduate program offers Master of Arts and Ph.D. degrees in Culture and Performance and a Master of Fine Arts in Dance. Students are encouraged to explore relationships among the different curricular emphases, including world arts practices, cultural studies, dance studies, and folklore, as a means to tailor a particular course of study to their professional goals.

Students in the World Arts and Cultures Department at UCLA study with faculty members from international standing engaged in both creative artistic work and research. Students from this unique department have gone on to pursue advanced degrees and/or careers in arts management, education, cultural policy, community outreach, architecture and urban planning, law, and various academic disciplines within the arts, humanities, and social sciences, as well as in the professional fields of dance.

Undergraduate Study

World Arts and Cultures B.A.

The World Arts and Cultures major leads to the Bachelor of Arts degree and is designed to offer choice and flexibility while maintaining balance and rigor. At the outset, students select one of two concentrations: dance or cultural studies. All students take a set of core courses designed to explore a wide range of artistic practices in cultural context. In addition, it is recommended that students selecting the dance concentration study movement techniques of their choice four to five days a week for the first two years of the program, while those concentrating in cultural studies must select 12 units of arts practice electives in movement, music, theater, film, design, or visual art — either within or outside the department.

In Spring Quarter of their junior year, students enroll in World Arts and Cultures 185, where they propose one of two paths of study for the senior year: (1) senior focus in world arts and cultures, a subdiscipline concentration cluster of two courses (8 to 10 upper division units) from within or outside the department that should offer a range of perspectives on some aspect of performance and/or culture or (2) senior honors projects in world arts and cultures (courses 186A, 186B), outlining a proposed topic of research and a research agenda that can take a wide variety of forms such as an academic paper, a documentary video, or a choreographed performance and should demonstrate originality of vision and technical mastery of the form in which the project is presented.

The dance concentration is grounded in contemporary choreography and offers courses in a wide range of idioms from throughout the world, including special emphasis on modern/postmodern dance. Opportunities for performance, production, videography, and movement studies are augmented by courses in the study of the body and of bodily identity from historical and cultural perspectives, dance theory, and dance in the public sphere, including arts pedagogy. Multimedia forms of expression integrating music, theater, visual arts, film, and other technologies along with hybrid forms of cultural expression utilizing both emerging and classically based vocabularies are encouraged.

The cultural studies concentration provides students with an introduction to key issues, problems, and debates in the study of art and creativity in cultural context. Beyond the required set of core courses, students select from a range of courses offered in the World Arts and Cultures Department and in other departments. Students may also consider courses from ethnic and area studies programs and may organize their course of study in relation to particular interests or professional goals (e.g., international comparative studies, intercultural studies, area specializations such as Africa, Asia, or Latin America, minority discourse, gender or women’s studies).

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Required: A core of 9 courses (32 units): World Arts and Cultures 1, 2 (taken twice), 70, 85, 100A or 100B, 101, 102, 103.

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In addition, the following courses are required: Cultural Studies Concentration: Twelve units of arts practice electives selected from World Arts and Cultures 5 through 16 and 55 through 69 or from courses offered by other departments subject to consent of the faculty adviser; courses 20, 121; and 12 units selected from courses 120 through C142.

Dance Concentration: World Arts and Cultures 16, 45, 67, 69; 14 units of movement techniques selected from courses 5 through 15 and 20.

Adjunct Professors
Ankica Petrovic, Ph.D.
Mary Nooter Roberts, Ph.D.

Adjunct Associate Professors
Bryan M. Bishop, B.A.
Tracy McClary, M.F.A.

Adjunct Assistant Professors
Simone Forti, B.F.A.
Viji Prakash

Visiting Assistant Professors
Rennie Harris
Robert Sember, Ph.D.
Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/graduatedegrees.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Study

Official, specific degree requirements are detailed in Program Requirements for UCLA Graduate Degrees, available at the Graduate Division website, http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm. In many cases, more detailed guidelines may be outlined in announcements, other publications, and websites of the schools, departments, and programs.

Graduate Degrees

The Department of World Arts and Cultures offers Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees in Culture and Performance and a Master of Fine Arts (M.F.A.) degree in Dance.

World Arts and Cultures

Lower Division Courses

1. Introduction to World Arts and Cultures. (5)
   Lecture, three hours; discussion, one hour. Survey of concepts and theories involved in intercultural, interdisciplinary study of art, aesthetics, and performance. Examination of interactions among various modes of creative expression, role of style in daily life, performative representation of cultural identity and difference, and interaction of diverse artistic traditions. Letter grading.

2. Lower Division Seminar. (4)
   Seminar, three hours. In-depth investigations of variable topics, including body in cultural context, music and soundscapes, material culture, visual imagery, oral genres, and realm of spirit, as well as other subjects pertaining to broader discipline of world arts and cultures. Substantial culminating project required. May be repeated for credit without limitation. Letter grading.

3. Beginning World Arts Practices in Sub-Saharan Africa and Diaspora. (2)
   Studio, three hours. Beginning-level study of world arts practices originating from sub-Saharan Africa and extending to cultures of African diaspora and the Afro-Caribbean. Variable topics, such as dance of Guinea, Mali, and Senegal or Afro-Caribbean masking traditions, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

4. Beginning World Arts Practices in Middle East/ North Africa and Diaspora. (2)
   Studio, three hours. Beginning-level study of world arts practices originating from the Middle East and North Africa. Variable topics, including belly dancing or Israeli folk dance, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

5. Beginning Global and Transcultural Forms. (2)
   Studio, three hours. Beginning-level study of world arts practices crossing national and cultural boundaries. Variable topics, such as cross-cultural textile creation, or mural painting, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

6. Introduction to World Arts and Cultures. (2)
   Lecture, three hours. Beginning-level study of world arts practices originating from sub-Saharan Africa and extending to cultures of African diaspora and the Afro-Caribbean. Variable topics, such as dance of Guinea, Mali, and Senegal or Afro-Caribbean masking traditions, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

7. Beginning World Arts Practices in Middle East/ North Africa and Diaspora. (2)
   Studio, three hours. Beginning-level study of world arts practices originating from the Middle East and North Africa. Variable topics, including belly dancing or Israeli folk dance, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

8. Beginning World Arts Practices in Latin America and Diaspora. (2)
   Studio, three hours. Beginning-level study of world arts practices originating from Latin America, including cultures of South and Central America. Variable topics, such as Argentine tango and Mexican folkloric dances, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

9. Beginning World Arts Practices in North America and Diaspora. (2)
   Studio, three hours. Beginning-level study of world arts practices originating from North America, including the U.S., Canada, and Native America. Variable topics, such as Native American dance, jazz, and jazz-tap, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

10. Beginning World Arts Practices in East Asia and Diaspora. (2)
    Studio, three hours. Beginning-level study of world arts practices originating from East Asia, including China, Korea, and Japan. Variable topics, such as movement and music techniques of Beijing Opera, Korean shamanic movement practices, and Kabuki theater, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

11. Beginning World Arts Practices in South Asia and Diaspora. (2)
    Studio, three hours. Beginning-level study of world arts practices originating from South Asia and extending to South Asian diasporas, including communities in England and Western Europe. Variable topics, such as Bharata Natyam (classical dance of India), bhangra (diasporic social dance), and halleh yappu, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

12. Beginning World Arts Practices in Southeast Asia and Diaspora. (2)
    Studio, three hours. Beginning-level study of world arts practices originating from Southeast Asia. Variable topics, such as Cambodian court dance, Indonesian kechak, or Balinese legong, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

13. Beginning World Arts Practices in Europe and Diaspora. (2)
    Studio, three hours. Beginning-level study of world arts practices originating from Europe and extending to cultures of European diaspora, including the U.S. Variable topics, such as flamenco, Balkan folk dances, and classical ballet, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

14. Beginning Modern/Postmodern Dance. (2)
    Laboratory, four hours. Study of dance technique, critical viewing, reading, and analysis of modern/postmodern dance artists’ works. May be repeated twice for credit. P/NP or letter grading.

15. Beginning Improvisation in Dance. (2)
    Lecture, one hour; laboratory, three hours. Introduction to creative exploration in movement through improvisations and compositional exercises that access and develop imagination, find relationship between imagination and dance making, and enrich movement vocabulary. May be repeated once for credit. P/NP or letter grading.

16. Introduction to American Folklore Studies. (5)
    Lecture, four hours; discussion, one hour; outside study, 10 hours. Cultural/historical survey of role of folklore in development of American civilization and of influence of American experience in shaping folklore in American society; attention also to representative areas of inquiry and analytical procedures. P/NP or letter grading.

17. Introduction to American Indian Studies. (5)
    Same as American Indian Studies M10. Lecture, three hours; discussion, one hour; activity, one hour. Survey of selected Native North American cultures from pre-Western contact to contemporary period, with particular emphasis on early cultural diversity and diverse patterns of political, linguistic, social, legal, and cultural change in postcontact period. P/NP or letter grading.

18. Introduction to Dance Studies. (4)
    Lecture, three hours. Introduction to discipline of dance studies, with focus on study of corporeality as key contemporary perspective on the body. Multidisciplinary approach to dancing bodies conceptualized as social constructs, including attention to gender, race, class, and national identity. P/NP or letter grading.

19. Survey of Dance in Selected Cultures. (2)
    Studio, three hours. Introduction to dances and their movement characteristics in global context. P/NP or letter grading.

20. World Dance Histories. (5)
    Lecture, three hours; discussion, two hours. Comparative framework for looking at dance practices through time as they have developed around world, questioning relation of dance to culture and politics and providing students with tools for investigating histories of any given dance form. P/NP or letter grading.

    Studio, three hours; outside study, three hours. Intermediate-level study of world arts practices crossing national and cultural boundaries. Variable topics, such as body music, crosscultural textile creation, or mural painting, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

22. Intermediate World Arts Practices in Global and Transcultural Forms. (2)
    Studio, three hours; outside study, three hours. Intermediate-level study of world arts practices originating from sub-Saharan Africa or from cultures of African diaspora, including Brazil and the Afro-Caribbean. Variable topics, such as belly dancing or Israeli folk dance, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

23. Intermediate World Arts Practices in Middle East/North Africa and Diaspora. (2)
    Studio, three hours. Intermediate-level study of world arts practices originating from Middle East and North Africa. Variable topics, such as belly dancing or Israeli folk dance, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.
58. Intermediate World Arts Practices in Latin America and Diaspora. (2) Studio, three hours; outside study, three hours. Intermediate-level study of world arts practices originating from Latin America, including cultures of South and Central America. Variable topics, such as Argentine tango and Mexican folkloric dances, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

59. Intermediate World Arts Practices in North America and Diaspora. (2) Studio, three hours. Intermediate-level study of world arts practices originating from North America, including the U.S., Canada, and Native America. Variable topics, such as Native American dance, jazz, and jazz-tap, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

60. Intermediate World Arts Practices in East Asia and Diaspora. (2) Studio, three hours; outside study, three hours. Intermediate-level study of world arts practices originating from East Asia, including China, Korea, and Japan. Variable topics, such as movement and music techniques of Beijing Opera, Korean shamanic movement practices, Kabuki theater, or Tai Chi, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

61. Intermediate World Arts Practices in South Asia and Diaspora. (2) Studio, three hours. Intermediate-level study of world arts practices originating from South Asia or from cultures of South Asian diasporas, including communities in England and West Africa. Variable topics, such as Bharata Natyam (classical dance of India), bhangra (diaisporic social dance), and hatha yoga, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

62. Intermediate World Arts Practices in Southeast Asia and Diaspora. (2) Studio, three hours. Intermediate-level study of world arts practices originating from Southeast Asia. Variable topics, such as Cambodian court dance, Indonesian kechak, or Balinese legong, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

63. Intermediate World Arts Practices in Europe and Diaspora. (2) Studio, three hours. Intermediate-level study of world arts practices originating from Europe and extending to cultures of European diaspora, including the U.S. Variable topics, such as flamenco, Balkan folk dances, and classical ballet, in cultural and historical context. May be repeated for credit without limitation. P/NP or letter grading.

64. Intermediate Modern/Postmodern Dance. (2) Studio, four hours. Requisite: courses 16 and 67 or 69. Study of selected topics through lectures, readings, and discussions. Thematic topics include contemporary issues and concerns such as image, essence, and abstraction; home, history, and memory; interculturalism; constructing identity. May be repeated for credit without limitation. P/NP or letter grading.

65. Intermediate Topics in Choreography. (4) Lectures, four hours; studio, two hours. Requisite: coursework 16 and 67 or 69. Directed exploration in contemporary choreographic works that are informed by theoretical engagement with selected topics through lectures, readings, and discussions. Thematic topics include contemporary issues and concerns such as image, essence, and abstraction; home, history, and memory; interculturalism; constructing identity. May be repeated for credit without limitation. P/NP or letter grading.

66. Advanced Topics in Dance. (2) Studio, four hours. Development of aesthetic perspective through use of imagery, sound, and other art. May be repeated for credit without limitation. P/NP or letter grading.

67. Introduction to Dance Composition. (4) Lecture, four hours; rehearsal, four hours; outside study, four hours. Study of techniques for inventing/discovering and arranging movement for dances. Cultivation of ability to apprehend principles guiding selection and combination of movements. May be repeated twice for credit. P/NP or letter grading.

68. Advanced Topics in Choreography. (4) Lecture, four hours; rehearsal, four hours; outside study, four hours. Study of contemporary choreographers and their development and works, with attention to their historical and social significance. May be repeated twice for credit. P/NP or letter grading.

69. Production. (1) Laboratory, three hours. Introduction to practical perspectives on producing events in world arts and cultures, including but not limited to theatrical production and visual arts. May be repeated once for credit. P/NP or letter grading.

70. Private Instruction in World Arts and Cultures. (2 to 4) Private instruction (to 4 P.S.). Studio, three to six hours. Designed for freshmen/sophomores. Private or semiprivate instruction in a world arts practice with distinguished community-based artist to be arranged by students and approved by instructor. May be repeated for a maximum of 24 units. P/NP grading.

85. Sophomore-Year Proposal. (1) Formerly numbered 90.) Lecture, 90 minutes. Planning and execution of proposal for junior year of study, with attention to consultation with department and University as a whole. P/NP grading.

Upper Division Courses

100A. Art as Social Action. (5) Lecture, four hours; discussion, one hour. Designed for juniors/seniors. Discussion of what constitutes art’s social possibility and in what ways art is qualified to engage in direct political action. Study of tension between powers of this world and powers of art. P/NP or letter grading.

100B. Art as Moral Action. (5) Lecture, four hours; discussion, one hour. Designed for juniors/seniors. One’s ability to distinguish between right and wrong action is culturally intuited, nurtured, and developed. Study of cultural strategies of moral engagement, persuasion, and inquiry in personal and public life, including acts of conscience and civil disobedience. P/NP or letter grading.

101. Theories of Performance. (4) Lecture, three hours. Requisite: course 85. Introduction to range of contemporary critical theories applicable to analysis of performance, including gaze theory, postcolonial theory, queer theory, and intercultural theory. P/NP or letter grading.

117. Seminar: Intercultural and Interdisciplinary Performance. (4) Seminar, four hours. Requisite: course 101. Recent discussions of multiculturalism have demanded broader base of cultural literacy for society in general and from artists in particular. Moving beyond stereotyping and formalism, focus on artistic practices of two or more cultures. Engagement with selected topics through lectures, readings, and discussions. May be repeated for credit without limitation. Concurrently scheduled with course C415A. P/NP or letter grading.

119. Ethnography of Performance. (4) Lecture, two hours; discussion, two hours; outside study, eight hours. Development of observation and recording skills for study of performance events, including both analytical consideration of selected ethnographies and training in and application of field research methodologies. P/NP or letter grading.

C113A. Advanced World Arts Practices in Europe and Diaspora. (2) Studio, three hours; outside study, three hours. Advanced-level study of world arts practices originating from cultures of European diaspora, including the U.S. Variable topics, such as flamenco, Balkan folk dances, and classical ballet, in cultural and historical context. May be repeated for credit without limitation. Concurrently scheduled with course C413A. P/NP or letter grading.

114. Performance Practicum. (1 to 4) (Formerly numbered 90A.) Studio, three to 12 hours. Rehearsal and performance in selected community-based or theatrical work. May be repeated for credit without limitation. P/NP grading.

C115. Advanced Modern/Postmodern Dance. (2) Studio, six hours. Requisite: course 65. Studies in advanced modern/postmodern dance technique, with emphasis on performing skills. May be repeated for credit without limitation. Concurrently scheduled with course C415B. P/NP or letter grading.

116. Advanced Improvisation in Dance. (2) Studio, four hours. Development of aesthetic perspective through use of imagery, sound, and other art. May be repeated twice. P/NP or letter grading.

117. Advanced Topics in Choreography. (4) Lecture, four hours; studio, two hours. Requisites: courses 16 and 67 or 69. Directed exploration in composition, with focus on developing works that engage two or more disciplines, such as dance, music, visual art, performance art. Theoretical engagement with selected topics through lectures, readings, and discussions. May be repeated for credit without limitation. P/NP or letter grading.

118. Advanced Interdisciplinary Composition. (4) Lecture, four hours; studio, two hours. Requisites: courses 16 and 67 or 69. Directed exploration in composition, with focus on developing works that engage two or more disciplines, such as dance, music, visual art, performance art. Theoretical engagement with selected topics through lectures, readings, and discussions. May be repeated for credit without limitation. P/NP or letter grading.

