Organization of the Catalog

General Campus College
College of Letters and Science
African Area Studies
African Studies
Afro-American Studies
American Indian Studies
Anthropology
Applied Linguistics
Archaeology
Art History
Asian American Studies
Astronomy
Atmospheric Sciences
Biology
Business and Administration
Chemistry and Biochemistry
Chemistry/Materials Science
Chicana and Chicano Studies
Clasics
Communication Studies
Comparative Literature
Cybernetics
Development Studies
Diversified Liberal Arts
Earth and Space Sciences
East Asian Languages and Cultures
East Asian Studies
Economics
Economics/System Science
Education
English
Euphonium and Mythology
French
Griotography
Germanic Languages
History
History/Art History
Honors Collegium
Indo-European Studies
International Relations
Islamic Studies
Italian
Labor and Workplace Studies
Latin American Studies
Linguistics
Mathematics
Microbiology and Molecular Genetics
Molecular Biology
Musicology
Near Eastern Languages and Cultures
Near Eastern Studies
Neuroscience
Organizational Studies
Philosophy
Physics
Physiological Science
Political Science
Psychology
Religion, Study of
Romance Linguistics and Literature
ROTC Programs
Scandinavian Languages
(see Germanic Languages)
Slavic Languages and Literatures
Sociology
Spanish and Portuguese
Teaching English as a Second Language
and Applied Linguistics
Urban Studies
Women's Studies
World Arts and Cultures
(see School of the Arts)

General Campus
Professional Schools
School of the Arts
Art
Design
Ethnomusicology and Systematic Musicology
Music
World Arts and Cultures
School of Theater, Film, and Television
Film and Television
Theater
School of Engineering and Applied Science
Chemical Engineering
Civil and Environmental Engineering
Computer Science
Electrical Engineering
Environmental Science and Engineering
(see School of Public Health)
Materials Science and Engineering
Mechanical, Aerospace, and Nuclear Engineering
Graduate School of Architecture
and Urban Planning
Graduate School of Education
and Information Studies
Education
Library and Information Science
School of Law
John E. Anderson Graduate
School of Management
School of Social Welfare

Health Sciences Schools
School of Dentistry
Oral Biology
School of Medicine
Anatomy and Cell Biology
Anesthesiology (Nurse Anesthesia)
Biological Chemistry
Biostatistics
Biochemistry
Medicine
Microbiology and Immunology
Molecular and Medical Pharmacology
Neurology
Neuroscience
Obstetrics and Gynecology
Ophthalmology
Orthopaedic Surgery
Pathology and Laboratory Medicine
Pediatrics
Physiology
Psychiatry and Biobehavioral Sciences
Radiation Oncology
Radiological Sciences (Biomedical Physics)
Surgery
School of Nursing
School of Public Health
Biostatistics
Community Health Sciences
Environmental Health Sciences
Environmental Science and Engineering
Epidemiology
Health Services

On the cover: A “golden” Royce Hall to commemorate UCLA’s founding 75 years ago on May 23, 1919.

On the title page: The fledgling UCLA campus in 1930, with Royce, Haines, Kinsey, and Moore Halls and Powell Library forming a lone-some little cluster amid the beanfields of Westwood.
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**About This Catalog**

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Assistant Editor: Kathleen Copenhaver

Design: Robin Weiss, Juliet Beynon


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**Please Note**

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.

Other information about UCLA may be found in the announcements of the Schools of Architecture and Urban Planning, Dentistry, Education and Information Studies, Engineering and Applied Science, Law, Management, Medicine, Nursing, Public Health, and Social Welfare, and in literature produced by the School of the Arts and School of Theater, Film, and Television. Further details on graduate programs are available in various Graduate Division publications, including Standards and Procedures for Graduate Study at UCLA.

**UCLA (USPS 646-680)**

Volume 34, Number 10, September 16, 1994

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<tr>
<td>Fall Academic Convocation for first-year undergraduates</td>
<td>September 28</td>
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*Tentative date; refer to Schedule of Classes for specific term.
INSTRUCTION BEGINS
Classes will be dropped if fee payment is not completed by 5 p.m.
Last day to register for Graduate School Foreign Language Tests (GSFLT) in French, German, Russian, and Spanish
Subject A Examination and English 3 Proficiency Examination
Orientation meetings on format for master's theses and doctoral dissertations (see theses and dissertations adviser, 390 Powell Library)

Last day:
(1) To change Study List (add, drop courses) without fee through URSA by 5 p.m.
(2) To check waiting lists for courses through URSA (wait lists are dropped at 5 p.m.)
(3) To enroll in courses for credit without $50 late Study List fee through URSA by 5 p.m.
(4) To file advancement to candidacy petition for master's degree with major department
(5) To file graduate leaves of absence with Graduate Division, 1255 Murphy Hall
(6) To file undergraduate request for fee reduction with college or school

Graduate School Foreign Language Tests (GSFLT) in French, German, Russian, and Spanish
WITH APPROVAL OF ACADEMIC DEAN:
*(1) Last day for graduate students to ADD courses with $3 petition fee
(2) Last day for graduate students to file Late Study List with $50 fee
Undergraduates approved for reduced fees are audited (must be enrolled in 10 units or less to be eligible for reduction) as of this date

WITH APPROVAL OF ACADEMIC DEAN:
*(1) Last day for undergraduates to ADD OR DROP courses with $3 petition fee
(2) Last day for undergraduates to file Late Study List with $50 fee
Last day to declare bachelor's degree candidacy for current term (with fee depending on units completed)
Last day to submit final drafts of dissertations to doctoral committees for degrees to be conferred in current term
*Last day for undergraduates to change grading basis (optional P/NP); process through URSA by 5 p.m.
Last day to submit final drafts of theses to master's committees for degrees to be conferred in current term
Last day for continuing students to file applications for undergraduate scholarships for 1995-96
Last day to file completed copies of theses for master's degrees and dissertations for doctoral degrees to be conferred in current term with theses and dissertations adviser, 390 Powell Library

INSTRUCTION ENDS
Reading Day
Last day to withdraw

WITH APPROVAL OF ACADEMIC DEAN:
(1) Last day for graduate students to change grading basis (optional P/NP) with $3 petition fee
(2) Last day for graduate students to DROP courses with $3 petition fee

Final examination week

QUARTER ENDS
First day to obtain GPA for previous term grades through URSA
Last day to file applications for graduate merit-based financial support for 1995-96
Commencement weekend (by college/school)
Academic and administrative holidays

Fall 1994
- September 29
- October 7
- October 7
- October 11
- October 13-15
- October 14

Winter 1995
- January 9
- January 13
- January 13
- January 23
- January 19-21
- January 20

Spring 1995
- April 3
- April 7
- April 14
- April 10
- April 13-15
- April 14

December 5
- March 13
- June 5

December 8
- March 17
- June 9

December 9
- March 17
- June 9

December 10-16
- March 18-24
- June 10-16

December 16
- March 24
- June 16

January 9
- April 17
- July 10

January 9
- Consult
- Consult
department
department

July 4
- January 16
- June 17-18

September 5
- February 20
- May 29

November 24-25
- March 27

December 25-27, 30
- January 2

*Changes to Official Study List after this date will be considered only under extraordinary circumstances and with approval of the academic dean.
About UCLA

1
Introducing UCLA

"...in 10 years... we shall look with amazement upon the development of this University, for it is certain to be greater, far greater, than the imagination of any of us can foresee."

— Ernest Carroll Moore
UCLA Director, 1919

From Little Acorns...

The year was 1880. With a population of 11,000, Los Angeles was a gaslit pueblo trying to convince the state to establish in Southern California a second State Normal School like the one already existing in San Jose, some 300 miles to the north.

In March of the following year, the State Assembly approved the establishment of such a school. A group of enthusiastic citizens, over 200 of whom contributed between $2 and $500, purchased a site less than a mile from the business section. Soon the towering Victorian form of the school rose from an orange grove which, today, is the site of the Central Los Angeles Public Library. On August 29, 1882, the Los Angeles Branch of the State Normal School welcomed its first students.

By 1914 the little pueblo of Los Angeles had grown to a city of 350,000 and the school, whose enrollment far exceeded its capacity, moved to new quarters — a Hollywood ranch off a dirt road which would later become Vermont Avenue.

With a view toward expansion, Director Ernest Carroll Moore proposed in 1917 that the school become the first branch of the Berkeley-based University of California. Two years later on May 23, 1919, California Governor William D. Stephens signed the legislation that created the "Southern Branch" of the University of California — no longer merely a teacher's college but an institution that 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 "at" became a comma in 1958).

The Move Westward

As the student population of the University continued to increase, the need for a new site became obvious and the search was soon under way for a permanent home for UCLA. On September 21, 1927, Director Moore turned the first shovelful of soil that broke ground for the creation of the campus of his dreams.