119. Advanced Intercultural Composition. (4) Lecture, four hours; studio, two hours. Requisites: courses 16 and 67 or 69. Directed exploration in composition, with focus on developing works that engage two or more disciplines, such as dance, music, visual art, performance art. Theoretical engagement with selected topics through lectures, readings, and discussions. May be repeated for credit without limitation. P/NP or letter grading.

120. Selected Topics in Cultural Studies. (4) Lecture, three hours. Designed for juniors/seniors. Selected topics in interdisciplinary study of arts and performance in cultural and historical context. Consult Schedule of Classes for topics to be offered in specific term. May be repeated for credit without limitation. P/NP or letter grading.

121. Ethnography of Performance. (4) Lecture, two hours; discussion, two hours; outside study, eight hours. Development of observation and recording skills for study of performance events, including both analytical consideration of selected ethnographies and training in and application of field research methodologies. P/NP or letter grading.

122. Introduction to Folklore. (4) Lecture, four hours. Survey of various forms of folklore and approaches to their identification, description, and analysis, including their historical and social significance. Introduction to empirical behavior of folk groups from throughout world and comparison through readings, lectures, films, and fieldwork, with attention to artistic, religious, and other traditions in relation to evolving popular culture. P/NP or letter grading.
C123. Arts of Identity: Survey of Expressive Cultures. (4) Lecture, four hours; outside study, eight hours. Introduction to arts, performance, and creativity in cultural context. Special attention to relationship between arts and identity and to role of artists in cultural survival and transformation. Concurrently scheduled with course C223. P/N or letter grading.

M125A. Beyond the Mexican Mural: Beginning Muralism and Community Development. (4) (Same as Art M186A and Chicana and Chicano Studies M186BL-M186CL) Lecture, four hours. Corequisite: course M125AL. Investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and/or painting for placement in community. Students research, design, and work with community participants. P/N or letter grading.

M125AL-M125BL-M125CL. Beyond the Mexican Mural: Muralism and Community Laboratory. (2-2-2) (Same as Art M186AL-M186BL-M186CL and Chicana and Chicano Studies M186BL-M186CL) Laboratory, two hours. Course M125AL is requisite to M125BL, which is requisite to M125CL. Mural and Digital Laboratory is art studio housed at Social and Public Art Resource Center in Venice, CA, where students work in community-based setting. Open to students who have completed four hours with laboratory tech support, it offers instruction as students independently and in collaborative teams research, design, and produce large-scale painted and digitally generated public art. Grades: A, B, C, Pass/No Pass. In community setting. P/N or letter grading. M125AL. Beginning; M125BL. Intermediate; M125CL. Advanced.

M125B. Beyond the Mexican Mural: Intermediate Muralism and Community Development. (4) (Same as Art M186B and Chicana and Chicano Studies M186BD) Studio/lecture, six hours. Requisites: courses M125A, M125AL Corequisite: course M125BL. Continuation of investigation of muralism and method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and/or painting for placement in community. Students research, design, and work with community participants. Continuation of project through states of production to full scale and community approval. P/N or letter grading.

M125C. Beyond the Mexican Mural: Advanced Muralism and Community Development. (4) (Same as Art M186C and Chicana and Chicano Studies M186CD) Studio/lecture, six hours. Requisites: courses M125A, M125AL. Corequisite course M125CL. Continuation of investigation of muralism as method of community education, development, and empowerment. Exploration of issues through development of large-scale collaborative digitally created image and/or painting for placement in community. Students research, design, and work with community participants. Continuation of project through installation, documentation, and dedication, with work on more advanced independent projects. P/N or letter grading.

M126. Whose Monument Where: Course on Public Art. (4) (Same as Art M165 and Chicana and Chicano Studies M165) Lecture, four hours. Recommended corequisite: course M125A or M125B or M125C. Examination of public monuments in the U.S. as basis for cultural insight and critique of American values from perspective of artist. Use of urban Los Angeles as textbook in urban space issues such as who is the "public," what is "public space" at end of the 20th century, what defines neighborhoods, and do different ethnic populations use public space differently. P/N or letter grading.


C129. Food Customs and Symbolism. (4) Lecture, three hours. Designed for juniors/seniors. Introduction to foodways, with particular attention to customs and symbols in American context. Focus on role of child rearing, practices, foodsharing, and food and identity, food and its emotional significance, aversions and taboos, advertising, changing food habits, and American diet. Concurrently scheduled with course C225. P/N or letter grading.

M130. Space and Place. (4) (Same as Architecture and Urban Design M130.) Lecture, three hours. Survey of array of spaces and places from cross-cultural, comparative perspective and with performance emphasis, with focus on mutual interaction of human beings and their created environments. Emphasis on concepts of "ordinary," "anonymous," or "vernacular" nonbuilt and built environments, which are built and used by members of small-scale, "traditional," and "transitional" communities around world. P/N or letter grading.

M131. Folk Art and Aesthetics. (4) Lecture, four hours. Designed for seniors. General course concerned with folk art, aesthetics, and material culture and with theoretical concepts and methodologies utilized in research and analysis. P/N or letter grading.

M132. Narrative and Oral Performance. (4) Lecture, four hours. Survey of concepts of story as text versus narrating as oral performance, studies of individual narrators, how stories are composed in performance, interaction of narrated place and experience become embodied in narratives, modes of representing oral narrating, and politics of stories and oral performance. P/N or letter grading.

M133. Textiles of the World. (4) Lecture, four hours; discussion, one hour; laboratory, one hour. How cloth and clothing was and continues to be hand-woven in indigenous societies. Use of textiles from Fowler Museum collection to coordinate hands-on experience with cultural history. May be repeated twice for credit. P/N or letter grading.


M135. African Popular Arts. (4) Lecture, three hours. Introduction to problems and issues in study of popular arts in sub-Saharan Africa. Lectures, readings, and audiovisual materials focus on broad spectrum of creative forms and processes, including visual and plastic arts, literature, performed genres such as music, poetry, theater, and dance, and everyday practices such as hair dressing, personal adornment, and joke telling. P/N or letter grading.

M136. Culture of Jazz Aesthetics. (4) (Same as Anthropology M124RF and Ethnomusicology M130.) Lecture, three hours. Focus on 20th or Anthropology 9 or 33 or Ethnomusicology 20A or 20B or 20C. Aesthetics of jazz from point of view of musicians who shaped jazz as art form in the 20th century. Listening to and interacting with professional jazz musicians who answer questions and give musical demonstrations. Analytical resources and historical knowledge of musicians and ethnomusicologists combined with those interested in jazz as cultural tradition. P/N or letter grading.


CM140. Women Healers, Ritual, and Transformation. (4) (Same as Women's Studies CM143.) Lecture, four hours; outside study, eight hours. Designed for juniors/seniors. Emergence of role of women as healers, historically and within contemporary culture-specific contexts. Exploration of psychological functions served by rites of passage and healing rituals and of role of arts in healing troubled communities. Concurrently scheduled with course CM240. P/N or letter grading.

C141. Carnival and Festivity. (4) Lecture, three hours; fieldwork, one hour. Study of traditional calen- drical, religious, and local festivals and related events in their cultural and historical contexts, with emphasis on American festival occasions and their Old World antecedents. Topics include carnival and carni- vale-like and political celebrations. Concurrently scheduled with course C241. P/N or letter grading.

M142. Myth, Magic, and Mind. (4) Lecture, four hours; outside study, eight hours. Designed for juniors/seniors. Consideration of metaphor and symbol, reflexive anthropology, and notion of culture as text applied to such examples as trickster figures, rhetorical devices including parable and irony, and arguably magical experience of humans "shape-shifting" to become animals. Concurrently scheduled with course C242. P/N or letter grading.

143A. Introduction to Museology: Museum Collections and Administration. (5) (Formerly numbered 185A.) Lecture, six hours. Introduction to history and functions of museums, tracing development to the present. Collection, organization, management, and conservation of objects and legal and ethical issues surrounding these practices. P/N or letter grading.

143B. Introduction to Museology: Museum Exhibitions and Education. (5) (Formerly numbered 185B.) Lecture, six hours. Requisite: course 143A. Consideration of development, planning, and formulation of educational and other goals for special audiences. Design considerations, media applications, and installation process. P/N or letter grading.

143C. Introduction to Museology: Selected Topics. (4) (Formerly numbered 185C.) Discussion, six hours; individual study, six hours. Requisites: courses 143A, 143B. Students pursue projects in area of museum operations, working with staff members and museum directors to produce papers on contemporary issues in museums. For example, one student might work under curator and director to examine cultural property issues as they pertain to contemporary museums, following suggested reading list. P/N or letter grading.

144. Make Art/Stop AIDS. (4) Lecture, four hours. How can artists participate in global movement to stop spread of HIV/AIDS? Arts, working in close connec- tion with public health and epidemiology, are ef- fective tool in AIDS prevention and treatment efforts. Review of literature of AIDS cultural analysis that emerged in late 1980s in relation to gay men in the U.S. and expansion of related literature by test- ing how it applies to new political, social, and sexual exigencies that characterize epidemic in its interna- tional hot spots such as India, China, South Africa, and Brazil. Historizing of cultural activism engen- dered by arts in relation to epidemic in the U.S. to un- derstand how arts can function to save lives around world. Volunteering with AIDS organization in Los An- geles for approximately 20 hours and series of in- class theory-in-action projects included. P/N or letter grading.

C145. Selected Topics in Dance Studies. (2 to 4) Lecture, four hours; outside study, eight hours. Des- signed for juniors/seniors. Selected topics in study of dance and corporeality. Consult Schedule of Classes for topics to be offered in specified term. May be repeated for credit without limitation. Concurrently scheduled with course C245. P/N or letter grading.

146. Politics of Performance. (4) Seminar, four hours; outside study, eight hours. Designed for juniors/seniors. Opportunity to reflect on artists and intel- lectuals in cultural works focusing in domains of ideology, aesthetics, and theory. Analysis of such key- words as ideology, aesthetics, theory, art, politics, in- tervention, intellectuals, and artists. Concurrently scheduled with course C246. P/N or letter grading.
C147. Arts and Healing. (4) Lecture, four hours. Interdisciplinary, contemporary arts-based model of healing applicable to persons leading Western modernist lifestyles and coping with two kinds of social crises during their lifetimes: (1) developmental transitions that are disruptive life-cycle changes that have potential to promote self-regeneration or self-frAGMENTATION and (2) external transitions that are situational catastrophic events that evoke great terror and trigger fears of annihilation and chaos, but if successfully negotiated, have potential to promote revitalization of sense of self, greater compassion for others, and restored sense of trust and hope in humanity. Concurrently scheduled with course C247. P/NP or letter grading.

C148. Dance as Healing and Therapy. (4) Lecture, two hours; laboratory, two hours; outside study/research, eight hours. Designed for juniors/seniors. Introduction to historical, theoretical, methodological, and ethical considerations involved in practice of dance as healing and therapy. Concurrently scheduled with course C248. Letter grading.

149. Dance in the Multicultural U.S. (4) Lecture, two hours; discussion, one hour; laboratory, one hour. Designed for juniors/seniors. Study of dance performance in the U.S., with emphasis on genres that can be viewed in multicultural Los Angeles, from concert modern/postmodern dance, Mexican folklorico, and Japanese butoh to popular idioms and video dance. Attention to genres from Native America, Americas, Oceania, Asia, Africa, and Europe. Student projects involve creation of in-class performances. P/NP or letter grading.

150. History of Dance in Culture and Performance. (4) Lecture, two hours; discussion, one hour; laboratory, one hour. Study of dance in historical and cultural context, its function in society and its relationship to contemporary artistic expression. Focus on topics from traditional and recent research in world dance. P/NP or letter grading.

C152. History and Theory of Modern/Postmodern Dance. (4) Lecture, four hours; studio, two hours; outside study, eight hours. Introduction to key figures in creation of modern dance, with special attention to their theories and philosophies and tracing of radical shift to postmodern dance that occurred in the mid-20th century. Contemporary developments, both historical and theoretical. Student projects involve choreography and writing. Concurrently scheduled with course C252. P/NP or letter grading.

C154. Dance and Folklore. (4) Lecture, four hours. Consideration of vernacular tradition as site for cultural and identity identification, and display of national, ethnic, and other af-PARTions that are disruptive life-cycle changes that have potential to promote self-regeneration or self-frAGMENTATION and (2) external transitions that are situational catastrophic events that evoke great terror and trigger fears of annihilation and chaos, but if successfully negotiated, have potential to promote revitalization of sense of self, greater compassion for others, and restored sense of trust and hope in humanity. Concurrently scheduled with course C247. P/NP or letter grading.

C155. Self and Culture. (4) Lecture, two hours; laboratory, two hours; outside study, eight hours. Designed for juniors/seniors. Examination of critical de-VELOPMENTAL processes and situational factors contributing to construction of sense of self and emergence of creativity and subjective relatedness in different cultural contexts. Concurrently scheduled with course C255. P/NP or letter grading.

C156. Frida Kahlo: Creation of Cultural Icon. (5) (Formerly numbered 26.) Lecture, four hours. Examination of life of renowned Mexican artist Frida Kahlo in light of (1) Mexican political, religious, and social history that gave rise to mestizaje and machismo, two social conditions that strongly influenced construction of her mestiza and gender identity, as well as her revolutionary politics; (2) obstacles that 20th-century female artists living in patriarchal societies had to confront, (3) way her significant attachments influenced her consciousness of self and kinds of artwork she produced, (4) transcendental and self-regulatory functions her self-portraits served in maintaining her emotional equilibrium, (5) conversion of Kahlo’s image after her death into cultural icon by culturally disenfranchised groups, and (6) psycho-so-CIAL conditions and processes that tend to promote creation of cultural icons. Concurrently scheduled with course C256. P/NP or letter grading.

158. Choreographing Gender. (4) Lecture, three hours; laboratory, two hours. Designed for juniors/se-NIORS. Analysis of aesthetic codes and theatrical choreographic approaches as they intersect with construction of bodies in the U.S., with close attention to race, class, and sexuality. P/NP or letter grading.

159. Movement Theories. (2) Lecture, two hours; laboratory, two hours. Study of motor coordination patterns as related to expressive movement features for dance/performance artists. Emphasis on the use of technique and body awareness. P/NP or letter grading.

160. Topics in Body Mechanics. (4) Lecture, three hours; studio, one hour. Designed for juniors/seniors. Topics vary from week to week. P/NP or letter grading.

161. Movement Observation and Analysis. (4) Lecture, four hours; outside study, eight hours. Survey of movement concepts, skills, and teaching principles for modern/postmodern dance. P/NP or letter grading.

164. Public Writing in the Arts. (4) Lecture, four hours; outside study, eight hours. Survey of journalis-mic approaches to writing about the arts, with eye toward shaping critical writing practices and putting that critique into practice. Exploration of new modes of (and venues for) writing that rebalance power-differential between art makers and commentators. Concurrently scheduled with course C264. P/NP or letter grading.

165. Foundations of Dance Education. (4) Lecture, two hours; laboratory, two hours. Theoretical and practical aspects of teaching dance, especially in higher education. P/NP or letter grading.

166. Dance as Culture in Education. (4) Lecture, two hours; laboratory, two hours. Theoretical and practical aspects of teaching dance in schools. P/NP or letter grading.

167. Creative Dance for Children. (4) Lecture, three hours; laboratory, one hour. Introduction to movement concepts, skills, and principles for teaching children’s dance. P/NP or letter grading.

168. Beyond Academia: Making Art in the Real World. (4) Lecture, four hours; outside study, eight hours. Description of projects that considerting bureaucratic structures and regional histo-ries conditioning creation of art in the real world, in-cluding such practical issues as publicity and grant-writing. Concurrently scheduled with course C268. P/NP or letter grading.

169. Repertory Tour Ensemble. (2 or 4) (Formerly numbered 192.) Lecture, two hours; studio, four to six hours. Designed for World Arts and Cultures majors. Concurrently scheduled with course C280. Letter grading.

170. Advanced Production. (1) Laboratory, three hours. Requisite: course 70. Further development and application of technical and administrative support practices in producing events in world arts and cultures, including but not limited to theatrical support and planning and executing lecture series. May be re-peated for credit without limitation. P/NP grading.

171. Lighting Design for Dance Theater. (4) Lecture, four hours; laboratory, two hours. Lighting for dance: examination of aesthetics, principles, and technical elements. Application to selected choreog-raphies to be publicly performed. P/NP or letter grading.

172. Costume and Scenic Design Concepts for Dance Theater. (4) Lecture, four hours. Study of the-ory for conceptualizing dance performance environments, communication through visual elements, artis-tic properties of and settings, and procedures for producing dance costumes and sets in order to facilitate choreographer/designer communication. P/NP or letter grading.

173. Sound Resources for Performance. (4) Lecture, four hours; studio, one hour; outside study, eight hours. Designed for juniors/seniors. Exploration of music, in the course of finding, using, and analyzing. P/NP or letter grading.

174. Projects in World Arts and Cultures. (2 to 4) (Formerly numbered 193.) Laboratory, four to six hours. Individualized major projects in choreography, performance, cultural studies, production, and media. May be repeated for credit. P/NP or letter grading.

C175. Applied Folklore. (4) Lecture, four hours. De-signed for juniors/seniors. Introduction to methods and issues in application of folklore studies to such areas as education, health, museums, organization development, tourism, environmental planning, economic and community development, aging, art therapy, and public sector folklore. Concurrently scheduled with course C275. P/NP or letter grading.

177SL. Taking Action: Arts Practice and Commu-nity Service. (4) (Formerly numbered 177.) Seminar, four hours; outside study, eight hours. Enforced requi-site: course 103. Designed for juniors/seniors. Application of training in world arts and cultures through service projects designed by students in collaboration with selected community organizations and institutions. Reflection on impact of service on communities and theories. May be repeated once for credit. P/NP or letter grading.

178. Advanced Private Instruction in World Arts and Cultures. (2 to 6) (Formerly numbered 196.) Studio, three to 12 hours. Designed for juniors/se-niors. Private or semiprivate instruction in a world arts practice with distinguished community-based artist to be arranged by students and approved by instructor. May be repeated for a maximum of 24 units. P/NP grading.

180. Video Production in Arts. (4) Lecture, one hour; laboratory, three hours. Fundamentals of video production, including shooting, field recording (camera, lighting, sound, coverage), and editing (organizing raw footage, constructing a program, mastering finished tape). Emphasis alternates quarterly between ethnographic documentary and dance/chore-ography. May be repeated once for credit. Concurrently scheduled with course C280. Letter grading.
181. Ethnographic Film. (4) Lecture, four hours. Survey of ethnographic film and video, with focus on studies of expression. Emphasis on documentary and critical and comparative approaches to visual study of culture, community, and arts. P/NP or letter grading.

182. Dance and the Visual Media. (4) Lecture, four hours. Examination of aesthetic differences between dance, film, and video and exploration of new aesthetic when they are combined. Analysis of record and documentary dance film, choreo-cinema, and impact of MTV, as well as integration of media with performance. Letter grading.

C183. Film and Folklore. (4) Lecture, three hours. Designed for juniors/seniors. Introduction to film criticism and folklore methodology. Topics include early examples of folklore on film, changing conceptions of folklore and uses of films about folklore, and examples of films by films, with, and for folklorists. Concurrently scheduled with course C283. P/NP or letter grading.

185. Junior-Year Proposal. (1) Formerly numbered 190.) Lecture, 90 minutes; outside study, 90 minutes. Required: course BS, Limn. 190. World arts and cultures majors. Planning and execution of proposal (either senior focus or senior honors project) for senior-year study, with attention to exploring resources of department and university as a whole. May be repeated once for credit. P/NP grading.

186A-186B. Senior Honors Projects in World Arts and Cultures. (5-5) (Formerly numbered 191A-191B.) Lecture, four hours; outside study, 11 hours. Required: course 185. Course 186A is requisite to 186B. Limited to senior World Arts and Cultures majors. Application of concepts and content from interdisciplinary major to individual projects. Methodological issues may include critical, comparative, ethnographic, and performance approaches. Letter/semester format with World Arts and Cultures faculty during first term; faculty-directed presentations of individual projects during second term. Letter grading.

195. Community or Corporate Internship in World Arts and Cultures. (2 to 4) (Formerly numbered 176.) Seminar, six hours. Internship in supervised setting in community agency or business. Students meet on regular basis with instructor and provide periodic reports of their experience. May be repeated for maximum of 6 units. Individual contract with supervising faculty member required. Letter grading.

199. Directed Research in World Arts and Cultures. (2 to 4) Tutorial, two hours. Preparation: 3.0 grade-point average in major. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. May be taken for a maximum of 8 units. Individual contract required. P/NP or letter grading.

Graduate Courses

200. Proseminar: Study of Culture. (4) Seminar, three hours; outside study, nine hours. Introduction to history of culture concept in arts, humanities, and social sciences. Analysis of contemporary debates concerning ownership and use of word “culture” and critical elucidation of study of culture. S/U or letter grading.

201. Theories of Performance. (4) Seminar, three hours; outside study, nine hours. Close reading and analysis of classic and contemporary studies of performance and related aesthetic practices. Familiarization with ways in which “performance” is defined and deployed by scholars working in disciplines of anthropology, dance, folklore, literary and cultural studies, musicology, performance studies, philosophy, sociology, and theater. S/U or letter grading.

202. Ethnography of Performance. (4) Seminar, three hours; outside study, nine hours. Survey of methods and methodological issues in ethnographic study of performance in cultural field. Documentation, participant observation, oral history and interview techniques, performative dimensions of ethnographic research, ethics and politics of ethnographic representation, S/U or letter grading.

203. Proseminar: Dance Studies. (4) Seminar, three hours; outside study, nine hours. Survey of theoretical issues and problems in study of dance and body movement in social, historical, and cultural context. S/U or letter grading.

204. The Body. (4) Seminar, three hours; outside study, nine hours. Cross-cultural and interdisciplinary perspectives. Topics include representations of the body, body symbolism, embodiment of identity (including gender, race, ethnicity, and class identities), and analysis of dance and other somatic modes of performance. S/U or letter grading.

205. Folklore Theories and Methods. (4) Lecture, three hours; outside study, nine hours. Introductory course in history, analytical perspectives, and current trends, including research techniques in contemporary folkloristics. S/U or letter grading.

206. Folklore Seminar. (4) Seminar, three hours; outside study, nine hours. Variable topics. Detailed consideration of particular folk genre, culture area, historical period, and/or theoretical issue in field of folklore. May be repeated for credit. S/U or letter grading.

211A-211F. Advanced Choreography. (4 each) Lecture, two hours; laboratory, two hours. Theoretical aspects, observed choreographies. Topics include new choreographers who have reached the level of self-initiation of substantial creative works. Refinement and realistic self-evaluation; critical counsel by acknowledged choreographers.

216. Analyzing Narrative and Oral Performance. (5) Lecture, four hours. Designed for graduate students. Exploration of ways of documenting individual narrators and interpreting their styles and repertoires; how narrators conceptualize and perform narrative discourse, impact of audience and “situated event” on both narrating and “the story,” how experiences and values are communicated through narrating, modes of representing oral narrating, and politics of narrative and oral performance. S/U or letter grading.

220. Seminar: Culture and Performance. (4) Seminar, three hours; outside study, nine hours. Designed for graduate students. Variable topics in interdisciplinary study of expressive culture, arts, and performance in social and historical context. May be repeated for credit without limitation. S/U or letter grading.


223. Arts of Identity: Survey of Expressive Cultures. (4) Lecture, four hours; outside study, eight hours, production performance, and creativity in cultural context. Special attention to relationship between arts and identity and to role of artists in cultural survival and transformation. Concurrently scheduled with course C123. S/U or letter grading.

225A-225B. Theories of Movement: Labananaly- sis. (4-4) Lecture, two hours; laboratory, two hours. Theories of Laban movement analysis as means for analyzing and describing human movement. Use of Laban movement analysis to increase movement observation skills and theoretical understanding of role of movement in dance, nonverbal behavior, and cross-cultural dance. Course C225A on complex movement patterns and timing. S/U or letter grading.

229. Food Customs and Symbolism. (4) Lecture, three hours. Designed for graduate students. Introduction to foodways, with particular attention to traditions and symbolism in America. Topics include sensory realm, child rearing practices, foodsharing, food and identity, and its emotional significance, aversions and obsessions, cross-cultural eating patterns, and American diet. Concurrently scheduled with course C129. S/U or letter grading.


CM240. Women Healers, Ritual, and Transformation. (4) Same as Women’s Studies CM243). Lecture, four hours; outside study, eight hours. Designed for graduate students. Examination of role of women healers, historically and within contemporary culture-specific contexts. Exploration of psychological functions served by rites of passage and healing rituals and of role of arts in healing troubled communities. Concurrently scheduled with course CM140. S/U or letter grading.

241. Carnival and Festivity. (4) Lecture, three hours; fieldwork, one hour. Study of traditional calen- drical, religious, and local festivals and related events in their cultural and historical contexts, with emphasis on Brazilian carnival and Mexican Day of the Dead. S/U or letter grading.

242. Myth, Magic, and Minorities. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Consideration of metaphor and symbol, reflexive anthropology, and notion of culture as text applied to such examples as trickster figures, rhetorical devices including parable and irony, and arguably magical experience of humans “shape-shifting” to become animals. Concurrently scheduled with course C142. S/U or letter grading.

243. Production Arts Seminar. (4) (Formerly num- bered 243SC.) Seminar, four hours; laboratory, to be arranged. Examination of contemporary art world, including arts organizations, funding sources, legal aspects of arts production, support groups, public relations and publicity. Letter grading.

244. Folk Medicine. (4) Seminar, three hours; out- side study, nine hours. Exploration of fundamental concepts, analytical approaches, and recurrent ques- tions in research on folk or traditional medicine, in- cluding categories and motivations of healers, variet- ies of illness, and treatment modalities such as use of faith- and plant-based remedies, along with issues about persistence, efficacy, and devaluation of cul- turally sensitive healthcare. S/U or letter grading.

245. Selected Topics in Dance Studies. (2 to 4) Lecture, four hours; outside study, eight hours. De- signed for graduate students. Topics in study of dance and corporeality. Consult Schedule of Class- es for topics to be offered in specific term. May be repeated for credit without limitation. Concurrently scheduled with course C145. S/U or letter grading.

246. Politics of Performance. (4) Seminar, four hours; outside study, eight hours. Designed for gradu- ate students. Opportunity to reflect on artists and in- tellectuals as cultural workers operating in domains of ideology, aesthetics, and politics. Analysis of such key- words as ideology, aesthetics, theory, art, politics, inter- vention, intellectuals, and artists. Concurrently scheduled with course C146. S/U or letter grading.

247. Arts and Healing. (4) Lecture, four hours. Interdisciplinary, contemporary arts-based model of healing applicable to persons leading Western mod- ernist lifestyles and coping with two kinds of social cri- ses during their lifetimes: (1) developmental transitions that are disruptive, efficacious, healthful, and liberating; and (2) personal crises that have potential to promote self-regeneration or self-frag- mentation and (2) external transitions that are situa- tions that the artist must address. Letter grading: trigger fears of annihilation and chaos, but if success- fully negotiated, have potential to promote revitalized sense of self, greater compassion for others, and re- stored sense of trust and hope in humanity. Concur- rently scheduled with course C147. S/U or letter grading.
C248. Dance as Healing and Therapy. (4) Lecture; two hours; laboratory, two hours; outside study/research, eight hours. Concurrently scheduled with course C249. Designed for graduate students. Introduction to historical, theoretical, methodological, and ethical considerations involved in practice of dance as healing and therapy. Concurrently scheduled with course C249. S/U grading.

C252. History and Theory of Modern/Postmodern Dance. (4) Lecture, four hours; studio, two hours; outside study, six hours. Introduction to key figures in creation of modern dance, with special attention to their theories and philosophies and tracing of radical shift to postmodern dance that occurred in the mid-20th century. Contemporary developments, both historical and theoretical. Student projects involve choreography and writing. Concurrently scheduled with course C125Z. S/U or letter grading.

C254. Dance and Folklore. (4) Lecture, four hours. Consideration of vernacular tradition as site for cultural configuration, social construction, representation, and display of national, ethnic, and other affinity identities. Emphasis on various European and European-American dance idioms. Concurrently scheduled with course C154Z. S/U or letter grading.

C255. Self and Culture. (4) Lecture, two hours; laboratory, two hours; outside study, eight hours. Designed for graduate students. Examination of critical developmental processes and situational factors contributing to construction of sense of self and emergence of a self-concept. Such developments related in different cultural contexts. Concurrently scheduled with course C155Z. S/U or letter grading.

C256. Frida Kahlo: Creation of Cultural Icon. (5) Lecture, four hours. Examination of life of renowned Mexican artist Frida Kahlo in light of (1) Mexico’s political, religious, and social history that gave rise to mestizaje and machismo, two social conditions that strongly influenced construction of her mestiza and gender identity, as well as her revolutionary political ideals, (2) obstacles that 20th-century female artists living in patriarchal societies had to confront, (3) way her significant attachments influenced her construction of subjective sense of self and kinds of artwork living in patriarchal societies had to confront, (4) way her significant attachments influenced her construction of subjective sense of self and kinds of artwork she produced, (4) transcendence and self-regulatory functions her self-portraits served in maintaining her emotional equilibrium, (5) conversion of Kahlo’s image after her death into cultural icon by culturally disenchanted groups, and (6) psychosocial conditions and processes that tend to promote creation of cultural icons. Concurrently scheduled with course C156Z. S/U or letter grading.

C264. Public Writing in the Arts. (4) Lecture, four hours; outside study, eight hours. Survey of journalists’ approaches to writing about the arts, with eye toward sharpening critique of public writing practices and putting that critique into practice. Exploration of new modes of (and venues for) writing that rebalance power differential between art makers and commentators. Concurrently scheduled with course C164Z. S/U or letter grading.

C268. Beyond Academia: Making Art in the Real World. (4) Lecture, four hours; outside study, eight hours. Designed for graduate students. Focus on understanding bureaucratic structures and regional histories conditioning creation of art in the real world, including such practical issues as publicity and grant-writing. Concurrently scheduled with course C168Z. S/U or letter grading.

C273. Sound Resources for Performance. (4) Lecture, three hours; studio, one hour; outside study, eight hours. Designed for graduate students. Exploration of music, in search of the interesting, new, and unusual. Investigation of musical possibilities via record store, Internet, and music library; environmental sounds and patterns; body (clapping, stepping, and singing); and hardware store (found sound). Participation with fellow students in creative efforts in and presentations of research results. Concurrently scheduled with course C173Z. S/U or letter grading.

C275. Applied Folklore. (4) Lecture, four hours. Designed for graduate students. Introduction to methods and issues in application of folklore studies to such areas as anthropology, sociology, cultural development, tourism, environmental planning, economic and community development, aging, art therapy, and public sector folklore. Concurrently scheduled with course C175Z. S/U or letter grading.

C280. Video Production in Arts. (4) Lecture, one hour; laboratory, three hours. Fundamentals of video production: conceptualization, field recording (camera, lighting, field editing (organizing raw footage, constructing a program, mastering finished tape). Emphasis alternates quarterly between ethnographic documentary and dance/choreography. May be repeated once for credit. Concurrently scheduled with course C180Z. Letter grading.

C283. Film and Folklore. (4) Lecture, three hours. Designed for graduate students. Introduction to film criticism and folklore methodology. Topics include early examples of folklore on film, changing conceptions of folklore and uses of films about folklore, and examples of films by, with, and for folklorists. Concurrently scheduled with course C183Z. S/U or letter grading.

375. Teaching Apprentice Practicum. (1 to 4) Seminar, 20 hours. Preparation apprentice personnel for cultural, social, and administrative roles in higher education. Concurrently scheduled with course C150. S/U grading.

C406A. Advanced World Arts Practices in Sub-Saharan Africa and Diaspora. (2) Studio, three hours; outside study, three hours. Advanced-level study of world arts practices originating from sub-Saharan Africa and African diaspora. Variable topics and genres, such as West Africa (Burkina Faso, Mali, Guinea, Senegal) and diaspora (Haiti, Brazil, Caribbean, Cuba), including cultural and historical context. May be repeated for credit without limitation. Concurrently scheduled with course C106A. S/U or letter grading.

C409A. Advanced World Arts Practices in North America and Diaspora. (2) Studio, three hours; outside study, three hours. Advanced-level study of world arts practices originating from North America, including the U.S., Canada, Varieties, topics, such as Native American dance, jazz, and jazz-tap, in cultural and historical context. May be repeated for credit without limitation. Concurrently scheduled with course C109A. S/U or letter grading.

C413A. Advanced World Arts Practices in Europe and Diaspora. (2) Studio, three hours; outside study, three hours. Advanced-level studio of world arts practices originating from Europe and extending to cultures of European diaspora, including the U.S. Variable topics, such as flamenco, Balkan folk dances, and classical ballet, in cultural and historical context. May be repeated for credit without limitation. Concurrently scheduled with course C113AZ. S/U or letter grading.

C415. Advanced Modern/Postmodern Dance. (2) Studio, six hours. Requisite: course 65Z. Studies in advanced modern/postmodern dance technique, with emphasis on performing skills. May be repeated for credit without limitation. Concurrently scheduled with course C115Z. S/U or letter grading.

441. Dance Production Practicum. (2 to 4) Laboratory; four to eight hours. Laboratory hours may be individualized consultation. Skills and understanding of production components in roles of stage manager, production assistants, and producer. May be repeated for a maximum of 12 units.

451. Teaching Assistant Seminar. (2) Seminar, one hour; laboratory, three hours. Required of all World Arts and Cultures Department teaching assistants. Lectures, discussion, readings, and practice teaching. May be repeated once for credit. S/U grading.

452. Directed Field Study in Dance Education. (2 to 8) Seminar, one hour; field study, two hours minimum. Directed field study to provide teaching experience in the community school or other approved site. No more than 4 units may be applied toward M.A. degree requirements. S/U grading.

478. Advanced Private Instruction in World Arts and Cultures. (2 to 8) (Formerly numbered 496.) Studio, three to 12 hours; outside study, three to 12 hours. Private or semiprivate instruction with distinguished community-based artist to be arranged by students and approved by instructor. May be repeated for a maximum of 24 units. S/U grading.

480. Seminar: Research Topics. (2) Seminar, two hours. Forum in which faculty, students, and visitors make presentations and obtain feedback on research being planned, conducted, or recently completed. Students required to make a presentation each term they are enrolled for credit. May be repeated for a maximum of 8 units. S/U grading.