The choice of Westwood, set squarely in the path of westward-moving Los Angeles, no doubt was an important factor in determining UCLA's future growth. But in 1929, on the barren chaparral-covered hills of Westwood, the four original buildings — Royce Hall, Powell Library, Haines and Kinsey Halls — formed a lonesome little cluster in the middle of 400 empty acres. The campus hosted some 5,500 students that fall.

The first priority after the move to Westwood was to establish a graduate curriculum, essential for any major university. 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.

Los Angeles and the University nurtured each other through the years, and both experienced phenomenal growth and development during the next half century. UCLA's most spectacular period of growth 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 which is now one of the largest and most highly respected in the world.

UCLA at 75

This academic year UCLA celebrates 75 years of growth, from a small two-year college to a comprehensive institution in the elite company of the finest research universities in the U.S. Today, UCLA is distinguished as the only campus among the nation's top 10 research universities that was established in the twentieth century.
UCLA is a large and complex institution devoted to undergraduate and graduate scholarship, research, and public service. Known for academic excellence, many of its programs are rated among the best in the nation, some among the best in the world.

Some 235 buildings on 419 acres house the College of Letters and Science plus 12 professional schools and serve over 34,350 students. Another major period of campus development is currently nearing completion, providing needed additional space for chemistry, management, and microbiology programs, while several of UCLA’s older buildings are now being made earthquake-safe through a broad seismic correction program.

UCLA’s top administrative officer is Chancellor Charles E. Young. Now beginning his twenty-seventh year of leadership in that position — fully one third of UCLA’s existence — Chancellor Young is one of America’s most senior and most respected leaders in higher education today.

The Setting

UCLA is cradled in rolling green hills just five miles inland from the ocean, 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 at its southern gate by Westwood Village. Originally envisioned as a business district to serve UCLA, this picturesque little college town has mushroomed into an entertainment magnet for the entire Los Angeles area.

The cultural treasures of the Los Angeles County Museum of Art are a few miles to the east as are other museums, the community of Beverly Hills, the Music Center, and the downtown business area. Beyond that, the deserts, snowcapped mountains, and ski resorts are little more than an hour’s drive.

The Ambience

The stately Tudor Gothic and Italian Romanesque architecture of UCLA’s early buildings blends with the contemporary and modern design of the newer structures. Royce Hall, one of the original four buildings, remains the campus symbol. Contrasting campus moods range from the activity of Bruin Walk to the serenity of the Japanese Garden. Attend a rock concert on the lawn, or a classical recital in Schoenberg Hall. Contemplate a Rodin or a Lachaise in the Sculpture Garden, or participate in a political rally in Meyerhoff Park.

UCLA is a place of surprises. A unique inverted fountain, where water flows over river rocks, recalls the Yellowstone creeks that inspired it. Enter the Bunche Hall Annex and discover a glorious atrium where palms and ferns glisten in filtered sunlight. Step inside the courtyard of Macgowan Hall and come face to face with the impressive stone Tower of Masks, created by the noted sculptress Anna Mahler.

UCLA is a place for serious study in a vibrant, dynamic atmosphere. You must visit the campus to appreciate it. The Visitors Center, located within the Office of Community Relations in 1417 Ueberroth Building (310-206-8147), has a reception area where visitors are met, welcomed, and assisted. The center arranges tours of the campus all year round and provides information on campus exhibits and recreation areas. The Office of Undergraduate Admissions and Relations with Schools (310-825-8764) conducts tours for prospective undergraduates.

The Commitment to Research

UCLA is one of the outstanding “research universities” in the country. What does this mean to you as a student?

It means that the same faculty members teach both undergraduate and graduate courses and that these instructors create knowledge as well as transmit it. They spend a major portion of their time engaged in research in libraries and laboratories and out in the field.

At UCLA you are taught by the people making the discoveries, so you learn the latest findings on every front. You may exchange ideas with faculty members who are authorities in their fields, and even as undergraduates you are encouraged to participate in research to experience firsthand the discovery of new knowledge. This inseparable commitment to teaching and research is the hallmark of a research university.

The Question of Size

Although UCLA has a larger enrollment than other University of California campuses, it is small in comparison to some of the Midwestern universities. Its general campus population of some 30,438 students is about equal to that at UC Berkeley, but the UCLA campus is enriched by an additional 3,915 men and women studying in its health sciences schools of Dentistry, Medicine, Nursing, and Public Health. UCLA makes the most of its size by offering an extraordinary breadth of high quality academic programs and a range of student opportunities available at few other universities in the country.

A major concern of the faculty and staff is to allow you, the student, to feel that you belong. UCLA provides orientation sessions and several innovative academic assistance programs for new students, a staff of helpful advisers and counselors in every college/school and academic department, a myriad of student services, and unlimited opportunities for involvement and participation.

All UCLA students share the pride of attending one of the most prestigious educational institutions in the country. Beyond that, no one individual deals with the totality of UCLA. Campus life is made comfortable by interacting and identifying with only certain parts of the whole, whether they be your academic department, residence hall, fraternity or sorority, club or organization, or the spirit of Bruin victories on the athletic fields.

Many prospective students ask about the size of classes at UCLA. Standard instructional formats include lectures, discussion sections, seminars, and laboratory sessions. Although large lecture groups in some introductory courses are not unheard of, 96 percent of all lower division lecture classes in 1993-94 had fewer than 200 students, and the University is making every effort to further reduce class size. Students in most lecture classes also enroll in discussion sections of about 25 students, and seminars and laboratory classes usually have fewer than 20 students. There is an overall ratio of one faculty member for approximately 18 students.

Most UCLA faculty members take a genuine interest in their students. They set aside office hours for receiving students, and most appreciate the opportunity for informal conversation. Even professors who seem remote in the classroom may be just the opposite on a one-to-one basis. A brief discussion can benefit both student and instructor.
Professors are often aided, especially in the small discussion sections, by teaching assistants (TAs). These are graduate students who teach on a part-time basis while pursuing their degree. Many students find it helpful to talk to the TAs about academic problems.

**Hallmarks of Excellence**

Recent surveys indicate that in 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 and is by far the youngest institution in this select group.

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 Planning Office Library, Office of Academic Planning and Budget, 2107 Murphy Hall.

**ACADEMICS** — UCLA has one college and 12 professional schools. The College of Letters and Science offers programs leading to both undergraduate and graduate degrees, as do the School of the Arts, 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 Architecture and Urban Planning, Graduate School of Education and Information Studies, School of Law, John E. Anderson Graduate School of Management, School of Social Welfare and, in the health sciences, the Schools of Dentistry, Medicine, and Public Health.

Few universities in the world offer the extraordinary range and diversity of academic programs that students enjoy at UCLA. Undergraduates may earn a Bachelor of Arts or Bachelor of Science degree in one of 110 different disciplines; graduate students may earn one of 85 master's and 102 doctoral and professional degrees.

Academic programs undergo a continuing process of review and evaluation to maintain their excellence, and new programs are added as they are approved by The Regents. For example, the Graduate School of Library and Information Science has merged with the Graduate School of Education and is now known as the Graduate School of Education and Information Studies. New degree programs last year included the interdepartmental B.S. in Neuroscience and the B.S. in Cell and Molecular Biology.

**THE FACULTY** — Of the many factors that go into the making of a great university, no single factor is as important as its faculty. UCLA's distinguished faculty includes 1987 Nobel prizewinner Donald Cram, several John Simon Guggenheim fellows and Fulbright scholars, and many members of both the National Academy of Sciences and the American Academy of Arts and Sciences. In 1993-94 four faculty members received Fulbright scholarships to conduct research, lecture, and consult abroad, and six UCLA scientists and scholars were awarded Guggenheim fellowships. Three were elected as fellows of the prestigious American Association for the Advancement of Science (AAAS). With five additional American Academy of Arts and Sciences award winners and four Sloan Foundation fellows, UCLA placed among the leading universities nationwide in the number of these prestigious awards.

In a recent survey the Conference Board of Associated Research Councils evaluated the quality of the faculty in more than 150 American research universities. UCLA was judged second in the nation among public universities, and among the most highly rated overall. Of the 32 disciplines studied, 17 of UCLA's academic departments were ranked among the top 10 in the country.

**RESEARCH** — UCLA is among the six leading research universities in the country, receiving a record $324.9 million in 1992-93 in extramural grants and contracts to support its research activities. The University hosts several hundred postdoctoral scholars each year who share its excellent research 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 a myriad of vital areas continue to improve the quality of life for people around the world.

**TEACHING** — Although all UCLA faculty members engage in research and the discovery of new knowledge, they are equally dedicated to disseminating their findings in the classroom. Indeed, excellence in teaching is one of the most important criteria for faculty promotion, and distinguished teaching awards are among those most highly prized by UCLA professors.

**STUDENT BODY** — UCLA's students pride themselves on academic excellence. The Fall Quarter 1993 entering freshman class had an average high school GPA of 3.90, with an average composite score on the Scholastic Assessment Test (SAT) of 1,141 out of a possible 1,600.