490. Projects in Choreography and Performance. (2) Lecture, one hour per week minimum. Creation, casting, and rehearsing of culminating concert, reflecting professional achieve ment in choreography or performance, in first term. In second term, direction of on-stage rehearsals for culminating concert by each student leading to fully staged performance. May be repeated for a maximum of 16 units. S/U grading.

495. Teacher Preparation in World Arts and Cultures. (2) Seminar, two hours. Directed work in preparation of course syllabi and discussion of topics relevant to developing teaching skills. Fundamental principles and methods with which to design course syllabi and gather resources for courses. Topics include development of teaching philosophy, evaluating/selection course content, teaching methodologies, assessing/evaluation/practicum; and consideration of practical, administrative, and ethical issues. Students meet with instructor to review their specific needs as they progress in development and elaboration of course plans. May be repeated once per week minimum. S/U grading.

593. Professional Internship in Dance. (4, 8, or 12) Seminar, to be arranged. Full- or part-time supervised fieldwork. Limited to M.F.A. students. Internship in dance, theater, film, or television organization. Participation in creative, administrative, or technical work of professionals in their specialties. S/U or letter grading.

596A. Directed Individual Study or Research. (2 to 8) Tutorial, to be arranged. S/U or letter grading.

596R. Directed Study or Research in a Hospital or Clinic. (2 to 8) Tutorial, to be arranged. S/U grading.

597. Preparation for Master’s Comprehensive Examination or Ph.D. Qualifying Examination. (2 to 8) Tutorial, to be arranged. Preparation for M.A. or M.F.A. comprehensive examination or Ph.D. qualifying examination. S/U grading.


APPENDIX A: REGULATIONS AND POLICIES

Nondiscrimination

The University of California, in accordance with applicable Federal and State Laws and University Policies, does not discriminate on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (including pregnancy, childbirth, and medical conditions related to pregnancy and childbirth), disability, age, familial status, medical condition (cancer-related), ancestry, marital status, citizenship, sexual orientation, or status as a Vietnam-era veteran or special disabled veteran. The University also prohibits sexual harassment. This nondiscrimination policy covers admission, access, and treatment in University programs and activities.

Inquiries regarding the University’s student-related nondiscrimination policies may be directed to the UCLA Campus Counsel, 3149 Murphy Hall, Box 951405, Los Angeles, CA 90095-1405, (310) 825-4042. Speech- and hearing-impaired persons may call TTY (310) 206-6083.

Inquiries regarding nondiscrimination on the basis of disability covered by the Americans with Disabilities Act (ADA) of 1990 or Section 504 of the Rehabilitation Act of 1973 may be directed to Karen Henderson-Winge, Coordinator of ADA and 504 Compliance, A239 Murphy Hall, UCLA, Box 951405, Los Angeles, CA 90095-1405, voice (310) 825-7906, TTY (310) 206-3349; http://www.sao-net.ucla.edu/ada.htm.

Students may complain of any action which they believe discriminates against them on the ground of race, color, national origin, marital status, sex, sexual orientation, disability, or age and may contact the Office of the Dean of Students, 1206 Murphy Hall, and/or refer to Section 111.00 of the University of California Policies Applying to Campus Activities, Organizations, and Students; (available in 1206 Murphy Hall or at http://www.ucop.edu/ucophome/coordrev/ucpolicies/aos/toc.html). Students may also contact the Office of Ombuds Services, or Student Legal Services for advice concerning these policies.

A. Jurisdiction

The University has jurisdiction over student conduct that occurs on University property, or in connection with official University functions whether on or off University property. Although the University will not routinely invoke its disciplinary processes over student conduct that occurs off campus except in connection with an official University function, the University has discretion to exercise jurisdiction over conduct that occurs off campus and that would violate student conduct and discipline policies or regulations if the conduct had occurred on campus when (1) the alleged misconduct indicates the student poses a threat to the safety or security of any member(s) of the University community or (2) the alleged misconduct involves academic work or the forgery, alteration, or misuse of any University document, record, key, electronic device, or identification.

Specifically, the University may choose to exercise jurisdiction over off-campus incidents under alternative A.1 above where the alleged misconduct involves

a. Physical abuse, including but not limited to sexual assault, sexual misconduct, sex offenses, and other physical assault; threats of violence; or conduct that threatens the health or safety of any person;

b. Stalking (as defined in Section 102.10 of the University of California Policies Applying to Campus Activities, Organizations, and Students);

c. Sexual harassment (as defined in Section 160.00 et seq. of the University of California Policies Applying to Campus Activities, Organizations, and Students);

d. Participation in hazing or any method of initiation or preinitiation into a campus organization or other activity engaged in by the organization or members of the organization at any time that causes, or is likely to cause, physical injury or personal degradation or disgrace resulting in psychological harm to any student or other person.

In determining whether or not to exercise off-campus jurisdiction in cases under alternative A.1 above, the University will consider the seriousness of the alleged misconduct; whether the alleged victim is a member of the campus community; the ability of the University to gather information, including the testimony of witnesses; or whether the off-campus conduct is part of a series of actions that occurred both on and off campus.

This section is intended only to provide guidance for the exercise of discretion by the University in invoking its jurisdiction over conduct that occurs off campus. It may not be relied upon by any student charged under this section to create any rights, substantive or procedural, or as a basis for a challenge to the exercise of the University’s jurisdiction.

B. Types of Misconduct

Students may be disciplined for violations or attempted violations (including aiding, abetting, or participating in the planning of an act that would be in violation of the UCLA Code, whether or not the individual who carries out that act is a student). Violations include the following types of misconduct:

102.01: Academic Dishonesty. All forms of academic misconduct, including but not limited to cheating, fabrication, plagiarism, multiple submissions, or facilitating academic misconduct. For the purposes of the UCLA Code, the following definitions apply:

102.01a: Cheating. Cheating includes, but is not limited to, the use of unauthorized materials, information, or study aids in any academic exercise or the failure to observe the expressed procedures or instructions of an academic exercise (e.g., examination instructions regarding alternate seating or conversation during an examination).

102.01b: Fabrication. Fabrication includes, but is not limited to, falsification or invention of any information or citation in an academic exercise.

102.01c: Plagiarism. Plagiarism includes, but is not limited to, the use of another’s words or ideas as if they were one’s own, including but not limited to representing, either with the intent to deceive or by the omission of the true source, part of or an entire work produced by someone other than the student, obtained by purchase or otherwise, as the student’s original work or representing the identifiable but altered ideas, data, or writing of another person as if those ideas, data, or writing were the student’s original work.
102.01d: Multiple Submissions. Multiple submissions includes, but is not limited to, the resubmission by a student of any work which has been previously submitted for credit in identical or similar form in one course to fulfill the requirements of a second course, without the informed permission/consent of the instructor of the second course; or the submission by a student of any work submitted for credit in identical or similar form in one course to fulfill the requirements of a concurrent course, without the permission/consent of the instructors of both courses.

102.01e: Facilitating Academic Dishonesty. Facilitating academic dishonesty includes, but is not limited to, knowingly helping another student commit an act of academic misconduct (e.g., cheating, fabrication, plagiarism, multiple submissions).

102.01f: Coercion Regarding Grading or Evaluation of Coursework. Threatening personal or academic repercussions or discipline against an instructor to coerce the instructor to change a grade or otherwise evaluate the student's work by criteria not directly reflective of coursework.

102.02: Other Forms of Dishonesty. Other forms of dishonesty, including but not limited to fabricating information or knowingly furnishing false information or reporting a false emergency to the University.

102.03: Forgery. Forgery, alteration, or misuse of any University document, record, key, electronic device, or identification.

102.04: Theft. Theft of, conversion of, misappropriation of, or damage to or destruction of any property of the University or property of others while on University premises or at official University functions; or possession of any property when the student had knowledge or reasonably should have had knowledge that it was stolen.

102.05: Computers. Theft or abuse of University computers and other University electronic resources such as computer and electronic communications facilities, systems, and services. Abuses include, but are not limited to, unauthorized entry, use, transfer, or tampering with the communications of others; interference with the work of others and with the operation of computer and electronic communications facilities, systems, and services; violations of copyright laws, whether by theft, unauthorized sharing, or other misuse of copyrighted materials such as songs, movies, software, photos, or text. Violation of the UCLA E-Mail Policy and Guidelines (available at http://www.admivuc.edu/appm/public/app_0455_0.html), of the University of California Electronic Communications Policy (available at http://www.ucop.edu/ucophome/policies/ec/), or of any other University acceptable or allowable use policy is also considered a violation of Section 102.05.

102.06: Unauthorized Use of University Resources or Name. Unauthorized entry to, possession of, receipt of, or use of any University services, equipment, resources, or properties, including the University's name, insignia, or seal.

102.07: University Housing and Parking. 102.07a: University Housing. Violation of policies, regulations, or rules governing University-owned, -operated, or -leased housing facilities or other housing facilities located on University property.

102.07b: Parking. Violation of policies, regulations, or rules governing University parking services or University-owned or -operated parking facilities.

102.08: Physical Abuse. Physical abuse includes physical assault, sexual assault, sexual misconduct, sex offenses; threats of violence; or other conduct that threatens the health or safety of any person.

Sexual Assault occurs when a person knowingly causes another person to engage in a sexual act by (a) physical force, violence, threat, intimidation, and/or coercion; (b) ignoring the objections of the other person; (c) causing the other's intoxication or impairment through the use of drugs or alcohol; or (d) taking advantage of the other person's incapacitation, state of intimidation, helplessness, or other inability to consent. Situations involving physical force, violence, threat, intimidation, and/or coercion fall under the definition of Sexual Assault.

Sexual Misconduct occurs when a person, having failed to take appropriate steps to gain effective consent, engages in a sexual act with another under the unreasonable belief that effective consent had been obtained. Sex offenses include, but are not limited to, sexual assault upon a child, incest, and consensual sex with an individual under the age of consent (18 years of age in California). NOTE: For the purpose of this regulation, the following apply:

1. “Effective consent” referenced in the terms above means words or actions that show a voluntary agreement to engage in a mutually agreed-upon sexual activity

2. “Sexual act” referenced in the terms above includes, but is not limited to, sexual intercourse, sodomy, oral-genital contact, or sexual penetration with a foreign object (including a finger), the touching of a person's intimate parts (defined as genitalia, groin, breast, or buttocks, or clothing covering them), or compelling a person to touch his or her own or another person's intimate parts without effective consent

3. Intoxication of the accused will not diminish his or her responsibility for any violations of this section

102.09: Sexual Harassment. Sexual harassment, as defined in the University of California Policies Applying to Campus Activities, Organizations, and Students (Section 160.00), reads in part: Sexual harassment is unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature, when submission to or rejection of this conduct explicitly or implicitly affects a person's employment or education, unreasonably interferes with a person's work or educational performance, or creates an intimidating, hostile, or offensive working or learning environment. In the interest of preventing sexual harassment, the University will respond to reports of any such conduct.

Refer to the Policy on Sexual Harassment and Complaint Resolution Procedures (section 160.00) for the entire definition. The Policy on Sexual Harassment and Complaint Resolution Procedures is incorporated into the Policy on Student Conduct and Discipline.

102.10: Stalking. Stalking behavior in which a student repeatedly engages in a course of conduct directed at another person and makes a credible threat with the intent to place that person in reasonable fear for his or her safety, or the safety of his or her family; where the threat is reasonably determined by the University to seriously alarm, torment, or terrorize the person; and where the threat is additionally determined by the University to serve no legitimate purpose.

102.11: Harassment. Harassment by a student of any person. For the purposes of this section, harassment:

a. Is the use, display, or other demonstration of words, gestures, imagery, or physical materials, or the engagement in any form of bodily conduct, on the basis of race, color, national or ethnic origin, alienage, sex, religion, age, sexual orientation, or physical or mental disability that has the effect of creating a hostile and intimidating environment sufficiently severe or pervasive to substantially impair a reasonable person's participation in University programs or activities, or use of University facilities;

b. Must target a specific person or persons; and

c. Must be addressed directly to that person or persons

NOTE: The Office of the President has issued the following guidelines on interpretation and application of this section (102.11: Harassment): “Prior to applying this provision of policy to any student conduct, the Office of General Counsel will be consulted regarding its proper interpretation and application in light of the specific circumstances.”

102.12: Hazing. Participation in hazing or any method of initiation or preinitiation into a campus organization or other activity engaged in by the organization or members of the organization at any time that causes, or is likely to cause, physical injury or personal degradation or disgrace resulting in psychological harm to any student or other person.

102.13: Obstruction or Disruption. Obstruction or disruption of teaching, research, admin-
102.14: Disorderly Conduct. Disorderly or lewd conduct.

102.15: Disturbing the Peace. Participation in a disturbance of the peace or unlawful assembly.

102.16: Failure to Comply. Failure to identify oneself to, or comply with directions of, a University official or other public official acting in the performance of his or her duties while on University property or at official University functions, or resisting or obstructing such University or other public officials in the performance of or the attempt to perform their duties.

102.17: Controlled Substances. Unlawful manufacture, distribution, dispensing, possession, use, or sale of, the attempted manufacture, distribution, dispensing, or sale of controlled substances, identified in Federal and State laws or regulations.

102.18: Alcohol. Manufacture, distribution, dispensing, possession, use, or sale of, or the attempted manufacture, distribution, dispensing, or sale of alcohol which is unlawful or otherwise prohibited by, or not in compliance with, University policy or campus regulations.

102.19: Destructive Devices. Possession, use, storage, or manufacture of explosives, firebombs, or other destructive devices.

102.20: Weapons. Except as expressly permitted by law, possession, use, storage, or manufacture of a firearm or other weapon capable of causing bodily injury.

102.21: Violation of Disciplinary Conditions. Violation of the conditions contained in the terms of a disciplinary action imposed under the UCLA Code.

102.22: Violation of Interim or Emergency Suspension Conditions. Violation of the conditions contained in a written Notice of Interim or Emergency Suspension issued pursuant to Section IV of the UCLA Code.

102.23: Unauthorized Use or Sale of University Materials. Except as provided herein, no student shall give, sell, or otherwise distribute to others or publish any recording made during any course presentation without the written consent of the University and the instructor/presenter. This policy is applicable to any recording in any medium, including handwritten or typed notes.

Any distribution of a recording of a course presentation at UCLA that captures the actual sounds and/or images of that course presentation, in any medium, must consider not only the rights of the instructor and the University, but also those of other parties. Examples include the privacy rights of students enrolled in the course, the rights of guest lecturers, and the copyright interests in materials authored by others that are displayed or presented during the course presentation. In addition to the consent of the University and the instructor/presenter, it may be necessary to secure permission from these other parties before any recording, distribution, publication, or communication is legally permitted.

102.23a: Selling Course Notes. Selling, preparing, or distributing any commercial purpose course lecture notes or video or audio recordings of any course unless authorized by the University in advance and explicitly permitted by the course instructor in writing. The unauthorized sale or commercial distribution of course notes or recordings by a student is a violation of the UCLA Code whether or not it was the student or someone else who prepared the notes or recordings. This policy is applicable to any recording in any medium, including handwritten or typed notes.

102.23b: Copying Course Notes. Copying for any commercial purpose handouts, readers, or other course materials provided by an instructor as part of a University of California course unless authorized by the University in advance and explicitly permitted by the course instructor or the copyright holder in writing (if the instructor is not the copyright holder). Students currently enrolled in a course may provide a copy of their own notes or recordings to other currently enrolled students for noncommercial purposes reasonably arising from participation in the course, including individual or group study.

102.24: Commencement Tickets. Selling commencement tickets.

102.25: Violations of Law. Violation of Federal, State, or local laws.

Sexual Assault and Sexual Misconduct

UCLA does not tolerate sexual assault or sexual misconduct. Where there is probable cause to believe a student has committed a sexual assault or has engaged in sexual misconduct, disciplinary action will be pursued. Sanctions may include dismissal from the University.

If a Person Has Been Sexually Assaulted

Those who believe that they are the victims of sexual assault should:

1. Immediately call the police department. If possible, call the UCLA Police Department at (310) 825-1491 or 911

2. Get medical attention. Campus police will provide transportation to the Santa Monica-UCLA Medical Center Emergency Room for emergency medical treatment and evidence collection. A counselor from the Rape Treatment Center will be available at that time, free of charge

Utilize campus and community support services:

1. Contact a Rape Services Consultant (RSC) at the Center for Women and Men. RSCs have expertise in working with people who have been sexually assaulted. They can discuss options and alternatives, help identify the most appropriate support services, and provide information about medical care, psychological counseling, academic assistance, legal options, how to file a police report, and how to file a complaint through the Office of the Dean of Students. RSCs are available to assist any UCLA student regardless of where or when the assault occurred. For assistance, contact the Center for Women and Men at (310) 825-3945 or (310) 206-8240 or go to B44 Student Activities Center and ask to speak to an RSC.

2. Contact the Rape Treatment Center at Santa Monica-UCLA Medical Center (310) 319-4000 for free emergency medical treatment and counseling services. See http://www.911rape.org.

Caring assistance is available for persons who have been subjected to sexual assault or sexual misconduct. They are encouraged in the strongest terms to make a report.

Harassment

Sexual Harassment

Every member of the University community should be aware that the University is strongly opposed to sexual harassment and that such behavior is prohibited both by law and by University policy. The University will respond promptly and effectively to reports of sexual harassment and will take appropriate action to prevent, correct, and, if necessary, discipline behavior that violates this policy. See http://www.sexualharassment.ucla.edu.

Definitions

For detailed definitions of sexual harassment, refer to Section 102.09 of the UCLA Student Conduct Code listed above.

Complaint Resolution

Experience has demonstrated that many complaints of sexual harassment can be effectively resolved through informal intervention. Individuals who experience what they consider to be sexual harassment are advised to confront the alleged offender immediately and firmly.

Additionally, an individual who believes that she or he has been sexually harassed may contact the Sexual Harassment Coordinator in 2241 Murphy Hall or a Sexual Harassment Information Center counselor for help and information regarding sexual harassment complaint resolution or grievance procedures at one of the locations listed below as determined by the complainant’s status at the University at the time of the alleged incident:

1. Campus Human Resources/Employee and Labor Relations, Manager, 200 UCLA Wilshire Center, (310) 794-0860
Many incidents of harassment and intimidation can be effectively resolved through informal means. For example, an individual may wish to confront the alleged offender immediately and firmly. An individual who chooses not to confront the alleged offender and who wishes help, advice, or information is urged to contact any of the Harassment Information Centers listed immediately above.

In addition to providing support for those who believe they have been victims of harassment, Harassment Information Centers offer persons the opportunity to learn about the phenomena of harassment and intimidation; to understand the formal and informal mechanisms by which misunderstandings may be corrected and, when appropriate, student perpetrators may be disciplined; and to consider which of the available options is the most useful for the particular circumstances.

With regard to the Universitywide Student Conduct Harassment Policy, complainants should be aware that not all conduct which is offensive may be regarded as a violation of this Policy and may, in fact, be protected expression. Thus, the application of formal institutional discipline to such protected expression may not be legally permissible. Nevertheless, the University is committed to reviewing any complaint of harassing or intimidating conduct by a student and intervening on behalf of the complainant to the extent possible.

Faculty Code of Conduct

The entire Faculty Code of Conduct can be found in the UCLA Faculty Handbook (copies are available in the Academic Personnel Office, 3109 Murphy Hall, and at http://www.apo.ucla.edu/facultyhandbook/9.htm). Part IIA of the Faculty Code of Conduct outlines faculty obligations to students and reads as follows:

Teaching and Students

Ethical Principles: “As teachers, the professors encourage the free pursuit of learning of their students. They hold before them the best scholarly standards of their discipline. Professors demonstrate respect for students as individuals and adhere to their proper roles as intellectual guides and counselors. Professors make every reasonable effort to foster honest academic conduct and to assure that their evaluations of students reflect each student’s true merit. They respect the confidential nature of the relationship between professor and student. They avoid any exploitation, harassment, or discriminatory treatment of students. They acknowledge significant academic and scholarly assistance from them. They protect their academic freedom.” (from 1966 AAUP statement, revised 1987)

Types of Unacceptable Conduct

Failure to meet the responsibilities of instruction, including (1) arbitrary denial of access to instruction, (2) significant intrusion of material unrelated to the course, (3) significant failure to
adhere, without legitimate reason, to the rules of the faculty in the conduct of courses, to meet class, to keep office hours, or to hold examinations as scheduled, (4) evaluation of student work by criteria not directly reflective of course performance, (5) undue and unexcused delay in evaluating student work.

Discrimination, including harassment, against a student on political grounds or for reasons of race, religion, sex, sexual orientation, ethnic origin, national origin, ancestry, marital status, medical condition, status as a covered veteran or, within the limits imposed by law or University regulations, because of age or citizenship or for any other arbitrary or personal reasons.

Violation of University policy, including the pertinent guidelines, applying to nondiscrimination against students on the basis of disability.

Use of the position or powers of a faculty member to coerce the judgment or conscience of a student or to cause harm to a student for arbitrary or personal reasons.

Participating in or deliberately abetting disruption, interference, or intimidation in the classroom.

Entering into a romantic or sexual relationship with any student for whom a faculty member has, or should reasonably expect to have in the future, academic responsibility (instructional, evaluative, or supervisory).

Exercising academic responsibility (instructional, evaluative, or supervisory) for any student with whom a faculty member has a romantic or sexual relationship.

**Charges of Violation**

If a student has reason to believe that a faculty member has violated the Faculty Code of Conduct and that formal discipline may be warranted, the alleged violator should be reported to the chair of the department and to the dean of the division or school with a request that a charge be filed with the Academic Senate Charges Committee. If the dean, in consultation with the vice chancellor of Academic Personnel, determines that there are not sufficient grounds for the administration to file a charge, the student may, after discussing the matter with the Office of Ombuds Services and a member of the Academic Senate Grievance and Disciplinary Procedures Committee, file such a charge in person if the student continues to feel it is warranted.

**Residence for Tuition Purposes**

Students who have not been living in California with intent to make it their permanent home for more than one year immediately before the residence determination date for each term in which they propose to attend the University must pay a nonresident tuition fee in addition to all other fees. The residence determination date is the day instruction begins at the last of the University of California campuses to open for the quarter, and for schools on the semes-

**Laws Governing Residence**

The rules regarding residence for tuition purposes at the University of California are governed by the California Education Code and implemented by Standing Orders of The Regents of the University of California. Under these rules adult citizens and certain classes of aliens can establish residence for tuition purposes. There are particular rules that apply to the residence classification of minors (see below).

**Who Is a Resident?**

Persons who are adult students (at least 18 years of age) may establish residence for tuition purposes in California if (1) they are U.S. citizens, (2) they are permanent residents or other immigrants, or (3) they are nonimmigrants who are not precluded from establishing a domicile in the U.S.

Nonimmigrants who are not precluded from establishing domicile in the U.S. include those who hold valid visas of the following types: A, E, G, H-1, H-4, I, K, L, O-1, O-3, R, or V. To establish residence students must be physically present in California for more than one year, and they must have come here with the intent to make California their home as opposed to coming to this state to go to school. Physical presence within the state solely for educational purposes does not constitute the establishment of California residence, regardless of the length of stay. Students must demonstrate their intention to make California their home by severing their residential ties with their former state of residence and establishing those ties with California. If these steps are delayed, the one-year duration period is extended until students have demonstrated both presence and intent for one full year. If their parents are not California residents, students are required to be financially independent in order to be a resident for tuition purposes. Their residence cannot be derived from their spouse, registered domestic partner, or their parents.

**Requirements for Financial Independence**

Students are considered financially independent if one or more of the following apply: (1) they are at least 24 years of age by December 31 of the calendar year for which they are requesting residence classification; (2) they are a veteran of the U.S. Armed Forces; (3) they are a ward of the court or both parents are deceased; (4) they have legal dependents other than a spouse; (5) they are married, have a registered domestic partner, or are a graduate student or a professional student, and they were not claimed as an income tax deduction by their parents or any other individual for the two tax years immediately preceding the term for which they are requesting residence classification, and they can demonstrate self-sufficiency for those years and the current year.

Note: Financial dependence is not a factor in determining residence status for graduate student instructors, graduate student teaching assistants, research assistants, junior specialists, postgraduate researchers, graduate student researchers, and teaching associates who are employed 49 percent or more of full time or awarded the equivalent in University-administered funds (e.g., grants, stipends, fellowships) in the term for which classification is sought.

**Establishing Intent to Become a California Resident**

Indications of students’ intent to make California their permanent residence can include the following: (1) registering to vote and voting in California elections, (2) designating California as their permanent address on all school and employment records, including military records if they are in the military service, (3) obtaining a California driver’s license or, if they do not drive, a California Identification Card, (4) obtaining California vehicle registration, (5) paying California income taxes as a resident, including taxes on income earned outside California from the date they establish residence, (6) establishing a California residence in which they keep their personal belongings, and (7) licensing for professional practice in California.

The absence of these indicia in other states during any period for which students claim residence can also serve as an indication of their intent. Documentary evidence is required, and all relevant indications are considered in determining the classification. Intent is questioned if students return to their prior state of residence when the University is not in session.

**General Rules Applying to Minors**

If students are unmarried minors (under age 18), the residence of the parent with whom they live is considered to be their residence. If they have a parent living, they cannot change their residence by their own act, by the appointment of a legal guardian, or by the relinquishment of their parent’s right of control. If students live with neither parent, their residence is that of the parent with whom they last lived. Unless they are minor aliens present in the U.S. under the terms of a nonimmigrant visa that precludes them from establishing a domicile in the U.S., students may establish their own residence when both their parents are deceased and a legal guardian has not been appointed. If they derive California residence from a parent, that parent must satisfy the one-year durational residence requirement.

**Specific Rules Applying to Minors**

**Divorced or Separated Parents**

Minor U.S. citizens or eligible aliens may be able to derive California resident status from a California resident parent if they move to California to live with that parent on or before their
18th birthday. If they begin residing with their California parent after their 18th birthday, they are treated like any other adult student coming to California to establish residence.

**Parent of Minor Moves from California**

Students may be entitled to resident status if they are minor U.S. citizens or eligible aliens whose parent(s) was a resident of California who left the state within one year of the residence determination date if (1) they remained in California after their parent(s) departed, (2) they enroll in a California public postsecondary institution within one year of their parent(s) departure, and (3) once enrolled, they maintain continuous attendance in that institution. Financial independence is not required in this case.

**Two-Year Care and Control**

Minor students may be entitled to resident classification if, immediately prior to enrolling in a postsecondary institution, they have been living with and been under the continuous direct care and control of an adult or adults other than a parent for a period of no less than two years. The adult or adults having control must have been residents of California during the one year immediately prior to the residence determination date. The classification continues until students have attained the age of majority and have lived in the state the minimum time necessary to become a resident, so long as continuous full-time attendance is maintained at a postsecondary institution.

**Self-Support**

If students are U.S. citizens or eligible aliens and are either a minor or age 18 and can prove that they lived in California for the entire year immediately before the residence determination date, that they have been self-supporting for that year, and that they intend to make California their permanent home, they may be eligible for resident status.

**Exemptions from Nonresident Tuition**

**Member of the Military**

Members of the U.S. military may be exempt from the nonresident tuition fee unless their assignment to California is for the purpose of attending a state-supported institution of higher education. Graduate and professional students are eligible for this exemption until they have resided in California the minimum time necessary to become a resident (366 days). Students must petition for a waiver of the nonresident tuition fee each term they are eligible. If they are enrolled in an educational institution and the member of the military is transferred on military orders to a place outside California where he or she continues to serve in the Armed Forces, or the member of the military retires from active duty immediately after having served in California on active duty, they may retain this exemption under conditions listed above.

**Child, Spouse, or Registered Domestic Partner of Faculty Member**

To the extent funds are available, if students are an unmarried dependent child under age 21, spouse, or registered domestic partner of a member of the University faculty who is a member of the Academic Senate, they may be eligible for a waiver of the nonresident tuition fee. Confirmation of the faculty member's membership on the Academic Senate must be secured each term this waiver is granted.

**Child, Spouse, or Registered Domestic Partner of University Employee**

Students may be entitled to resident classification if they are an unmarried dependent child, spouse, or registered domestic partner of a full-time University employee whose assignment is outside California (e.g., Los Alamos Scientific Laboratory). Their parent's, spouse's, or registered domestic partner's employment status with the University must be ascertained each term.

**Child, Spouse, or Registered Domestic Partner of Deceased Public Law Enforcement or Fire Suppression Employee**

Students may be entitled to a waiver of the nonresident tuition fee if they are the child, spouse, or registered domestic partner of a deceased public law enforcement or fire suppression employee who was a California resident at the time of his or her death and who was killed in the course of fire suppression or law enforcement duties.

**Dependent Child of a California Resident**

If students have not been an adult resident of California for more than one year and are the natural or adopted dependent child of a California resident who has been a resident for more than one year immediately prior to the residence determination date, they may be entitled to a waiver of the nonresident tuition fee until they have resided in California the minimum time necessary to become a resident, so long as continuous attendance is maintained at an institution.

**Native American Graduate of a Bureau of Indian Affairs High School**

Students who are graduates of a California high school operated by the federal Bureau of Indian Affairs may be exempt from the nonresident tuition fee.

**Employee of a California Public School District**

Students holding a valid credential authorizing service in the public schools of the State of California who are employed by a school district in a full-time certificate position may be exempt from the nonresident tuition fee.

**Student Athlete in Training at the U.S. Olympic Training Center, Chula Vista**

Any amateur student athletes in training at the U.S. Olympic Training Center in Chula Vista may be exempt from the nonresident tuition fee until they have resided in California the minimum time necessary to become a resident.

**Graduate of a California High School**

Students who attended high school in California for three or more years (9th grade included) and graduated from a California high school (or attained the equivalent) may be exempt from the nonresident tuition fee. They are not eligible for the exemption if they are a nonimmigrant alien.

**Surviving Dependents of California Residents Killed in the September 11, 2001, Terrorist Attacks**

Students who are surviving dependents of California residents killed in the September 11, 2001, terrorist attacks may be exempt from the nonresident tuition fee.

**Recipients of the Congressional Medal of Honor and Their Children under Age 28**

Undergraduate students who are recipients of the Congressional Medal of Honor or who are the children of a recipient may be exempt from the nonresident tuition fee. Recipients must be California residents, and students must be under age 28. Students' annual income must not exceed the national poverty level. If the recipient was a parent who died, the parent must have been a California resident at the time of death.

**Temporary Absences**

If persons are nonresident students who are in the process of establishing a residence for tuition purposes and they return to their former home during noninstructional periods, their presence in the state is presumed to be solely for educational purposes and only convincing evidence to the contrary rebuts this presumption. Students who are in the state solely for educational purposes are NOT classified as residents for tuition purposes regardless of the length of their stay.

If persons are students who have been classified as residents for tuition purposes and they leave the state temporarily, their absence could result in the loss of their California residence. The burden is on students (or their parents if they are minors) to verify that they did nothing inconsistent with their claim of a continuing California residence during their absence. Steps that students (or their parents) should
take to retain a California residence include the following:

1. Continue to use a California permanent address in all records—educational, employment, military, etc.

2. Continue to satisfy California tax obligations. If students are claiming California residence, they are liable for payment of income taxes on their total income from the date they establish their residence in the state, including income earned in another state or country.

3. Retain a California voter’s registration and vote by absentee ballot.

4. Maintain a California driver’s license and vehicle registration. If it is necessary to change the driver’s license or vehicle registration, students must change them back within the time prescribed by law.

Petition for Resident Classification

Students may obtain a petition at 1113 Murphy Hall or at http://www.registrar.ucla.edu/forms/residenceclass.pdf for a change of classification from nonresident to resident status. All changes of status must be initiated at least three weeks in advance of the fee payment deadline for the applicable term.

Time Limitation on Providing Documentation

If additional documentation is required for residence classification but is not readily accessible, students are allowed until the end of the applicable term to provide it.

Incorrect Classification

Students who were incorrectly classified as residents are subject to nonresident classification and to payment of all nonresident tuition fees not paid. If they concealed information or furnished false information and were classified incorrectly as a result, they are also subject to University discipline. Resident students who become nonresidents must immediately notify the residence deputy.

Inquiries and Appeals

Inquiries regarding residence requirements, determination, and/or recognized exceptions should be directed to the Residence Deputy, UCLA Office of the Registrar, 1113 Murphy Hall, Box 951429, Los Angeles, CA 90095-1429 (310-825-3447; http://www.registrar.ucla.edu/faq/residencefaq.htm) or to the Senior Paralegal—Residence Matters, 1111 Franklin Street, 8th Floor, Oakland, CA 94607-5200. NO OTHER UNIVERSITY PERSONNEL ARE AUTHORIZED TO SUPPLY INFORMATION RELATIVE TO RESIDENCE REQUIREMENTS FOR TUITION PURPOSES.

Students are cautioned that this summary is NOT a complete explanation of the law regarding residence. Note that changes may be made in the residence requirements between the publication of this statement and the relevant residence determination date. Any student, following a final decision on residence classification by the residence deputy, may appeal in writing to the senior paralegal within 30 days of notification of the residence deputy’s final decision.

Privacy Notice

All of the information requested on the Statement of Legal Residence form is required (by the authority of Standing Order 110.2 (a)-(d) of The Regents of the University of California) for determining whether or not students are legal residents for tuition purposes. Registration cannot be processed without this information. The Registrar’s Office on campus maintains the requested information. Students have the right to inspect University records containing the residence information requested on the form.

Financial Aid Minimum Progress Standards

Federal regulations require UCLA to establish, publish, and apply standards of satisfactory academic progress for financial aid eligibility. Students who fail to meet minimum progress standards become ineligible to receive financial aid until they are in compliance with the standards.

If, during any term, students expect they cannot meet the satisfactory academic progress requirements listed below, they should contact the Financial Aid Office immediately for further advising. See the Satisfactory Academic Progress Guide at http://www.fao.ucla.edu/publications.html.

Undergraduate Students

Qualitative Standard

The qualitative standard is enforced by the College or school. Students are notified by their academic department if they fall below the required grade-point average (GPA).

Quantitative Standard

This standard is enforced by the Financial Aid Office on the basis of the number of units (including remedial courses) successfully completed within any given number of terms, including summer. It may differ from the College/school requirement.

All students receiving aid as full-time students must be enrolled in at least 12 units in order to obtain funds. To be eligible for financial aid as full-time students, they must successfully complete at least 24 units in their first academic year at UCLA to maintain satisfactory academic progress. Thereafter, students must successfully complete 55 units by the end of the sixth term, 86 units by the end of the ninth term, 117 units by the end of the twelfth term, 148 units by the end of the fifteenth term, and 180 units by the end of the eighteenth term.