One of the University's highest priorities is to advance the ethnic diversity of its students, faculty, staff, and administrators. The diversity of 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 more than 115 foreign countries to study at UCLA. The University now enrolls the most ethnically mixed and culturally diverse undergraduate student population — both in total students and as a percentage of enrollment — of any major university in the U.S. Ethnic minorities comprise 61.7 percent of the undergraduates and 36.2 percent of the graduate student population. And international students and scholars presently number over 6,700, making this one of the most popular American universities for students from abroad.

**NUMEROUS OTHER FACTORS** — With more than six million volumes, UCLA's library is rated among the finest in the country. Its athletic teams have made the University an acknowledged leader in intercollegiate sports. Its Center for the Performing Arts ranks as the largest, most diversified and comprehensive program of its kind in the country. And management of the Armand Hammer Museum of Art and acquisition of the Westwood Playhouse in Westwood Village enhance the entire arts program.

The University played a significant role in the 1984 Summer Olympics in Los Angeles, and the campus reprised that role in July 1991 for the U.S. Olympic Festival '91. On both occasions, UCLA housed a large Olympic Village and served as the venue for several events.
Introducing UCLA / 11

All these factors plus its research facilities, its community service, and its international links with all parts of the world make UCLA today a very special kind of institution.

The University of California

The University of California traces its origins to 1868, when Governor Henry H. Haight signed the Organic Act providing that California's first "complete University" be created. 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 of California 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 nine campuses span the state, from Davis in the north to San Diego in the south. In between are Berkeley, San Francisco, Santa Cruz, Santa Barbara, Riverside, Irvine and, of course, Los Angeles. All the campuses adhere to the same admission guidelines and high academic standards, yet each has its own distinct character, atmosphere, and — to some degree — academic individuality. Riverside, for example, excels in the plant sciences and entomology; Davis has a large agricultural school and offers 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 three law schools, as well as schools of architecture, business administration, education, engineering, and many others.

The UC campuses have a combined enrollment exceeding 163,000 students, over 90 percent of them California residents. About one fourth 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 nine campuses are surpassed in size on the American continent only by the Library of Congress collection.

The faculty of the University of California is internationally known for its distinguished academic achievements. On its nine campuses the University has 18 Nobel laureates, and membership in the National Academy of Sciences is the largest of any university in the country.

University Administration

The University of California system is governed by a Board of Regents whose regular members are appointed by the Governor of California. In addition to setting broad general policy and making budgetary decisions for the UC system, The Regents appoint the President of the University, the nine chancellors, and the directors, provosts, 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 policy-making at both campuswide and systemwide levels.
Research: The Discovery of Knowledge

As one of the largest research universities in the world, UCLA is renowned for its programs of faculty and student research; more than 5,000 funded programs are in progress at a given time. One focus of these efforts is a group of 'organized research units' (ORUs) which provide an interdisciplinary approach to the search for knowledge.

ORUs are study centers and research institutes consisting of faculty and students from various departments engaged in continuing research of particular subjects. They do not offer courses of instruction or degrees, although several work in conjunction with interdepartmental instruction programs which lead to bachelor's and/or advanced degrees. ORUs provide invaluable experience for students and faculty in both academic and applied research and greatly enhance UCLA's educational program and the overall academic quality of the University.

In the overview which follows, UCLA's 24 organized research units are listed within five major divisions — health sciences, life sciences, physical sciences and engineering, social sciences, and arts and humanities. Within each division, representative groups and programs are included which, although not formally established as ORUs, are nevertheless doing important research in their respective areas.

Health Sciences

The BRAIN RESEARCH INSTITUTE, center for neuroscience research and education at UCLA, has one of the largest investigative programs of its kind in the country, with more than 200 scientists involved in every aspect of research in the nervous system from molecular organization to human behavior. The institute provides an environment for multidisciplinary research and training in the structure and function of the central nervous system. Education activities include the interdisciplinary Ph.D. program in Neuroscience, the interdepartmental B.S. program in Neuroscience administered in conjunction with the College of Letters and Science, an elementary school outreach program whose teaching activities are directed by graduate students, and a joint educational program with UCLA Extension for teachers, educational psychologists, and other professionals. The Office of the Director is located in 73-369 BRI (310-825-5061).

The CRUMP INSTITUTE FOR BIOLOGICAL IMAGING is a science and technology center that brings together physical, biomathematical, chemical, biological, and clinical scientists and students to merge the principles of imaging with those of molecular and cellular biology and biochemistry. The imaging domains range from the molecular organization of viruses and cellular subunits to the biological responses 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. Imaging technologies are used to build a picture (image) of the spatial and temporal variations in biological processes. Imaging technologies encompass such areas as cryoelectron microscopy and protein structure studies to assemble and study simple organisms and subcellular domains; confocal fluorescent microscopy for study of cellular and subcellular processes; in vitro and in vivo autoradiography studies of integrated organ function; and positron emission tomography (PET), X-ray computed tomography (CT), and magnetic resonance imaging (MRI) studies of the structure and biological functions of organ systems in animal and human subjects. The institute has research and educational programs for visiting scientists, postdoctoral scholars, and Ph.D. graduate students which include the development of novel multimedia computer-based learning technologies. There are also faculty and student exchange programs with a number of domestic and foreign universities. Dr. Michael E. Phelps is the director (310-825-6539).

The DENTAL RESEARCH INSTITUTE, with principal laboratories on the seventh floor of the School of Dentistry, fosters research related to oral health. Areas of investigation include biologic materials, clinical studies, craniofacial biology, immunology, immunogenetics, oral neuropathy/pain, periodontal, and ultrastructure/cell biology. The Office of the Director is located in 73-017 Center for the Health Sciences (310-206-8045).

The MENTAL RETARDATION RESEARCH CENTER, located on the C level and the fourth through eighth floors of the Neuropsychiatric Institute and Hospital, provides laboratories and clinical facilities for research and training in mental retardation and related aspects of human development. Its interdisciplinary activities range from anthropological studies to molecular aspects of inherited metabolic diseases. Administrative offices are located in 58-258 NI&H (310-825-0313).

The JULIUS STEIN EYE INSTITUTE is one of the best equipped centers for research and treatment of eye diseases in the world. This comprehensive facility, located in the Center for the Health Sciences (310-825-5053), is devoted to the study of vision, the care of patients with eye disease, and education in the broad field of ophthalmology. Outpatient, inpatient, and surgical facilities are provided. The Doris Stein Eye Research Center houses new research and training programs concentrating on major eye diseases worldwide.

The UCLA-DOE LABORATORY OF STRUCTURAL BIOLOGY AND MOLECULAR MEDICINE, located in Warren Hall (800 Veteran Avenue, 310-825-9431) and the Center for the Health Sciences, is funded through a contract with the Department of Energy. Research is conducted in biomolecular and cellular science, environmental biology, 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, a cobalt radiation facility, environmentally controlled growth chambers, a vivarium, and an advanced structural biology laboratory.

In the health sciences, research carried out in ORUs is complemented by research on neurological and neuromuscular diseases in the Lewis Neuromuscular Research Center, the Reed Neurological Research Center, and the Neuropsychiatric Institute and Hospital. The Jonsson Comprehensive Cancer Center, one of only 27 comprehensive centers in the nation, is renowned for the breadth and excellence of its cancer research. The UCLA AIDS Institute is deeply involved in all aspects of the fight against AIDS, with basic research in virology, immunology, and the clinical management of AIDS patients being done in the Center for Clinical AIDS Research and Education. And the School of Public Health, which recently established the Southern California Injury Prevention Research Center, has joined forces with the School of Medicine to form the Center for Health Promotion and Disease Prevention, another clinical research program to enhance the health of the community.

Life Sciences

The MOLECULAR BIOLOGY INSTITUTE provides research and training resources in molecular biology for faculty from the College of Letters and Science and the School of Medicine, and includes the Parvin Cancer Re-
search Laboratories. Administrative offices are located in 168 MBI (310-825-1018).

The **CENTER FOR THE STUDY OF WOMEN**, located in 276 Kinsey Hall (310-825-0590), coordinates and disseminates interdisciplinary research on women and gender by sponsoring conferences, publications, programs for affiliated and visiting scholars and graduate students, directories of scholars doing research on women and gender at UCLA and throughout the UC system, an ongoing feminist research seminar, and a public lecture series on Women, Culture, and Society. In collaboration with other UC campuses, women's studies programs, and community groups, the center seeks to address public policies affecting women's lives.

The **Fernald Child Study Center** is a life sciences interdisciplinary research unit created to study and treat a variety of childhood behavioral problems and learning disorders. And the **Center for the Study of Evolution and the Origin of Life** melds the diverse research of more than 100 UCLA faculty members in the study of the emergence and evolution of life on Earth.