After 18 terms of enrollment as a full-time student or the equivalent as a part-time student, no further financial aid is granted. The measurement of progress occurs at the end of each Winter Quarter. The schedule above is adjusted appropriately for students ending an academic year with a different number of terms completed than is listed above. If students enter UCLA in advanced standing, the number of terms for which they are eligible for aid is reduced proportionally to the number of transfer units credited to their record. For example, students who are credited with 90 transfer units would have only 12 terms of financial aid eligibility as an undergraduate at UCLA.

If persons are continuing students at UCLA at the time they apply for financial aid, their progress is measured by the satisfactory academic progress chart to determine their eligibility (i.e., they must have successfully completed 55 units if they attended UCLA for six terms). They would then have only 12 terms of financial aid eligibility.

Changing Major/Double Major/Minor

A change of academic major or the pursuit of a double major or minor does not extend eligibility for financial assistance.

Nonstandard Enrollment

Progress for students approved for part-time enrollment by the Registrar’s Office is measured by a modified schedule. Part-time students should inform the Financial Aid Office of their enrollment arrangements so their aid can be adjusted accordingly.

Successful Completion

To successfully complete units, students must receive a grade of A, B, C, D, or P (S for graduate students) in a course. Grades of F, I, NP (U for graduate students), NR (No Report), and DR (Deferred Report) do not earn completed units. An I or DR grade that is replaced with a passing grade does earn units.

Withdrawal and Cancellation

Withdrawal after the first day of classes during a term counts as a term attended when determining overall term and unit count eligibility, unless students do not attend any classes for the given term and receive a 100 percent refund of all fees. Cancellation of registration on or before the first day of classes does not count as a term attended when determining term or unit count eligibility. Administrative cancellation does not count toward the overall term or unit count eligibility.

Disqualification and Reinstatement

The Financial Aid Office monitors satisfactory academic progress annually after Winter Quarter grades are recorded. Progress is measured according to the number of terms students have attended and the number of units they have successfully completed.

Students not meeting the requirements shown on the schedule may receive a warning letter or have their financial aid suspended. Once deficiencies are satisfied, financial aid may be reinstated.

Financial aid eligibility is reinstated for the term following the term in which students reestablish compliance with the units-per-term schedule. For example, if they successfully complete
16 units in Fall Quarter and therefore make up the deficiency, they become eligible for financial aid in Winter Quarter. Financial aid is then awarded on the basis of their need and the availability of funds.

Appeal Process
Students who fail to meet the satisfactory academic progress standards because of debilitating illness, prolonged hospitalization, death in the immediate family, or other such mitigating circumstances may appeal their disqualification.

To appeal, students should submit a letter and supporting documentation to the Financial Aid Office explaining the circumstances and how they affected their ability to meet the requirements. The satisfactory academic progress appeal coordinator evaluates the request based on the rationale and evidence provided.

Graduate Students
Qualitative Standard
The qualitative standard is enforced by the dean of the Graduate Division in consultation with the department.

Quantitative Standard
Students must successfully complete at least 8 units per term of enrollment to be eligible for financial aid as full-time students. Approved study loads of less than 8 units result in proportionally reduced aid for that term and are charged against the maximum period of eligibility at the appropriate proportional rate.

Disqualification and Appeal Process
If students fail to meet the qualitative and quantitative requirements, their financial aid is discontinued until the deficiencies are made up. Appeals are reviewed by their academic department, the dean of the Graduate Division, and/or the Financial Aid satisfactory academic progress appeal coordinator.

Period of Eligibility
The degree program to which students are admitted determines the maximum number of terms for which they can receive need-based financial aid. Terms for which no need-based aid is received are considered when determining the remaining number of terms of financial aid eligibility.

Students who are in a credential program or a professional master’s program (other than Master of Fine Arts) are eligible for a maximum of nine terms of need-based financial aid.

Students who are in a Master of Fine Arts program are eligible to apply for aid for the first 12 terms of enrollment. If students are in an M.A. or M.S. program, a doctoral program, or a combination master’s/doctoral program, their eligibility expires after 27 terms of enrollment. Students who change their program may be accommodated through an extension of terms of eligibility. The extension should be secured at the time the program change is made.

Professional Schools
Students attending the Schools of Dentistry, Law, and Medicine are covered by criteria established by the respective school.

Grading Regulations
Assigning a Grade
The instructor in charge of a course is responsible for determining the grade of each student in the course. The standards for evaluating student performance are based on the course description as approved by the appropriate course committee.

The final grade in the course is based on the instructor’s evaluation of the student’s achievement in the course. When on an examination or other work submitted by a student, the student is suspected of having engaged in plagiarism or otherwise having cheated, the suspected infraction is to be reported to the appropriate administrative officer of the University for consideration of disciplinary proceedings against the student. Until such proceedings, if any, have been completed, the grade DR (Deferred Report) is assigned for that course. If in such disciplinary proceedings it is determined that the student did engage in plagiarism or otherwise cheat, the administrative officer, in addition to imposing discipline, reports back to the instructor of the course involved, the nature of the plagiarism or cheating. In light of that report, the instructor may replace the grade DR with a final grade that reflects an evaluation of that which may fairly be designated as the student's own achievement in the course as distinguished from any achievement that resulted from plagiarism or cheating.

Grade Complaints
A grade may be appealed, on any reasonable grounds, to the instructor, the chair of the department, and the dean of the division or school.

If the student believes that the instructor has violated the Faculty Code of Conduct by assigning the grade on any basis other than academic grounds, the matter should first be taken up with the instructor. If the matter is not resolved, the student may go for counsel to the Office of Ombuds Services or may follow the procedures for the formal filing of charges (see Faculty Code of Conduct earlier in the Appendix). If a charge is sustained by the Academic Senate Committees on Charges and on Privilege and Tenure, an ad hoc committee is appointed within two weeks to review the disputed grade, and any warranted change is made within four weeks.

Correction of Grades
All grades, except DR, I, and IP, are final when filed by the instructor in the end-of-term course report. However, the Registrar’s Office is authorized to change a final grade (1) on written request of an instructor, provided that a clerical or procedural error is the reason for the change or (2) on written request of the chair of the UCLA Academic Senate in cases where it has been determined by the Committee on Privilege and Tenure that an instructor has assigned a grade on any basis other than academic grounds. No change of grade may be made on the basis of reexamination or, with the exception of the I and IP grades, the completion of additional work. Any grade change request made more than one year after the original filing must be validated for authenticity of the instructor’s signature by the department chair. Any grade change request made by an instructor who has left the University must be countersigned by the department chair. All grade changes are recorded on the transcript.

Policy on Alternate Examination Dates
In compliance with Section 92640(a) of the California Education Code, the University must accommodate requests for alternate examination dates for any test or examination at a time when that activity would not violate a student’s religious creed. This requirement does not apply in the event that administering the test or examination at an alternate time would impose an undue hardship which could not reasonably be avoided. Accommodation for alternate examination dates are worked out directly and on an individual basis between the student and the faculty member involved.

In general, students should make such requests of the instructor during the first two weeks of any given academic term, or as soon as possible after a particular examination date is announced by the instructor.

Students unable to reach a satisfactory arrangement with their instructor should contact the Office of Ombuds Services, 105 Strathmore Building, or the Office of the Dean of Students, 1206 Murphy Hall, for assistance.

Instructors who have questions or who wish to verify the nature of the religious event or practice involved should contact the Office of Ombuds Services or the Office of the Dean of Students for assistance.

Undergraduate Final Examinations
No student shall be excused from assigned final examinations, except as provided above in the policy on alternate examination dates and as provided in the following three paragraphs.

The instructor in charge of an undergraduate course is responsible for assigning the final grade in the course. The final grade shall reflect the student's achievement in the course and shall be based on adequate evaluation of that achievement. The instructor's method of evaluation must be announced at the beginning of the course. The methods may include a final written examination, a term paper, a final oral examination, a take-home examination, or other evaluation device. Evaluation methods must be of reasonable duration and difficulty and must be in accord with applicable departmental policies. Final written examinations may not exceed three hours' duration and are given only at the times and places established
and published by the department chair and the Registrar's Office.

At the end of the term in which a student is expected to be graduated, a student's major department may examine him or her in the field of the major, may excuse the student from final examinations in courses offered by the department during that term and, with the approval of the Undergraduate Council, assign a credit value to such general examination.

An instructor shall, if he or she wishes, release to individual students their original final examinations (or copies). This may be done by any method that insures the students' right to privacy. Otherwise, the instructor shall retain final examination materials, or a copy thereof, until the end of the next succeeding regular term of instruction, during which period students shall have access to their examinations.

Disclosure of Student Records

Pursuant to the Federal Family Educational Rights and Privacy Act (FERPA), the California Information Practices Act, and the University of California Policies Applying to the Disclosure of Information from Student Records, students at UCLA have the right to (1) inspect and review records pertaining to themselves in their capacity as students, except as the right may be waived or qualified under Federal and State Laws and University Policies, (2) have withheld from disclosure, absent their prior consent for release, personally identifiable information from their student records, except as provided by Federal and State Laws and University Policies, (3) inspect records maintained by UCLA of disclosures of personally identifiable information from their student records, (4) seek correction of their student records through a request to amend the records or, if such request is denied, through a hearing, and (5) file complaints with the U.S. Department of Education regarding alleged violations of the rights accorded them by FERPA.

UCLA, in accordance with Federal and State Laws and University Policies, has designated the following categories of personally identifiable information as “directory information” which UCLA may release and publish without the student's prior consent: name, address (local/mailing, permanent, and/or e-mail), telephone numbers, major field of study, dates of attendance, enrollment status, grade level, number of course units in which enrolled, degrees and honors received, the most recent previous educational institution attended, participation in officially recognized activities (including intercollegiate athletics), and the name, weight, and height of participants on intercollegiate athletic teams.

Students who do not wish certain items (i.e., name, local/mailing, permanent, and/or e-mail address, telephone numbers, major field of study, dates of attendance, number of course units in which enrolled, and degrees and honors received) of this “directory information” released and published may so indicate through URSA (http://www.ursa.ucla.edu). To restrict the release and publication of the additional items in the category of “directory information,” complete the UCLA FERPA Restriction Request form available from Enrollment and Degree Services, 1113 Murphy Hall.

Student records which are the subject of Federal and State Laws and University Policies may be maintained in a variety of offices, including the Registrar's Office, Office of the Dean of Students, UCLA Career Center, Graduate Division, and the offices of a student's College or school and major department. Students are referred to the online UCLA Campus Directory (http://www.directory.ucla.edu) which lists all the offices that may maintain student records, together with their campus address and telephone number. Students have the right to inspect their student records in any such office subject to the terms of Federal and State Laws and University Policies. Inspection of student records maintained by the Registrar's Office is by appointment only and must be arranged three working days in advance. Call (310) 825-3801 or inquire at Academic Record Services, 1134 Murphy Hall.

A copy of the Federal and State Laws, University Policies, and the UCLA Telephone Directory may be inspected in the office of the Information Practices Coordinator, 600 UCLA Wilshire Center. Information concerning students' hearing rights may be obtained from that office and from the Office of the Dean of Students, 1206 Murphy Hall.

In addition to the public information described above, information related to students' Social Security number, sex, and marital status, and the name(s), address(es), and telephone number(s) of their parents or next of kin are made available to the UCLA External Affairs Department to use in alumni, development, and public relations activities. To restrict the release of this additional information, complete a Request for External Affairs Information Restriction form available from Enrollment and Degree Services, 1113 Murphy Hall.

Undergraduate Retention, Graduation, and Time to Degree

Retention and graduation rates are higher than ever before at UCLA and among the highest for public universities anywhere in the country.

Over the past three years, 97 percent of all students entering from high school and 94 percent of all students entering as transfers were still enrolled at UCLA one year later.

Over the past three years, the four-year, three-year, and four-year graduation rates for entering transfer students have averaged 56, 85, and 88 percent respectively. Final graduation rates of 90 percent or higher are projected for all transfer cohorts who arrived at UCLA since Fall Quarter 2000.

Time to degree for UCLA undergraduates has declined significantly over the past decade. In 2005-06 approximately 3,900 baccalaureate degrees were awarded to students who entered directly from high school. The average number of quarters registered at UCLA was 12.3, down from an average of 13.4 quarters for similar graduates in 1995-96. Among recent graduates, 72 percent were registered for 12 quarters or less (i.e., four years or less), 81 percent for 13 quarters or less, 88 percent for 14 quarters or less, and 97 percent for 15 quarters or less (i.e., five years or less).

In 2005-06 approximately 3,000 baccalaureate degrees were awarded to students who entered as transfers. The average number of quarters registered at UCLA was 6.8, down from an average of 7.8 quarters for similar graduates in 1995-96. Among recent graduates, 62 percent were registered for six quarters or less (i.e., two years or less), 73 percent for seven quarters or less, 82 percent for eight quarters or less, and 95 percent for nine quarters or less (i.e., three years or less).

Additional information is available at http://www.aiim.ucla.edu/data_students.html.

Campus Security Information

UCLA Police Department

The UCLA Police Department (UCPD), (310) 825-1491, http://www.ucpd.ucla.edu, is located at Westwood Plaza and Charles E. Young Drive South. The sworn California State Police Officers are empowered by the State of California with the authority to enforce all state and local laws. UCLA police officers patrol the campus 24 hours a day, 365 days a year. They enforce all applicable local, state, and federal laws, arrest violators, investigate and suppress crime, and provide a full range of police services and community safety programs.

The department is linked by computer to city, state, and federal criminal justice agencies that provide access to information concerning criminal records, wanted persons, stolen property, and vehicle identification. The Detective Bureau handles criminal investigations, and detectives conduct interviews, arrest violators, execute search warrants, and file cases with the Los Angeles District and city attorney offices.

Incident Reporting

UCLA police officers have primary jurisdiction over the UCLA campus, Center for the Health Sciences, and University Apartments South. The City of Los Angeles Police Department does not handle calls for service on campus or...
on most UCLA properties. All requests for police service should be made to UCPD. All crime occurring on campus, the Center for the Health Sciences, and other UCLA properties should be reported immediately to the department to ensure appropriate action is taken. Crimes occurring off campus should be reported immediately to the local law enforcement agency. UCPD does take reports from students, faculty, and staff for incidents occurring in the Westwood area.

Police, fire, or medical EMERGENCIES can be reported by dialing 911 from any telephone on campus. All telephones (University, private, public) located on University grounds are tied into the 911 emergency system. Emergencies can also be reported by using the blue-hooded or yellow Emergency Reporting Telephones located throughout the campus.

Campus community members are encouraged to program the department number (310-825-1491) into their cell phones. When on campus this number should be used in the event of an emergency to avoid the delay caused by the time it takes for the emergency cellular operators to transfer calls to the appropriate jurisdiction.

NONEMERGENCY calls for service can be made by contacting the department at (310) 825-1491.

Crime Statistics and Reports

Community Service Officers
UCPD employs approximately 80 student community service officers (CSOs; http://www.ucpd.ucla.edu/ucpd/servicesescort.html) who are the additional “eyes and ears” (trained observers) of the department and act as nonintervention visual deterrents to crime. CSOs wear high-visibility uniforms and carry two-way police radios. They are dispatched by the department's Communications Center and provide a direct link to police, fire, or medical aid. CSOs provide security service to a number of campus buildings, including residence halls and libraries. They are most well-known for the Campus Escort Service and the Evening Van Service. The Campus Escort Service operates every day of the year from dusk to 1 a.m. Individuals requesting the service call the Communications Center at (310) 794-9255; a CSO is then dispatched to walk them safely to their destination. The service is available to UCLA students, staff, faculty, and visitors and operates on campus and in the nearby residential areas. The Evening Van Service provides a safe and convenient mode of transportation around campus at night and is accessible to people with disabilities.

Crime Prevention
An involved community is one of the best defenses against crime. Therefore, the department is committed to a community policing philosophy and supports a proactive Crime Prevention Unit (http://www.ucpd.ucla.edu/ucpd/services_crimeprev.html) that works closely with community members to make UCLA a safer place to work, live, and learn. The unit gives presentations on vehicle and residential security, personal safety, office and equipment security, and rape prevention. Other programs are developed to meet the special needs of the campus community. Brochures and literature on crime prevention and personal safety are available. The Center for Women and Men and the Crime Prevention Unit provide presentations on sexual assault issues. Topics include acquaintance rape education and prevention, personal safety and prevention techniques, recovery from sexual assault, clear communications, pornography, and the continuum of violence and rape in society. The educational programs, tailored to meet the needs of individual audiences, include films, discussion groups, lectures, role-plays, and communication exercises. The Center for Women and Men reaches students through the residence halls, sororities, fraternities, athletic teams, student clubs, and various student functions. Services include crisis intervention and advocacy for victims of sexual assault; short-term counseling and referrals for survivors, their families, and friends; support groups for rape survivors; and self-defense classes and a lending library. The center works closely with the student housing offices and the police department to increase campus safety.

Several programs have been designed to increase the level of crime awareness and campus safety at UCLA. All incidents of criminal activity which pose a potential threat to the campus are brought immediately to the attention of the community through Campus Alert Bulletins (http://www.ucpd.ucla.edu/ucpd/bulletin_crime.html). Additionally, those interested in receiving public safety bulletins and news briefs can sign up for the public safety list server at http://www.ucpd.ucla.edu/ucpd/listserv.html.

Emergency Medical Services
UCPD provides emergency medical assistance for the campus community through the Emergency Medical Service program, which is staffed by students certified as emergency medical technicians (EMTs). As in all emergencies, call 911 for this service.

Alcohol and Substance Abuse Education
Students with alcohol or substance abuse problems create safety and health risks for themselves and others. Such abuses also can result in a wide range of emotional and behavioral problems. Therefore, UCLA makes available to every student a variety of alcohol and substance abuse awareness programs which are designed to discourage the use of illicit substances and to educate students on the merits of legal and responsible alcohol consumption. Student Psychological Services (310-825-0768; http://www.sps.ucla.edu) provides counseling and referral assistance to students who are troubled by alcohol or substance abuse problems. The service is completely confidential and free to regularly enrolled students. All information and counseling is treated in accordance with University Policies and State and Federal Laws. Any decision to seek assistance is not used in connection with any academic determination or as a basis for disciplinary proceedings.

Policies
UCLA is designated as a drug-free environment, and only under certain conditions is alcohol consumption permitted (none is permitted at athletic events). In keeping with its educational mission, the University assumes the responsibility to better inform the UCLA community about alcohol and substance abuse.

The sale, manufacture, distribution, or possession of any controlled substance without a prescription is illegal under both State and Federal Laws. Such laws are strictly enforced by UCLA police officers. Student violators are subject to University disciplinary action, criminal prosecution, fine, and imprisonment. Refer to the UCLA policies on substance abuse for further information.

The sale, consumption, and distribution of alcohol on the UCLA campus is restricted by the UCLA alcohol policy and California State Law. Organizations or groups violating alcohol or substance policies or laws may be subject to sanctions by the University.

Residential Housing
UCLA is the size of a small city and provides residential housing to approximately 11,000 students. Housing facilities range from apartments designed for students with children to multistudent apartment complexes to high-rise student residence halls. UCPD and student housing staff work hand in hand to create a safe and comfortable living and learning environment.

Campuswide security and safety programs for residents are held throughout the year to increase crime potential awareness and improve campus safety. To keep residents immediately informed of major crime or threats to the campus, Crime Alert Bulletins are posted in residential areas by the housing staff. However, residents must take an active role to ensure their own safety by exercising simple commonsense crime prevention techniques. Because the campus is open 24 hours a day, visitation to residence halls and apartments is not restricted. All residence halls have 24-hour access control on entrance doors, and during the evening hours access control monitors are sta-
tioned at each entrance. Police officers and CSOs are also assigned to the residence halls.

UCLA-affiliated organizations that maintain off-campus facilities are under the shared jurisdiction of their local police department and the UCLA Police Department, which provides assistance to students, faculty, and staff and/or referrals to neighboring police departments.

**Safety Tips**

The nature of the studies and research done at UCLA requires many of the campus buildings to be open 24 hours. Because the campus is so large and adjacent to the greater Los Angeles community, individuals with criminal intent are able to access the University grounds. Regardless of the time of day or night and no matter where persons are on campus, they should be alert and aware of their surroundings and exercise good commonsense safety precautions. Anyone parking on campus should remember to lock their vehicles and consider investing in a steering wheel locking device and/or alarm. Take advantage of all the safety services provided by the University and UCPD. Use the Campus Escort Service when walking at night. Keep room and apartment doors locked at all times. Most important, anyone needing assistance should not hesitate to contact the department.

**APPENDIX B: UNIVERSITY ADMINISTRATIVE OFFICERS**

Terms of Regents (http://www.universityofcalifornia.edu/regents/) appointed by the Governor expire March 1 of the year in parentheses. The Student Regent (Benjamin Allen) and Alumni Regents serve a one-year term beginning July 1 and ending June 30 of the year listed.

**Regents Ex Officio**

Governor of California

Arnold Schwarzenegger

Lieutenant Governor of California

John Garamendi

Speaker of the Assembly

Fabian Núñez

State Superintendent of Public Instruction

Jack O’Connell

President of the Alumni Associations of the University of California

Eleanor V. Brewer

Vice President of the Alumni Associations of the University of California

Philip J. Bugay

President of the University

Robert C. Dynes

Appointed Regents

Richard C. Blum (2014)

William De La Peña (2018)

Russell S. Gould (2017)

Judith L. Hopkinson (2009)

Eddie Island (2017)

Odessa P. Johnson (2012)

Joanne C. Kozberg (2010)

Sherry L. Lansing (2010)

Monica C. Lozano (2013)

George M. Marcus (2012)

John J. Moores (2009)

Gerald L. Parsky (2008)

Norman J. Pattiz (2015)

Peter Preuss (2008)

Frederick R. Ruiz (2016)

Leslie Tang Schilling (2013)

Bruce D. Varner (2018)

Paul D. Wachter (2016)

Benjamin Allen, Student Regent (2008)

Faculty Representatives to the Board of Regents

Michael T. Brown

Mary Croughan

Officers of The Regents

President of The Regents

Arnold Schwarzenegger

Chair of The Regents

Richard C. Blum

Vice Chair of The Regents

To be announced

Chief Investment Officer and Acting Treasurer

Marie N. Berggren

General Counsel

Charles F. Robinson

Secretary and Chief of Staff

Diane M. Griffiths

Senior Vice President—Chief Compliance and Audit Officer

To be announced

Office of the President

President of the University

Robert C. Dynes

Provost and Executive Vice President—Academic and Health Affairs

Wyatt R. Hume

Executive Vice President—Business Operations

Katherine N. Lapp

Executive Vice President—Chief Financial Officer

To be announced

Executive Vice President—University Affairs

Bruce B. Darling

Vice President—Agriculture and Natural Resources

Richard B. Standiford, Acting

Vice President—Budget

Lawrence C. Hershman

Vice President—Financial Management

Anne C. Broome

Vice President—Health Sciences and Services

To be announced

Vice President—Investments

John J. Moores

Vice President—Laboratory Management

S. Robert Foley

Vice President—Legal Affairs

Charles F. Robinson

Vice President—Student Affairs

Judy K. Sakaki

Chancellors of the Campuses

Chancellor at Berkeley

Robert J. Birgeneau

Chancellor at Davis

Larry N. Vanderhoef

Chancellor at Irvine

Michael V. Drake

Chancellor at Los Angeles

Norman Abrams, Acting

Gene D. Block (as of 8-1-07)

Chancellor at Merced

Sung-Mo Steve Kang

Chancellor at Riverside

France A. Córdova

Chancellor at San Diego

Marye Anne Fox

Chancellor at San Francisco

J. Michael Bishop

Chancellor at Santa Barbara

Henry T. Yang

Chancellor at Santa Cruz

George W. Blumenthal, Acting

University Professors, UCLA

Robert B. Edgerton, University Professor, Los Angeles, Anthropology, Psychiatry and Biobehavioral Sciences

M. Frederick Hawthorne, University Professor, Los Angeles, Chemistry and Biochemistry

UCLA Administrative Officers

Chancellor

Norman Abrams, J.D., Acting

Gene D. Block, Ph.D. (as of 8-1-07)

Executive Vice Chancellor and Provost

Scott L. Waugh, Ph.D., Interim

Administrative Vice Chancellor

Sam J. Morabito, M.B.A.

Vice Chancellor—Academic Personnel

Thomas H. Rice, Ph.D.

Vice Chancellor—External Affairs

Rhea Turkelbaum, B.A., Interim

Vice Chancellor—Finance, Budget, and Capital Programs

Steven A. Olsen, M.P.P.

Vice Chancellor—Graduate Studies and Dean of Graduate Division

Claudia Mitchell-Kernan, Ph.D.

Vice Chancellor—Legal Affairs

Joseph D. Mandel, LL.B.

Vice Chancellor—Medical Sciences

Gerald S. Levey, M.D.

Vice Chancellor—Research

Roberto Peccei, Ph.D.

Vice Chancellor—Student Affairs

Janina Montero, Ph.D.

Vice Provost—International Studies

Ronald L. Rogowski, Ph.D., Interim

Vice Provost—Undergraduate Education

Judith L. Smith, Ph.D.

University Librarian

Gary Strong, M.L.S.

University Registrar

Anita L. Cotter, M.S.

Dean of Continuing Education and University Extension

Cathy A. Sandeen, Ph.D.

Deans of UCLA College and Schools

School of the Arts and Architecture

Christopher Waterman, Ph.D.

School of Dentistry

No-Hee Park, D.M.D., Ph.D.
APPENDIX C: ENDOWED CHAIRS

Although UCLA is a public institution, private gifts are increasingly important in maintaining the quality of the University’s three missions of teaching, research, and community service. Among the principal forms of private support are endowed professorships or “chairs,” which support the educational and research activities of distinguished members of the faculty.

As this catalog goes to press, UCLA has 264 endowed chairs which have been approved by the Office of the President of the University of California, as follows. (Asterisks indicate new chairs which have been approved by the Office of the President since publication of the 2005-07 UCLA General Catalog.)

School of the Arts and Architecture
Alma M. Hawkins Memorial Chair
S. Charles Lee Chair in Architecture and Urban Design
Harvey S. Perloff Chair
Presidential Chair in Music and Interactive Arts
*Mohindar Brar Sambhi Endowed Chair in Indian Music
UCLA Art Council Professorship of Art

School of Dentistry
Dr. Thomas R. Bales Chair in Orthodontics
*Nobel Biocare Endowed Chair in Surgical Implant Dentistry
Tarrson Family Endowed Chair in Periodontics
Jack A. Weichman Chair in Endodontics

Graduate School of Education and Information Studies
*Martin and Bernard Breslauer Professorship in Bibliography
Allan Murray Carter Chair in Higher Education
George F. Kneller Chair in Education and Anthropology
George F. Kneller Chair in Education and Philosophy
Presidential Chair in Educational Equity
Presidential Chair in Information Studies

Henry Samueli School of Engineering and Applied Science
L.M.K. Boelter Chair in Engineering
Roy and Carol Dourami Chair in Biomedical Engineering
Norman E. Friedmann Chair in Knowledge Sciences
Evalyn Knight Chair in Engineering
Levi James Knight, Jr., Chair in Engineering
Nippon Sheet Glass Company Chair in Materials Science
Northrop Grumman Chair in Electrical Engineering
Northrop Grumman Chair in Electrical Engineering/Electromagnetics
Northrop Grumman Opto-Electronic Chair in Electrical Engineering
Ralph M. Parsons Chair in Chemical Engineering
Jonathan B. Postel Chair in Computer Systems
Jonathan B. Postel Chair in Networking
Raytheon Company Chair in Electrical Engineering
Raytheon Company Chair in Manufacturing Engineering
Ben Rich Lockheed Martin Chair in Aeronautics
Rockwell International Chair in Engineering
William Frederick Seyler Chair in Materials Electrochemistry

School of Law
*Omar and Azmeralda Alf Endowed Chair in Islamic Law
Harry Graham Balter Chair in Law
*David A. Binder Endowed Chair in Clinical Law
Connell Professorship in Law
*Paul Hastings Chair in Corporate and Securities Law
Richard C. Maxwell Chair in Law
Arjay and Frances Fearing Miller Chair in Law
*Susan Westerberg Prager Endowed Chair in Law
David G. and Dallas P. Price Chair in Law
Gary T. Schwartz Endowed Chair in Law
Security Pacific Bank Chair in Law
William D. Warren Chair in Law
Frank G. Wells Endowed Chair in Environmental Law

College of Letters and Science
Armen A. Alchian Chair in Economic Theory
Maurice Amado Chair in Sephardic Studies

George T. and Sakaye I. Aratani Chair in Japanese American Internment and Redress
Armenian Educational Foundation Chair in Modern Armenian History
RBLSL Bergman Foundation Chair in Business Economics
Henry J. Bruman Chair in German History
Ralph Bunche Chair in International Studies
Edward W. Carter Chair in Netherlandish Art
James S. Coleman Chair in International Development Studies
*Lloyd E. Cotsen Chair in Archaeology
Norman Cousins Endowed Chair in Psychoneuroimmunology
D.J. and J.M. Cram Chair in Organic Chemistry
Charles E. Davidson Endowed Chair in Economics
*A. Richard Diebold, Jr., Endowed Chair in Indo-European Studies
Navin and Pratima Doshi Chair in Indian History
Mr. and Mrs. C.N. Flint Professorship in Philosophy
*Christopher S. Foote Chair in Chemistry
Evan Frankel Endowed Chair in English
Rosalinde and Arthur Gilbert Foundation Endowed Chair in Israel Studies
Gloria and Paul Griffin Chair in Philosophy
*Armand Hammer Chair in Leonardo Studies
John Charles Hillys Chair in Literature
Marvin Hoffenberg Chair in American Politics and Public Policy
*Dong Soon Im and Mi Ja Im Endowed Chair in Korean Christianity
Fred Kavli Chair in Nanosystems Sciences
*Kershaw Chair in Ancient Eastern Mediterranean Studies
*Alexander and Renee Kolm Endowed Professorship in Molecular Biology and Biophysics
John McGauley Career Development Chair
Dorothy L. Meier Social Equities Chair
Robert Michaels Chair in Behavioral Neuroscience
Robert and Sherry Michaels Chair for Excellence in Psychology
Franklin D. Murphy Chair in Italian Renaissance Studies
Narekatsi Chair in Armenian Studies
*1939 Club Chair
President’s Chair in Developmental Immunology
Hans Reichenbach Chair in Scientific Philosophy
Howard Reiss Career Development Chair in Chemistry and Biochemistry
Musa Sabi Chair in Iranian Studies
David S. Saxon Presidential Chair in Mathematics and Physics
David S. Saxon Presidential Chair in Physics
*Johanna F. and Joseph H. Shaper Family Chair in Microbiology
Louis B. Slichter Chair in Geophysics and Planetary Physics
Charles Speroni Chair in Italian Literature and Culture
Staglin Family Chair in Psychology
Steinmetz Chair in Classical Archaeology and Material Culture
*Jean Stone Chair in English
*Paul I. and Hisako Terasaki Chair in Contemporary Japanese Studies
David Geffen School of Medicine

William S. Adams, M.D., Chair in Medicine
*Ahmanson Chair in Ophthalmology
*Wallis Annenberg Endowed Chair in Integrative East-West Medicine
Leonard Apt Chair in Pediatric Ophthalmology
Archstone Foundation Endowed Chair in Geriatrics
*Casey Lee Bail Endowed Chair in Pediatric Nephrology
Dena Bat-Yacov Endowed Chair in Childhood Psychiatry and Behavioral Sciences
Louis D. Beaumont Chair in Surgery
Jerome L. Belzer Chair in Medical Research
Lillian and Alvin L. Bergman Chair in Vascular Research
Bing Professorship in Urologic Research
Anna and Harry Borun Chair in Geriatrics/Neurobiology
Bowyer Professorship in Medical Oncology
Judson Braun Chair in Biological Psychiatry
Geri and Richard Brawerman Chair in Pediatric Neurosurgery
Eli and Edythe L. Broad Foundation Chair in Inflammatory Bowel Disease Research
Rubin Brown Chair in Pediatric Neurology
Joseph Campbell Chair in Child Psychiatry
Iris Cantor Chair in Breast Imaging
Edward W. Carter Chair in Internal Medicine
Castora Chair in Cardiology
Vincent and Stella Coates Chair in Molecular Neurobiology
Tony Coelho Chair in Neurology
Carol and James Collins Chair
Eliot Corday Chair in Cardiovascular Medicine and Science
Norman Cousins Endowed Chair in Psychoneuroimmunology
Crump Chair in Medical Engineering
Karen and Frank Dabney Endowed Chair in Ophthalmology
M. Phillip Davis Chair in Microbiology and Immunology
Roy and Carol Doutman Chair in Urologic Oncology
Dumont-UCLA Chair in Transplantation Surgery
Max Factor Family Foundation Chair in Nephrology
Charles Kenneth Feldman Chair in Ophthalmology
Franklin Mint Chair in Eating Disorders
Dr. Daniel X. Freedman Administrative Chair in Academic Psychiatry
Joaquin M. Fuster Chair in Cognitive Neuroscience
Laraine and David Gerber Chair in Ophthalmology
Joan S. and Ralph N. Goldwyn Chair in Immunobiology and Transplantation
*Vicor Goodhill Chair in Head and Neck Surgery
Julia S. Gouw Chair in Mood Disorders
Dolly Green Chair in Ophthalmology
Maud Cady Guthman Chair in Cardiology
Stefan Hatos Endowed Chair in Psychiatry and Biobehavioral Sciences
Ronald S. Hirshberg Chair in Translational Pancreatic Cancer Research
Julien I.E. Hoffman, M.D., Chair in Cardiothoracic Surgery
Margaret Holden Jones-Kanaa, M.D., Chair in Cerebral Palsy
*Kaiser Permanente Endowed Chair in Community Medicine
Ronald L. Katz, M.D., Endowed Chair in Anesthesiology
Chizuko Kawata Chair in Cardiology
Karl Kirchhuessner Foundation Chair in Vision Science
Arnold W. Klein Chair in Dermatology
George F. Kneller Chair in Family Medicine
Theo Kolokotrones Chair in Ophthalmology
Grace and Walter Lantz Endowed Chair
*Eleanor I. Leslie Chair in Innovative Brain Research
Eleanor I. Leslie Chair in Neurosciences
*Eleanor I. Leslie Chair in Pioneering Brain Research
William P. Longmire, Jr., Chair in Surgery
Gordon and Virginia MacDonald Distinguished Chair in Human Genetics
Charles H. Markham Chair in Neurology
Della Martin Chair in Psychiatry
*Mattel Executive Endowed Chair in Pediatrics
David May II Chair in Ophthalmology
Henry Alvin and Carrie L. Meinhardt Chair in Kidney Cancer Research
Sherman M. Mellnoff Distinguished Professor in Medicine Endowed Chair
*Joanne and George Miller and Family Endowed Chair
Dr. Walter and Mrs. Kathryn Mullikin Chair in Orthopaedic Surgery
Jane and Marc Nathanson Endowed Chair
James H. Nicholson Chair in Pediatric Cardiology
*Frances M. O’Malley Administrative Chair in Neuroscience History
Oppenheimer Brothers Chair
Helga and Walter Oppenheimer Endowed Chair in Musculoskeletal Oncology
Albert F. and David H. Parlow-Solomon Chair for UCLA Program on Aging
*Gail Patrick Endowed Administrative Chair in Brain Research
Samuel J. Pearlman, M.D., and Della Z. Pearlman Chair in Head and Neck Surgery
Carl M. Pearson, M.D., Endowed Chair in Rheumatology
Frances and Albert Piansky Chair in Anatomy
Thomas P. and Katherine K. Pike Chair in Alcohol Studies
Elizabeth R. and Thomas E. Plott Chair in Gerontology
Edith Agnes Plumb Endowed Chair in Neurobiology
Harold and Pauline Price Endowed Chair
Revol Chair in Women’s Health
Leo G. Rigler Chair in Radiological Sciences
Augustus S. Rose Chair in Neurology
Maxine and Eugene Rosenfeld Endowed Chair in Computational Genetics
Carol and Saul Rosenzweig Endowed Chair in Cancer Therapies Development
Estelle, Abe, and Marjorie Sanders Chair in Cancer Research
Daljit S. and Elaine Sarkaria Endowed Chair in Diagnostic Medicine
Bernard G. Sarnat, M.D., Endowed Chair in Craniofacial Biology
Jennifer Jones Simon Chair in Radiation Oncology
APPENDIX D: Distinguished Teaching Awards