**Physical Sciences and Engineering**

The **INSTITUTE OF GEOPHYSICS AND PLANETARY PHYSICS (IGPP)** is a multicampus research unit (MRU) of the University of California; the branch at UCLA is engaged in research in climate dynamics, geophysics, geochemistry, space physics, biochemistry, and biology. Research topics include the nature of the Earth, moon, and other planetary bodies, global environmental change, the origin of terrestrial life, the dynamical properties of the sun and solar wind, and the evolution of stellar interiors. Facilities include analytical laboratories in 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 relevant to the above topics. The UCLA branch office is located in 3839 Slichter Hall (310-825-1664).

The **INSTITUTE OF PLASMA AND FUSION RESEARCH**, located in 44-139 Engineering IV (310-825-5090), is dedicated to research into plasma physics, fusion energy, and the application of plasmas in other disciplines. Students, professional research staff, and faculty 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.

The **WHITE MOUNTAIN RESEARCH STATION** is a multicampus research unit (MRU) dedicated to high-altitude research. Four separate laboratory sites near Bishop, California, ranging up to 14,250 feet above sea level, include the highest permanent teaching and research facilities in North America. Research includes studies in archaeology and the biological, medical, and physical sciences. The administrative office is located in 6713 Geology (310-825-2093).

Among other interdisciplinary activities in the physical sciences and engineering at UCLA, the **Center for Clean Technology** in the School of Engineering and Applied Science fosters research on the interaction between technology and the environment, focusing on pollution prevention and control. On other frontiers, an **Artificial Intelligence Laboratory** designed exclusively for research in this burgeoning field operates under the wing of the Computer Science Department, and a **Manufacturing and Automation Research Center**, funded by the National Science Foundation, is operated jointly by UCLA's engineering school and the University of Southern California (USC).

**Social Sciences**

The **OFFICE OF INTERNATIONAL STUDIES AND OVERSEAS PROGRAMS (ISOP)** supports and coordinates international and foreign area studies at UCLA. Among the area studies centers and programs that operate under its aegis are four major interdisciplinary research centers that rank among the best in the nation. Some of the world's leading specialists on area studies have joined these centers.

The **Coleman African Studies Center** (10244 Bunche Hall, 310-825-3779) is one of the major interdisciplinary centers for African studies in the U.S. It encourages and coordinates research and teaching in Africa in the humanities, social sciences, and natural sciences, as well as in the professional schools of Architecture and Urban Planning, Arts, Education and Information Studies, Law, Medicine, Public Health, and Theater, Film, and Television. The center also sponsors an active program of public lectures, seminars, publications, and academic exchanges with African institutions and an outreach service to the Southern California community.

The **Latin American Center** (10343 Bunche Hall, 310-825-4571) encourages and coordinates interdisciplinary research, academic programs, and publications. By linking campus activities with developments in the field and in other institutional settings, the center benefits UCLA, the broader community of Latin Americanists, and the general public.

The **von Grunebaum Center for Near Eastern Studies** (10286 Bunche Hall, 310-825-1181) coordinates research projects and academic programs related to the Near East and administers the interdisciplinary programs leading to the M.A. and Ph.D. degrees in Islamic Studies. The combined 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 also conducts significant publication and outreach programs.

The **Center for Russian and East European Studies** (11367 Bunche Hall, 310-825-4050) develops and coordinates teaching and research on Russia and the countries of Europe through conferences, lectures, seminars, and academic exchange programs with European and Russian institutions.

ISOP also supports other interdisciplinary activities such as the study of arms control, nuclear proliferation, and international cooperation and security in the **Center for International Relations**. The **Center for Pacific Rim Studies** administers the China Exchange Program and the South and Southeast Asia Program and promotes research, course offerings, seminars, and faculty and student exchange programs on the people and nations bordering the Pacific Ocean; the **Center for Chinese Studies** has developed a major graduate program in Chinese studies, as well as significant research on historical and social science topics; an NDEA Joint Center in East Asian Studies with the University of Southern California sponsors joint...
seminars and conferences focused on the East Asian region; the Center for Japanese Studies fosters research on Japan and scholarly exchange with Japanese institutions; and the Center for Korean Studies promotes interdisciplinary research and coordinates campus programs on Korea. Other ISOP programs focus on development studies, language teaching, and academic exchange. In addition, ISOP houses offices of the UC Education Abroad Program, the Southern California Fulbright Visiting Scholars Program, and the Southern California Consortium on International Studies (SOCCIS).

The INSTITUTE OF AMERICAN CULTURES is responsible for strengthening and coordinating interdisciplinary research and instruction in ethnic studies with special attention to UCLA's four ethnic studies research centers. The institute conducts no research itself but makes funds available for research and fellowships and promotes the activities of the four centers whose goals are to study and illuminate the histories of African Americans, American Indians, Asian Americans, Chicana/os, and others, and to apply the University's capabilities to the analysis and solution of specific social issues. These centers promote faculty research, encourage the development of new courses and degree programs, assist departments in recruiting scholars, build library and other resources, and publish literature to disseminate the results of their work.

The Center for Afro-American Studies (160 Haines Hall, 310-825-7403) conducts and sponsors research on the African American experience, coordinates the Afro-American studies curriculum, publishes research results, and sponsors community service programming.

The American Indian Studies Center (3220 Campbell Hall, 310-825-7315) serves as an educational and research catalyst and includes a library, master's and postdoctoral fellowship programs, and a publishing unit that produces a number of books and a quarterly journal.

The Asian American Studies Center (3230 Campbell Hall, 310-825-2974) seeks to increase the knowledge and understanding of the experiences of Asian Pacific 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 a master's program.

The Chicano Studies Research Center (180 Haines Hall, 310-825-2363) is engaged in the development and articulation of a Chicano/Latino intellectual perspective that recognizes and fosters the creative, professional, and social potential of the Chicano/Latino population. The center, founded in 1969, directs its research efforts in several essential areas, with particular emphasis on history, cultural studies, women's studies, immigration, education, and health and participates in the National Association for Chicano Studies. In addition, the center is one of several campus members of the Inter-University Program for Latino Research, housing the Latino Leadership Opportunity Program. It sponsors several research competitions and a predoctoral and postdoctoral fellowship program.

The INSTITUTE OF ARCHAEOLOGY, located in A210 Fowler Building (310-206-8934), is dedicated to studying and understanding the past through laboratory studies of artifacts, analysis of field data, creation of archives to store this information, and the education of students and interested community members via publications and lectures. The institute, the only one of its kind in the U.S., coordinates various academic and practical facilities for more than 40 researchers and many graduate students are volunteers in 10 associated academic departments. It regularly sponsors workshops and special courses. Research facilities include the Information Center (regional office of the California Archeological Information System), Ceramics Laboratory, Computer Imaging of Archaeological Data, Obsidian Hydration and Lithics Analysis Laboratory, Paleoethnobotany Laboratory, Rock Art Archive, and Zooarchaeology Laboratory. The Publications Unit publishes the findings of scholars from UCLA and other archaeology centers, while the Public Lecture Program provides a forum for the public presentation of recent archaeological discoveries and advances.

The INSTITUTE OF INDUSTRIAL RELATIONS, located in 83 Haines Hall (310-825-1964), has an interdisciplinary research and publishing program directed toward the study of all aspects of the employment relationship, including labor markets, labor law, labor/management relations, equal employment opportunity, occupational safety and health, and related issues. It also offers social policy and employment relations programs to the general public, unions, and management.

The INSTITUTE FOR SOCIAL SCIENCE RESEARCH promotes interdisciplinary research on a broad spectrum of 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, Interdisciplinary Program in Social Statistics, Survey Research Center, Social Science Data Archive, Organizational Research Program, and Center for Social Theory and Comparative History. Training in survey research methodology is available to students through participation in the annual Southern California Social Survey. The institute publishes the ISSR Quarterly, a newsletter for the UCLA social sciences community, and ISSR Working Papers in the Social Sciences; it is located in 303 GSSIS Building (310-825-0711).

Other interdisciplinary activities in the social sciences include the nationally respected Business Forecasting Project in UCLA's John E. Anderson Graduate School of Management and the Center for the Study of Evaluation 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 addition, the Center on the Teaching and Learning of History in Elementary and Secondary Schools brings K-12 teachers and social studies professors from throughout the country together in an effort to improve history teaching. The Center for the Study of Urban Poverty initiates new research on issues related to urban poverty and sponsors seminars in the field. The Center for the Study of the Environment and Society researches and addresses such issues as air pollution, water quality, and the public response to environmental concerns. And the Center for Communication Policy is a national leader in communications public policy issues such as technological innovations in telecommunications and the social and political impact of these changes.

Arts and Humanities

The CENTER FOR THE STUDY OF COMPARATIVE FOLKLORE AND MYTHOLOGY, located in 1037 AGSM (310-825-4242), supports and coordinates the study of comparative folklore and mythology. Resources include the Wayland D. Hand Library, the Visual Media and Folk Medicine Archives, the Archive of California and Western Folklore, the American Popular Beliefs and Superstitions Archive and Encyclopedia Project, the Archive of Folk Song and Music, and other collections of field recordings, records, and films.

The CENTER FOR MEDIEVAL AND RENAISSANCE STUDIES supports the research activities of some 20 academic departments dealing with the development of civilization between A.D. 300 and 1650. Major programs include funding research assistants, appointing postdoctoral associates and visiting professors, organizing conferences and colloquia, and supporting departments in inviting lecturers. The center sponsors the publication of two journals, Viator, with emphasis on intercultural and interdisciplinary studies, and Comitatus, with articles by graduate students and recent Ph.D. graduates. The center is located in 1628 Maxxam Building (10880 Wilshire Boulevard, 310-825-1880).

The CENTER FOR SEVENTEENTH- AND EIGHTEENTH-CENTURY STUDIES and the CLARK MEMORIAL LIBRARY are united under the administrative direction of the center and the College of Letters and Science. The center, located in 395 Dodd Hall (310-206-8552), organizes scholarly programs and workshops, seeks to enlarge the Clark Library holdings in the early modern period to enhance local research opportunities, has a publications program that makes the results of its conferences and workshops known to the community, provides long- and short-term fellowships to students and scholars doing research in early modern studies, offers graduate research assistantships and master classes, and organizes public programs and classical music concerts. The Clark Library, located approximately 10 miles from UCLA at 2520 Cimarron Street
Resources for Research and Study

University Library System

Library facilities are crucial to both study and research. The University Library on the UCLA campus is one of the country’s largest and most renowned academic libraries and consists of the University Research Library, the College Library, and 11 specialized subject libraries. Collectively they contain more than six million volumes and extensive holdings of government publications, pamphlets, manuscripts, maps, microforms, music scores, recordings, photographs, and slides. They regularly receive over 95,000 serial publications.

ORION, the library’s on-line information system, provides location and holdings information for most library materials and current information for materials on order or in processing. On-line circulation status information for most libraries is also available. ORION public access terminals are located in many campus libraries, and demonstrations and workshops in using the system are available at the beginning of each term.

Students have access to the stacks in most libraries. A handbook describing the organization, services, and hours of the University libraries is available in all of the campus libraries.

The Reprographic Service, housed in 2081 Engineering I, can duplicate books, periodicals, manuscripts, and maps.

University Research Library

The University Research Library on north campus is a modern six-story building designed primarily as a graduate research library serving the social sciences, humanities, and several professional schools. The building houses over three million volumes arranged in open stacks, as well as the Reference Room, Circulation Department, Graduate Reserve Service, Periodicals Room, and Audiovisual Service. The Microform Reading Service, with some 1,110,000 microcopies of newspapers, books, and periodicals, has a variety of reading and copying equipment. During academic sessions library hours are weekdays 8 a.m. to 11 p.m. (6 p.m. Friday); Saturday 9 a.m. to 5 p.m.; Sunday 1 to 10 p.m.

The Department of Special Collections in the Research Library contains rare books and pamphlets, the University Archives, early maps, and files of early California newspapers. Manuscript collections include the literary papers of Henry Miller and Anais Nin, as well as the private papers of Jack Benny, Charlie Laughton, Carey McWilliams, King Vidor, and Nobel Peace Prize winner Dr. Ralph J. Bunche, a UCLA alumnus. Other significant holdings include the Sadleir Collection of nineteenth-century fiction, generally regarded as the finest of its kind, and the Ahmanson-Murphy Collection of Early Italian Printing (1471-1550), with a concentration on Aldine imprints. The department also includes UCLA’s Oral History Program, a national leader in the field with over 400 interviews with prominent individuals since the program was founded in 1959.

The Public Affairs Service, also housed in the Research Library, collects official publications of the U.S. government, the State of California, California counties and cities, selected U.S. state and local governments, foreign nations and selected foreign states and provinces, plus those of the United Nations and some of its specialized agencies and a number of other international organizations. Also housed are current English-language, nongovernmental pamphlets on public affairs representing a wide spectrum of political and social opinion, with strong emphasis on social welfare, economic, social, and political conditions, and industrial relations.

College Library

The College Library is designed to meet the instructional and informational needs of most undergraduate students. It is permanently located in the Powell Library Building but is housed in a temporary structure — commonly known as “Towell” — until 1995 while Powell undergoes seismic renovation. Towell is located at the foot of Janss Steps between the Dance Building and the Men’s Gym and houses 200,000 books and periodicals; course reserve materials, including audiocassettes, lecture notes, past examinations, and APS (Academic Publishing Service) readings available for loan; and the Humanities Computing Laboratory with 36 IBM PS/2s, Macintoshes, and printers. During academic sessions library hours are weekdays 8 a.m. to 11 p.m. (6 p.m. Friday); Saturday 9 a.m. to 5 p.m., Sunday 1 to 10 p.m.

Specialized Subject Libraries

The resources of the specialized campus libraries are devoted mainly to subjects of concern to the departments or professional schools which they serve, but their materials are available to all UCLA students and faculty. A recorded message (310-825-8301) provides current hours of service for each library.

The Arts Library in Dickson Art Center houses material on art, art history, design, film, television, theater, architecture, city and regional planning, and transportation. The Belt Library of Vinciana is also located in Dickson Art Center. Arts Special Collections, located in the University Research Library, contain noncirculating materials, including the Princeton Index of Christian Art, the Artists’ File, and other special collections such as unpublished radio, film, and television scripts and archival records of major Southern California motion picture studios.

The Louise Darling Biomedical Library, in the Center for the Health Sciences, is one of the finest libraries of its kind in the country. Its 500,000 volumes and nearly 6,000 serial subscriptions serve all the UCLA health and life sciences departments/schools and the UCLA Medical Center.

The Chemistry Library includes material on chemistry, biochemistry, and molecular biology, while materials in Chinese, Japanese, and Korean are available in the Rudolph East Asian Library. Materials for engineering, astronomy, computer science, meteorology, and mathematics are kept in the Engineering and Mathematical Sciences Library, and major subjects covered by the Geology-Geophysics Library include geoscience, invertebrate paleontology, planetary and space science, and hydrology.

The Hugh and Hazel Darling Law Library has a substantial collection of over 400,000 volumes selected to further the course of instruction in the School of Law and the legal research needs of the UCLA community, and the Social Sciences Management Library serves the John E. Anderson Graduate School of Management and the various subjects related to business and management. The Bruman Map Library in Bunche Hall houses maps, city plans, nautical charts, and technical books and serials on all aspects of cartography and is one of the largest of its kind in the U.S.

The Rubsamen Music Library houses historical musicology and ethnomusicology materials, musical scores, recordings, and the personal collections of such composers as Henry Mancini, Alex North, and Ernst Toch. It is also responsible for the Archive of Popular American Music...
which contains sheet music, anthologies, arrangements for band and orchestra, sound recordings, and manuscripts. The Physics Library covers all aspects of that science, including acoustics and spectroscopy.

Other Campus Information Resources
In addition to the extensive collections of the University Library, a rich array of other information resources is available to the UCLA community. The archives and collections listed below are independently managed by individual UCLA departments and centers.

The American Indian Studies Center Library 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 features Asian Pacific American resources. The Center for Afro-American Studies Library contains materials reflecting the African American experience in the social sciences, arts, and humanities.

Materials related to Chicano and Latino cultures are housed in the Chicano Studies Research Center Library, and the Clark Memorial Library contains rare books, manuscripts, and other noncirculating materials on English culture (1640-1750). The English Reading Room features a noncirculating collection of English and American literature.

The Ethnomusicology Archive houses sound recordings of folk, ethnic, and non-Western classical music, while the Institute for Social Science Research Data Archive Library contains a collection of statistical databases for the social sciences. The Seeds University Elementary School Library features contemporary materials for children from kindergarten through junior high school and adult works on children’s literature.

Special Archive Collections
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 original film and television materials serve both the UCLA community and national and international constituencies.

The Motion Picture Collection, with more than 37,000 films, 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 Pictures, Warner Brothers, Columbia Studios, New World Pictures, Universal Studios, 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 35,000 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 in Melnitz Theater which focus on archival materials, new work by independent filmmakers, and a wide array of international films. For program information, call (310) 206-FILM.

The Archive Research and Study Center (ARSC), located in 180 Powell Library (310-206-5388), provides on-site viewing of the Film and Television Archive’s collections and research consultation to students, faculty, and researchers. ARSC hours are weekdays 8:30 a.m. to 5 p.m. Extended viewing hours are available at the Instructional Media Laboratory.

Art Galleries and Museums
A tour of all the UCLA museums and art galleries will take you from one corner of campus to the other. In the course of three decades UCLA’s WIGHT ART GALLERY COMPLEX has evolved into a multifaceted museum, responsive to the needs of the University and the general public. The complex includes the Wight exhibition galleries, with 11,000 square feet of exhibition space in which to mount approximately eight exhibitions per year, the Grunwald Center for the Graphic Arts, and the Murphy Sculpture Garden.