Academic Senate Recipients

Each year the UCLA Alumni Association presents Distinguished Teaching Awards to five Academic Senate faculty members. The highly prized awards are presented at the annual UCLA Alumni Association Awards Ceremony, and selection of recipients is based on recommendations of the Academic Senate Committee on Teaching. Nominations are solicited from academic departments during Fall Quarter. The Luckman Distinguished Teaching Awards Program was established in late 1991 after receipt of a generous gift from Harriet and Charles Luckman. Awards given for 1992 through 1997 were named the Luckman Distinguished Teaching Awards.

1961
John F. Barron (Economics)
Hector E. Hall (Physiology)
Kenneth N. Trueblood (Chemistry and Biochemistry)

1962
Charles W. Hoffman (Germanic Languages)
Thomas P. Jenkins (Political Science)
Ken Nobe (Chemical Engineering)

1963
Carl W. Hagge (Geological Sciences)
Wendell P. Jones (Education)
Robert H. Sorgenfrey (Mathematics)

1964
Mostafa A. El-Sayed (Chemistry and Biochemistry)
Leon Howard (English)
Moshe F. Rubenstein (Civil and Environmental Engineering)

1965
E.A. Carlson (Biology)
W.R. Hitchcock (History)
Allen Parducci (Psychology)

1966
George A. Bartholomew (Biology)
William P. Gerberding (Political Science)

1967
Basil Gordon (Mathematics)

1968
Edward W. Graham (Chemistry and Biochemistry)

1969
Robert J. Finkielstein (Physics and Astronomy)

1970
Ehrhard Bahr (Germanic Languages)

1971
Vernon E. Denny (Chemical Engineering)

1972
Barbara K. Keogh (Education)

1973
Kirby A. Baker (Mathematics)

1974
Robert B. Edgerton (Anthropology, Psychiatry and Biobehavioral Sciences)

1975
Alma M. Hawkins (World Arts and Cultures)

1976
Marianne Celce-Murcia (Teaching English as a Second Language and Applied Linguistics)

1977
Michael J.B. Allen (English)

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<table>
<thead>
<tr>
<th>Year</th>
<th>Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>William R. Allen (Economics), Michael E. Jung (Chemistry and Biochemistry), J. Fred Weston (Management), Thomas D. Wickens (Psychology), Johannes Wilbert (Anthropology)</td>
</tr>
<tr>
<td>1979</td>
<td>Steven Krantz (Mathematics), Paul I. Rosenthal (Communication Studies), Christopher Saltzer (Geography), James H. White (Mathematics), Stephen C. Yeazell (Law)</td>
</tr>
<tr>
<td>1980</td>
<td>A.R. Braunmuller (English), Fredi Chiappelli (Italian), Kenneth L. Karst (Law), Richard F. Logan (Geography), Ronald F. Zemicke (Physiological Science)</td>
</tr>
<tr>
<td>1981</td>
<td>Arnold J. Band (Near Eastern Languages and Cultures), Charles L. Batten, Jr. (English), Lucien B. Guze (Medicine), Gerald Lopez (Law), Andy Wong (Dentistry)</td>
</tr>
<tr>
<td>1982</td>
<td>Dean Bok (Neurobiology), Robin S. Liggett (Architecture and Urban Design, Urban Planning), William Melnitz (Theater), Joseph K. Perloff (Medicine), Karen E. Rowe (English)</td>
</tr>
<tr>
<td>1983</td>
<td>Claude Bernard (Physics and Astronomy), Bryan C. Ellickson (Economics), Robert S. Elliott (Electrical Engineering), Albert D. Hutter (English), Charles M. Knobler (Chemistry and Biochemistry)</td>
</tr>
<tr>
<td>1984</td>
<td>Robert Dallek (History), Hooshang Kangarloo (Radiological Sciences), Jeffrey Prager (Sociology), Stanley Siegel (Law), Sandra A. Thompson (Linguistics)</td>
</tr>
<tr>
<td>1985</td>
<td>Patricia M. Greenfield (Psychology), David F. Martin (Computer Science), Mark W. Plant (Economics), Ross P. Shideler (Scandinavian Section, Comparative Literature), William D. Warren (Law)</td>
</tr>
<tr>
<td>1986</td>
<td>Roger A. Gorski (Neurobiology), Patricia A. Keating (Linguistics), Leonard Kleinrock (Computer Science), Martin Wachs (Urban Planning), Scott L. Waugh (History)</td>
</tr>
<tr>
<td>1987</td>
<td>Lawrence W. Bassett (Radiological Sciences), E. Bradford Burns (History), Kenneth W. Graham, Jr. (Law), Howard Suber (Film and Television), Richard A. Yarborough (English)</td>
</tr>
<tr>
<td>1988</td>
<td>Alison G. Anderson (Law), Ann L.T. Bergren (Classics), Charles A. Berst (English), Michael J. Goldstein (Psychology), Richard L. Sklar (Political Science)</td>
</tr>
<tr>
<td>1989</td>
<td>John B. Garnett (Mathematics), Kathleen L. Komar (Comparative Literature, Germanic Languages), William G. Roy (Sociology), Stephen Yeazell (English), Eric M. Zoll (Law)</td>
</tr>
<tr>
<td>1990</td>
<td>Peter M. Narins (Physiological Science), Gary B. Nash (History), John S. Wiley (Law), Merlin C. Wittrock (Education), Ruth Yeazell (English)</td>
</tr>
<tr>
<td>1991</td>
<td>Michael R. Asimow (Law), Edward G. Berenson (History), Robert A. Bjork (Psychology), Margaret FitzSimmons (Urban Planning), Kenneth R. Lincoln (English)</td>
</tr>
<tr>
<td>1992</td>
<td>Bruce L. Baker (Psychology), Paul B. Bergman (Law), Robert B. Goldberg (Molecular, Cell, and Developmental Biology), Peter E. Kollock (Sociology), Eugen Weber (History)</td>
</tr>
<tr>
<td>1993</td>
<td>Calvin B. Bedient (English), Richard B. Kaner (Chemistry and Biochemistry), Katherine C. King (Classics), William G. Ouchi (Management), Bruce Schultman (History)</td>
</tr>
<tr>
<td>1994</td>
<td>David A. Binder (Law), Jon P. Davidson (Earth and Space Sciences), Melvin Oliver (Sociology), Barbara L. Packer (English), E. Victor Wolfenstein (Political Science)</td>
</tr>
<tr>
<td>1995</td>
<td>Noriko Akatsuka (East Asian Languages and Cultures), Douglas Hollan (Anthropology), V.A. Kolwe (English), Jerome Rabow (Sociology), Paul V. Reale (Music)</td>
</tr>
<tr>
<td>1996</td>
<td>Walter Allen (Sociology), Judith A. Carney (Geography), William M. Gelbart (Chemistry and Biochemistry), Phyllis A. Guze (Medicine), Peter B. Hammond (Anthropology)</td>
</tr>
<tr>
<td>1997</td>
<td>Uptal Banerjee (Molecular, Cell, and Developmental Biology), Christine D. Gutiérrez (Education), Susan McClary (Musicology), Arnold B. Scheibel (Neurobiology, Psychiatry and Biobehavioral Sciences), Ivan Szelieny (Sociology)</td>
</tr>
<tr>
<td>1998</td>
<td>George W. Bernard (Dentistry), Verónica Cortiz (Spanish and Portuguese), Wayne A. Dollase (Earth and Space Sciences), Jayne E. Lewis (English), Joshua S.S. Muldavin (Geography)</td>
</tr>
<tr>
<td>1999</td>
<td>Grace Ganz Blumberg (Law), Alessandro Duranti (Anthropology), Richard H. Gold (Radiological Sciences), N. Katherine Hayles (English), Bernard Weiner (Psychology)</td>
</tr>
<tr>
<td>2000</td>
<td>Scott H. Chandler (Physiological Science), Elfrain Kristal (Spanish and Portuguese), Hector F. Myers (Psychology), David Sklansky (Law), Robert N. Watson (English)</td>
</tr>
<tr>
<td>2001</td>
<td>Michael J. Colacurcio (English), Glen M. MacDonald (Geography), Kevin Terraciano (History), James W. Trent (Education), Brian Walker (Political Science)</td>
</tr>
<tr>
<td>2002</td>
<td>Christopher R. Anderson (Mathematics), Steven G. Clarke (Chemistry and Biochemistry), Anne K. Mellor (English), Lee Todd Miller (Pediatrics), Grant S. Nelson (Law)</td>
</tr>
<tr>
<td>2003</td>
<td>Joseph J. DiStefano III (Computer Science, Medicine), Robin L. Garrell (Chemistry and Biochemistry), A.P. Gonzalez (Film, Television, and Digital Media), Mitchell B. Morris (Musicology), Kirk J. Stark (Law)</td>
</tr>
<tr>
<td>2004</td>
<td>David B. Kaplan (Philosophy), Kathryn A. Morgan (Classics), Mark R. Morris (Physics and Astronomy), Jesús Torrecilla (Spanish and Portuguese), Joan Waugh (History)</td>
</tr>
<tr>
<td>2005</td>
<td>Roger Bourland (Music), Robert G. Fovell (Atmospheric and Oceanic Sciences), Elma González (Ecology and Evolutionary Biology), Elizabeth A. Marchant (Spanish and Portuguese), Mike Rose (Education), Keith D. Stolzenbach (Civil and Environmental Engineering)</td>
</tr>
<tr>
<td>2006</td>
<td>Robert A. Gurval (Classics), Patricia M. McDonough (Education), Albert J. Moore (Law), Kenneth A. Nagy (Ecology and Evolutionary Biology), David L. Rigby (Geography), Geoffrey W. Symcox (History)</td>
</tr>
<tr>
<td>2007</td>
<td>John A. Agnew (Geography), Devon Carballo (Law), Valerie J. Matsumoto (Asian American Studies, History)</td>
</tr>
</tbody>
</table>
Non-Academic Senate Recipients

In spring of 1985, the Office of Instructional Development began sponsorship of awards to three instructors who are not members of the Academic Senate. This category includes lecturers and adjunct and clinical faculty members. All non-Academic Senate faculty members who are nominated by their departments are eligible. Recipients are selected by the Academic Senate Committee on Teaching, utilizing the same criteria as that used for Academic Senate members.

The Luckman Distinguished Teaching Awards Program was established in late 1991 after receipt of a generous gift from Harriet and Charles Luckman. Awards given for 1992 through 1997 were named the Luckman Distinguished Teaching Awards.

1985
L. Geoffrey Cowan (Communication Studies)
Mary Elizabeth Perry (History)
Linda Diane Venis (English)

1986
David Cohen (Mathematics)
Johanna Harris-Heggie (Music)
Paul Von Blum (Interdisciplinary)

1987
Carol D. Berkowitz (Pediatrics)
Jeffrey I. Cole (Communication Studies)
Cheryl Giuliano (Writing Programs)

1988
Jeanne Gunner (Writing Programs)
Art Huffman (Physics and Astronomy)
David G. Kay (Computer Science)

1989
S. Scott Bartsch (History)
Bonnie Lisle (Writing Programs)
Kenneth R. Pfeiffer (Civil Engineering, Psychology)

1990
Lisa Gerrard (Writing Programs)
Andres Durstenfeld (Biology)
Dorothy Phillips (Physiological Science)

1991
Marde S. Gregory (Speech)
Betty A. Luceigh (Chemistry and Biochemistry)
Cheryl Pfoff (Writing Programs)

1992
Janet Goodwin (Teaching English as a Second Language and Applied Linguistics)
Janet Lewis (Writing Programs)
Yihua Wang (East Asian Languages and Cultures)

1993
Stephen Dickey (English)
Sondra Hale (Anthropology)
Jutta Landa (Germanic Languages)

1994
Steven K. Derian (Law)
Linda Jensen (Teaching English as a Second Language and Applied Linguistics)
Shelby Popham (Writing Programs)

1995
Nicholas Collaros (French)
Kristine S. Knaplund (Law)
Christopher Mott (English)

1996
Scott Bowman (Political Science)
Timothy Tangherlini (Scandinavian Section)
G. Jennifer Wilson (Honors and Undergraduate Programs)

1997
William McDonald (Film and Television)
Stuart Slavin (Pediatrics)
Sung-Ock Sohn (East Asian Languages and Cultures)

1998
Paul Frymer (Political Science)
Georgia Gadda (Writing Programs)
Julie Giese (English)

1999
Patricia Gilmore-Jaffe (Writing Programs)
Emily Schiller (English)
Scott Votey (UCLA Emergency Medicine Center)

2000
Nicole Dufresne (French)
Thomas Holm (Law)
Richard P. Usatine (Family Medicine)

2001
George Leddy (Geography/International Development Studies)
Sandra Mano (Writing Programs)
L. Jean Perry (Molecular, Cell, and Developmental Biology)

2002
Steven Hardinger (Chemistry and Biochemistry)
Colleen K. Keenan (Nursing)
Cynthia Merrill (Writing Programs)

2003
Marjorie A. Bates (Chemistry and Biochemistry)
Anita McCormick (Writing Programs)
Richard Stevenson III (Dentistry)

2004
Andrew Hsu (Philosophy)
Kimberly Jansma (French and Francophone Studies)
Jennifer Westbay (Writing Programs)

2005
Susan Griffin (Writing Programs)
William Grisham (Psychology)
Anahid Keshishian (Near Eastern Languages and Cultures)

2006
Roger E. Bohman (Molecular, Cell, and Developmental Biology)
Jo Ann Damron-Rodriguez (Social Welfare)
Gerald Wilson (Ethnomusicology)

2007
Nancy Ezer (Near Eastern Languages and Cultures)
Fred A. Hagigi (Health Services)
Eric Marin (Film, Television, and Digital Media)

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Gold Shield Faculty Prize

The $30,000 Gold Shield Faculty Prize, an award for academic excellence, was created by the Gold Shield Alumnae of UCLA in celebration of their fiftieth anniversary in 1986. The prize is funded by an endowment of $250,000 raised by Gold Shield for this purpose, which has grown to over $450,000. Guidelines provide that the prize “recognize and reward UCLA faculty members who have demonstrated extraordinary accomplishment in teaching and in research or creative activity...and who have made a significant contribution to undergraduate education.” Preference for recipients is given to faculty members in mid-career who do not often receive the extra professional incentives available to distinguished senior faculty.

The Gold Shield Faculty Prize is awarded to each recipient for scholarly use. The awardee is selected every year by a committee of peers appointed by the Academic Senate. Student and Gold Shield representatives are included. Recipients must come from fields that have undergraduate programs at UCLA.

1986-88
Michael E. Jung (Chemistry and Biochemistry)

1988-90
Patricia M. Greenfield (Psychology)

1990-92
Jeffrey C. Alexander (Sociology)

1992-94
J. William Schopf (Earth and Space Sciences)

1994-96
Albert R. Braunmuller (English)

1996-98
Peter M. Narins (Physiological Science)

1998-00
Robert B. Goldberg (Molecular, Cell, and Developmental Biology)

2000-02
Utpal Banerjee (Molecular, Cell, and Developmental Biology)

2002-04
Richard B. Kaner (Chemistry and Biochemistry)

2004-06
Andrea M. Ghez (Physics and Astronomy)

2006-07
Robert N. Watson (English)

2007-08
William J. Kaiser (Electrical Engineering)
...