Located in the Dickson Art Center on north campus, the Wight Art Gallery is open Tuesday 11 a.m. to 7 p.m., Wednesday through Friday 11 a.m. to 5 p.m., Saturday and Sunday 1 to 5 p.m. (closed Monday, major holidays, and July and August). Admission is free. Tours are offered Saturday and Sunday by the UCLA Art Council docents; special group tours may be arranged by calling (310) 285-3264. The administrative office is located in 1100 Dickson Art Center. For a schedule of exhibitions, call (310) 285-9345.

On the second floor of the Wight Art Gallery is the Grunwald Center for the Graphic Arts, which houses a distinguished collection of over 36,000 prints, drawings, and photographs. Maintained as 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 fifteen century to the present. It is particularly noted for its collection of German expressionist prints formed by Fred Grunwald and the comprehensive holdings of Matisse and Picasso, as well as the Richard Vogler Cruikshank collection and the Frank Lloyd Wright collection of Japanese prints. The center, located in 2122 Dickson Art Center (310-285-3783), is open by appointment Monday through Friday from 9 a.m. to 5 p.m.

The Murphy Sculpture Garden, located between Bunche Hall and the Wight Art Gallery, contains a collection of over 70 major works by Rodin, Matisse, Calder, Lachaise, Lipchitz, Moore, Miro, Hepworth, and many other late nineteenth- and early twentieth-century masters. All works in the growing collection, situated on a picturesque five-acre expanse, are private gifts to the University.

The FOWLER MUSEUM OF CULTURAL HISTORY is internationally known for the quality of its collections and exhibits. Its collections encompass the arts and material culture of much of the world, with particular emphasis on West and Central Africa, Oceania, and Latin America. The museum offers assistance with instruction and research and sponsors major exhibitions, lecture programs, and symposia. Administrative offices are located in 1586 Fowler Building (310-285-4361).

Other Resources
The OFFICE OF ACADEMIC COMPUTING (OAC) provides microcomputer and workstation support services through its Microcomputer Support Office (MSO), campus backbone network services through its Cam-
The Microcomputer Support Office, located in 2035 AGSM (310-825-7408), provides services enabling departmental computer support coordinators to provide assistance to faculty and students on the use of microcomputers and advanced workstations, as well as special services in computing for faculty, students, and staff with disabilities. MSO services are intended to support the integration of microcomputers and advanced workstations into administrative, instructional, and research programs as well as individual microcomputer acquisition and use. MSO supports local area networks and their connection to the campus backbone network and coordinates site licenses, user groups, and an electronic newsletter. Most services are available through the Microcomputer Information Center (MIC).

OAC's IBM ES/9000 runs the MVS/ESA and AIX/ESA operating systems and is available to all colleges, schools, and departments within UCLA, as well as to all registered students. OAC maintains a large library of applications software, including statistical, language, and graphics packages. The ES/9000 with its vector facilities and the SP/1 are particularly appropriate for numerically intensive computing and data management tasks. In the numerically intensive computing area, OAC provides a code clinic with professional consultants to analyze and improve the efficiency of specialized code in numerically intensive computing applications. In the visualization area, OAC consultants work with users in producing high-quality graphic output necessary for research in many scientific disciplines. OAC is connected to the campus backbone network, enabling access to its services wherever there is a connection to the network. These services include access to ORION, the UCLA on-line library information system; use of BEN, an electronic communication system; and access to the Internet. Information on how to apply for an account to use any of OAC's services is available in the OAC User Relations Office (3402 Math Sciences, 310-825-7548) weekdays from 8 a.m. to 5 p.m.

The DIVISION OF LABORATORY ANIMAL MEDICINE, located in 1V-211 CHS (310-825-7281), 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.

The University of California NATURAL RESERVE SYSTEM offers 26 reserves statewide to be used for field studies in unspoiled natural sites and for protected scientific experiments. For more information, contact Robert M. Gibson, 1122 Life Sciences (310-825-6459).

The BIOLOGICAL COLLECTIONS of the Biology Department include marine fishes from the Eastern Pacific and Gulf of California, and birds and mammals primarily from the Western U.S., Mexico, and Central America. The department also maintains a more limited collection of amphibians, reptiles, and fossil vertebrates, as well as collections of algae, fungi, and bacteria. For more information, contact Jaap Hilleinui, A339 Life Sciences (310-825-1282).

Although the UCLA campus as a whole has an attractive, park-like atmosphere, there are two distinctive garden areas worthy of special note. The eight-acre JAPANESE GARDEN, located in the south corner of campus, contains some 4,000 species of native and exotic plants. It is used for botanical teaching and research. This peaceful garden contains such traditional and symbolic features as a teahouse, shrine, antique stone water basins, lanterns, waterfalls, and a pond with Japanese carp (koi) swimming among water lilies. The garden, a private gift to UCLA, is used by faculty and students for study and research, by departments for professional events, and by others seeking a serene setting for meditation and solitude. It is open to groups and individuals by reservation only. Call the Visitors Center at (310) 206-8147.

Supplementary Educational Programs

In addition to the regular academic programs which are described in Chapters 5 through 17 of this catalog, the following optional programs are available to UCLA's undergraduate and graduate students.

Summer Sessions

UCLA offers more than 500 courses from approximately 60 UCLA departments in six-, eight-, and 10-week sessions. Many students take advantage of Summer Sessions to enroll in courses they were unable to take during the year, repeat courses in which they may have done poorly, lighten their academic load for the following term, or complete graduation requirements more quickly.

Admission to Summer Sessions does not constitute admission to the University in either undergraduate or graduate standing. Students who wish to attend UCLA in regular session must follow admission procedures described in Chapter 2 (undergraduate) or Chapter 3 (graduate).

If you are a regularly enrolled undergraduate student, you may attend UCLA Summer Sessions for full unit and grade credit. Summer Sessions work is recorded on your UCLA transcript, and grades earned are computed in your grade-point average. Check with your college or school counselor about applying these courses toward your minimum unit requirements and for any limitations your college or school may impose on Summer Sessions study.

If you are a regularly enrolled graduate student, you may, with departmental approval, take regular session courses offered in Summer Sessions for credit toward a master's or doctoral degree; consult your graduate adviser in advance concerning this possibility. Summer Sessions courses may also satisfy the academic residence requirement for master's or doctoral degrees (see Chapter 3 for details).

Unlike enrollment in regular terms, you may attend another college institution for credit while you are enrolled in Summer Sessions. Applications and more information are available in 1147 Murphy Hall (310-794-8533).

UCLA Extension

With over 110,000 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 your college or school counselor or graduate adviser before enrolling. For more informa-
tion, see the sections on “Concurrent Enrollment and Transfer of Credit” and “Courses of Instruction” in Chapter 4. Graduate students should also see “Transfer of Credit” in Chapter 3.

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 (310-206-6201). To obtain the current UCLA Extension Catalog, contact the Registration Office at (310) 825-9971. Hours are weekdays from 8 a.m. to 6 p.m. (5 p.m. Friday).

EAP students in Japan.

**Education Abroad Program (EAP)**

Each year more than 1,400 undergraduate and graduate students from UC campuses study at distinguished universities throughout the world. UCLA students remain registered here while overseas and receive UC units and grade points for work completed abroad. Currently, EAP offers study opportunities at nearly 100 different universities in 32 countries: Australia, Austria, Brazil, Canada, Chile, China, Costa Rica, Denmark, Egypt, England, France, Germany, Ghana, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Russia, Scotland, Spain, Sweden, Taiwan, and Thailand. Participants generally spend a full academic year abroad, enjoying a unique opportunity to enhance language skills and become involved in the culture of the host country. One-term programs are available in Brazil, Canada, Chile, China, France, Hungary, India, Indonesia, Italy (Bocconi), Japan, Korea, Mexico, Netherlands, Russia, Sweden, Taiwan, and Thailand. Summer programs are offered in Denmark and Mexico. In Costa Rica there is a year program and a one-term tropical biology field study. For all programs a special orientation program and, when necessary, intensive language training are included. During the year UC faculty members at the host university assist with scholastic or personal problems.

EAP is open to all undergraduate students who have (1) completed a minimum of 90 quarter units (junior standing) prior to departure, (2) at least a B average (3.0 GPA) overall at the time of application, and (3) the support of the UCLA EAP Selection Committee. Some programs have a language requirement as well.

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.

Costs for participation in EAP vary from $1,740 to $16,004, but University financial aid is available to those who qualify. Applications must be filed several months in advance. For more information, contact the EAP Office in 28 Haines Hall (310-825-4889, 825-4995).

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**Interdisciplinary Colloquia**

Organized colloquia involving several disciplines are offered from time to time in conformity with faculty and student interests. They are open to all faculty members, interested undergraduates, and graduate students assigned to the colloquia by their advisers. Credit is not awarded directly but may be given through appropriate departmental courses. For information about the committees in charge of the colloquia, call the assistant to the provost of the College of Letters and Science at (310) 825-4621.

The Marschak Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences provides a forum for interaction among faculty and students interested in the applications of mathematics and statistics to the behavioral sciences. Disciplines include anthropology, architecture, artificial intelligence, biology, business, computer science, economics, education, engineering, geography, linguistics, management, operations research, philosophy, political science, psychology, public health, public planning and policy, sociology, and systems analysis.

The colloquium sponsors presentations by leading experts in these fields, including faculty members from UCLA, other UC campuses, and other universities, and meets on alternate Fridays from 1 to 3 p.m. in 2270 AGSM during the academic year. Announcements of presentations, including abstracts of the papers to be presented, are circulated and posted on campus; announcements also appear in UCLA Today. The colloquium is directed by Michael D. Intriligator, professor of economics and political science. For further information, contact the Western Management Science Institute at (310) 825-1581 or 825-4144.

The Rothman Colloquium in Cognitive Science, organized by the interdisciplinary Cognitive Science Research Program, sponsors presentations by leading experts in the broad field of cognitive science, which explores the nature of human and artificial intelligence. Participating disciplines include artificial intelligence, biology, linguistics, neuroscience, philosophy, and psychology. The list of speakers is circulated to the participating departments on campus. For further information, contact the Cognitive Science Research Program at (310) 825-0951.
Living Accommodations

Where you live while attending UCLA can play an important role in your total college experience. Many students, especially those in their first year, choose to live on campus; others opt for a University-owned apartment or a private apartment in one of the many surrounding communities. There are many different housing options available. Decide early which ones you plan to pursue and apply for or follow up on them as soon as possible. If you plan to live off campus, arrive early to make your housing arrangements for the coming academic year. Some students even pay rent year-round to insure accommodations, and try to sublet during the summer months.

The UCLA Community Housing Office, 350 De Neve Drive (Sproul Hall Annex), Los Angeles, CA 90024-1495, (310) 825-4491, provides information and current listings for University-owned apartments, cooperatives, private apartments, roommates, rooms in private homes, and board in exchange for work, and short-term housing. Rental listings are updated daily. The housing office also has bus schedules, area maps, and neighborhood profiles. A current Registration Card or letter of acceptance and a valid photo identification card are required for service.

The International Student Center on Gayley Avenue helps international students find housing and may also provide temporary facilities until suitable permanent housing arrangements are made.

UCLA Housing Options and Opportunities: Information and Application, a booklet which covers housing options in much greater detail, is mailed to all students when they are accepted for admission.

On-Campus Housing

Living on campus can add an extra dimension of academic support, enjoyment, and convenience to your UCLA experience. Four residence halls (Dykstra, Hedrick, Rieber, and Sproul Halls), two residential suite complexes (Hitch and Saxon Residential Suites), and Sunset Village accommodate nearly 6,000 undergraduates, while Hershey Hall houses 334 graduate students. All on-campus housing is coed and within walking distance to classrooms.

Residence hall rooms are shared by two or three students. Residential suites — shared by four or six students — consist of two bedrooms, a full bathroom, and a common living room. Sunset Village has one- and two-bedroom units, each with a full bath, shared by two or three students per bedroom. The four residence hall cafeterias and the dining commons in Sunset Village accommodate all on-campus residents and serve 19 meals per week. Residents may also select a 14- or 11-meal plan.

Applications for on-campus housing are contained in the UCLA Housing Options and Opportunities: Information and Application booklet, available at the UCLA On-Campus Housing Assignment Office, 270 De Neve Drive, Los Angeles, CA 90024-1381, (310) 825-4271. To apply for on-campus housing, your completed application must be postmarked by the following deadlines:

- March 31 (June 1 for graduate students) for Fall Quarter 1994
- October 27 for Winter Quarter 1995
- January 26 for Spring Quarter 1995
- March 31, 1995 (June 1 for graduate students) for Fall Quarter 1995

Following each of these dates, the Housing Assignment Office randomly designates a number to each application received; the number determines the order in which you are offered assignment to on-campus housing. All new freshman and transfer students who are admitted for Fall Quarter and apply for on-campus housing by the stated deadline are guaranteed on-campus housing.

The full cost per student for the 1994-95 academic year (Fall, Winter, and Spring Quarters, excluding vacation periods) is $4,835 (triples) or $5,580 (doubles) for residence halls, $5,980 (six persons) or $6,625 (four persons) for suites and Sunset Village, and $6,055 (triples) or $6,700 (doubles) for Sunset Village, plus a $22.44 membership fee in the On-Campus Housing Student Association. These rates include 19 meals per week.

The Office of Residential Life, in the Residential Life Building near Sproul Hall (310-825-3401), is responsible for the conduct of students in residence halls and suites and provides professional and student staff members to counsel residents on programming and other problems. The office 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).

University Apartments for Single Graduate and Family Students

UCLA maintains nearly 1,200 off-campus apartments about five miles from campus for married, single-parent, and single graduate students. Unfurnished one-, two-, and three-bedroom units are available. One-bedroom rentals for 1994-95, excluding utilities, are expected to range from $516 to $671 per month. Since waiting lists for family student housing are long, do not wait until you have been accepted to UCLA to apply. Verification of marriage and/or copies of children's birth certificates (English translation) must accompany your application. Call University Apartments North at (310) 398-2293 for current availability information.

University Apartments for Single Students

Over 230 apartments for single students in four off-campus facilities are maintained by the University; all are located within walking distance of campus. One-bedroom rentals for 1994-95, excluding utilities, are expected to range from $750 to $895 per month. All occupants must be full-time UCLA students; rental agreements are month-to-month. An application is included in the UCLA Housing Options and Opportunities: Information and Application booklet, available at the UCLA On-Campus Housing Assignment Office. Apartments are available throughout the year, especially at the end of each term, on a first come, first served basis. Call University Apartments North at (310) 825-2293 for current availability information (best selection is in June and July). Roommate vacancies in University apartments are routinely posted in the UCLA Community Housing Office.

Cooperatives/Boarding Houses

There is one student cooperative within walking distance of campus which provides an atmosphere similar to residence halls except that you must work three to four hours per week as partial payment for room and board. There are also several boarding houses and private residence halls convenient to UCLA. Phone numbers are available from the UCLA Community Housing Office.

Fraternities and Sororities

Many of the 50 fraternities and sororities at UCLA own chapter houses on the west and east sides of campus respectively. For sororities, you must be a member to live in the house and generally will be able to move
in after your first year of active membership. For fraternities, living in the house depends on the number of housing spaces available. Room, board, and dues are about the same as the monthly residence hall fee. During the summer break, most fraternities with chapter houses lease rooms to students, Greek or not (check listings at the UCLA Community Housing Office). For more information, contact Fraternity and Sorority Relations, 118 Men's Gym (310-825-6322).

Apartment

If you would like to rent an apartment off campus, you must carefully consider the kind of living arrangements you can afford. Your financial situation may dictate how close you live to UCLA and whether you can live alone or must share an apartment. Apartments within three miles of UCLA (Westwood, West Los Angeles, parts of Brentwood and Santa Monica) average $600 per month for single units and $850 for one-bedroom units. Apartments more than four miles away (Palms, Mar Vista, Culver City) usually cost $100 to $150 less. Listings change daily and are posted in the UCLA Community Housing Office. A roommate share board is also available.

Short-Term Housing

If you need temporary quarters until you find something permanent, there are several hotels and motels within five miles of campus with varying rates and accommodations. Most short-term housing is available for no more than one to three months, though some may be for longer periods. Sublets are most readily available from May to August. Hotel and motel listings, which may be requested by mail or phone, are available in the UCLA Community Housing Office.

Transportation

Parking Services

A limited number of parking permits are available for the main campus. Unfortunately, not all students who request a permit can be offered space in their area of preference. You may obtain an application and instructions at Parking Services (555 Westwood Plaza, Structure 8, Suite 100, 310-825-9871). To be considered, apply by the deadline dates listed on the Calendar at the beginning of this catalog or in the quarterly Schedule of Classes.

Students with permanent or temporary disabilities who have DMV-issued disabled persons' license plates or placards may apply to the Office for Students with Disabilities for parking assignments and on-campus transportation assistance. Students with short-term disabilities (usually less than three months) who do not have DMV-issued disabled persons' license plates or placards may obtain authorization for disabled parking through Student Health Service.

The application process for parking includes Parking Services' evaluation of your personal transportation needs. Parking assignments are based on a number of factors, including distance you live from campus, employment obligations, and other transportation and educational-related factors. Once evaluated, you are notified of your assignment or denial. You must accept and submit the parking offer by the published deadline. If you are not offered a permit for a particular term, you must reapply each term to be reconsidered. For more information, call Parking Services at (310) 825-9871.

Commuter Assistance-Ridesharing

The Commuter Assistance-Ridesharing (CAR) Office can help you find alternative means of transportation to and from campus other than driving alone in your car.

Many students form or join existing UCLA carpools and vanpools to save time and money and make the daily commute more pleasant. A carpool matchlisting service is free to all students and can be requested by contacting CAR at (310) 794-RIDE. Students who form a three-person carpool may apply for a student carpool permit through Parking Services (310-825-9871). There are over 100 vanpools serving over 65 communities throughout Southern California. Students can sign up for vanpools on a full-time (month-to-month) or part-time (occasional) basis. To find out whether a vanpool currently operates from your area, check the vanpool coordinator at (310) 794-RIDE.

An Emergency Ride Home (ERH) program has been developed to aid full-time UCLA vanpoolers and qualified part-time vanpoolers in the event of an emergency or other unscheduled need to get home quickly. The service consists of three options — night rider vans which are vans which arrive on campus at 9 and 9:30 a.m. and leave at 6 or 7 p.m., overnight rental car service, and emergency carpool matchlist service. For detailed information, contact CAR at (310) 794-RIDE.

Public bus lines connect UCLA to Santa Monica, Culver City, Beverly Hills, and most of the greater Los Angeles area. Bicycles, mopeds, and motorcycles are other popular ways to get to campus; several bike paths in the local area make your ride easier and safer, and there are special parking areas on campus specifically marked and equipped for these vehicles.

All of these transportation alternatives are described in the UCLA Commuter Guide, a booklet which also contains a carpool matchlist form, information on public bus routes, and helpful hints on getting to UCLA without using your car. It is available at the Commuter Assistance-Ridesharing Office (555 Westwood Plaza, Structure 8, Suite 200). CAR is open weekdays from 7:30 a.m. to 6 p.m. (310-794-RIDE).

ASUCLA

Every registered UCLA student is a member of the Associated Students of UCLA (ASUCLA), one of the nation's largest such enterprises in terms of size, scope, and range of programs. The undergraduate and graduate student governments are integral parts of ASUCLA, which supports the following activities and services.

Food Service

ASUCLA operates the food service on the general campus and provides a number of innovative menu options at a variety of locations. Catering for special events is also available. Hours listed are for regular school sessions and vary during the summer and holiday periods.

BOMBSHELTER DELI AND BURGER BAR — This unique food service in the center of the Court of Sciences offers an assortment of traditional deli sandwiches, snacks, rice bowls, sushi, broiled hamburgers and chicken, and salads at reasonable prices. Hours are weekdays 7:30 a.m. to 5 p.m. (4 p.m. Friday).

CAMPUS CORNER — The oldest of the ASUCLA food facilities, Campus Corner is located just across Bruin Walk from Kerckhoff Hall. Taco Bell Express is on the north side, while the south side is being remodeled to
offer a 1950s-style cafe menu of burgers, fries, and shakes. Hours are weekdays 7:30 a.m. to 5 p.m.

**COOPERAGE** — On the A Level of Ackerman Union, the Cooperage offers Mexican food, pizza, grill items, gourmet salad bar, pastries, gourmet coffees, soft ice cream, and pocket sandwiches. A stage and sound system for live entertainment and a large-screen TV for major events are available. Hours are weekdays 9:30 a.m. to 10:30 p.m., Saturday 11 a.m. to 10:30 p.m., Sunday 11 a.m. to 10 p.m.

**KERCOff COFFee HOUSE** on the second floor of Kerckhoff Hall, offers Baskin-Robbins ice cream specialties and a variety of teas, coffees, fresh pastries, and potages (hearty soups). Live entertainment is featured Tuesday, Thursday, and Friday nights. Hours are weekdays 7 a.m. to midnight, weekends 10 a.m. to 11 p.m.

**LU VALLE Commons**, located between the Anderson Graduate School of Management and the School of Law, features deli food, international entrees, hamburgers, and other grilled specialties. Hours are weekdays 7:30 a.m. to 9 p.m. (8 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday 11 a.m. to 8 p.m.

Within Lu Valle Commons is Jimmy’s Coffee House, featuring specialty beverages, cheesecakes, and desserts. Hours are weekdays 7 a.m. to midnight (9 p.m. Friday), Saturday 9 a.m. to 9 p.m., Sunday 10 a.m. to 10 p.m.

**NORTH CAMPUS STUDENT CENTER** — This facility, just southwest of the Research Library, offers a variety of Mexican entrees, frozen yogurt, fresh-baked cookies, pizza, deli and garden sandwiches, a wide selection of international-style entrees, hamburgers, and a salad bar. North Campus is open for breakfast, lunch, and dinner. Hours are weekdays 7 a.m. to 10 p.m. (8 p.m. Friday), Saturday 9:30 a.m. to 6 p.m., Sunday 11 a.m. to 8 p.m.

**TREEHOUSE** — Located on the first floor of Ackerman Union, the Treehouse offers a wide variety of choices. Tout de Suite has candy by the pound and frozen yogurt. Panda Express features quick-serve Asian specialties. Hansen’s fresh fruit juices and smoothies are served at the Tropix beverage bar. On the east side of the dining room, the servery offers entrees and sandwiches, including ranch-fried chicken, chili, Italian-style dishes, deli salads, and traditional American favorites. The Treehouse servery is open weekdays 7 a.m. to 3 p.m. Hours vary for Tout de Suite, Tropix, and Panda Express; they generally are open later than the servery and on weekends.

**Students’ Store**

The ASUCLA Students’ Store, the largest on-campus retail store in the nation, operates five campus locations. The oldest location, the Ackerman Union Students’ Store (B Level of Ackerman Union, 310-825-7711), is undergoing seismic renovation, so some store departments are operating out of temporary quarters this year. Textbooks for most undergraduate and graduate programs are located in the Plaza Building, diagonally across from Ackerman Union. Other books, including reference, fiction, technical, and study aids, are stocked in the Bookzone on the A Level of Ackerman Union. Still on B Level are school and art supplies, calculators and other electronic items, UCLA insignia merchandise (Bearwear), men’s and women’s sportswear, and convenience store items. The Computer Store (on B Level) administers the University’s computer purchase program; Macintosh and IBM computers are available to students, faculty, and staff at discounts up to 40 percent. Educational editions of software are discounted as much as 75 percent off retail prices. Hours during regular school sessions are weekdays 7:45 a.m. to 7:30 p.m. (6 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday noon to 5 p.m.

The Health Sciences Store on the first floor of the hospital (13-126 CHS, 310-825-7721) specializes in books and supplies for students in dentistry, medicine, public health, and related areas. The **Lu Valle Commons Students’ Store** (just north of the School of Law, 310-825-7238) carries convenience items, magazines, and books, as well as textbooks for selected graduate programs (law, management, architecture, urban planning, social welfare). A dry cleaning service and copy center are also available. The **North Campus Shop** (in the North Campus Student Center, 310-206-0751) is a small convenience store offering snacks and stationary items. The **Hill Top Shop** (in Delta Terrace, Sunset Village, 310-206-4306) carries items specifically for dorm residents, including laundry detergent, closet organizers, and groceries. An automatic teller machine and photocopier are also available.

**Lecture Notes/Academic Publishing Service**

**Lecture Notes** is a subscription service that publishes concise weekly summaries of about 130 of UCLA’s large lecture classes. Notes can be picked up in the Ackerman Union Students’ Store (B Level of Ackerman Union, 310-206-0882). **Academic Publishing Service** (second floor of Ackerman Union with Graphic Services, 310-825-2831) reproduces course materials for professors, obtaining 5,000 copyright authorizations each year.

**Job Opportunities on Campus**

ASUCLA reserves over 2,500 part-time jobs for UCLA students in food service, the students’ stores, Graphic Services, Travel Service, the student union, and other departments. Listings are posted outside the Personnel Office, 205 Kerckhoff Hall (310-825-7055).

The residence halls offer a number of positions, as do the University libraries; check at the residences and the Personnel Office in the University Research Library (310-825-7947). Other on-campus jobs may be available through the Placement and Career Planning Center (see “Student Services” later in this chapter).

**Campus Photo Studio**

Yearbook portraits, portrait photography, and passport photographs are available from the Campus Photo Studio (second floor of Ackerman Union, 310-206-0889), as are film, darkroom supplies, and discount photofinishing. Hours are weekdays 8:30 a.m. to 5:30 p.m.

**Check Cashing/Banking**

Cash is available via on-campus automatic tellers. On the A Level of Ackerman Union are automatic tellers for Bank of America, First Interstate Bank, and Wells Fargo Bank. Great Western Bank and Bank of America have automatic tellers on the patio between Campbell Hall and the North Campus Student Center. The Hill Top Shop in Delta Terrace has a Wells Fargo Bank automatic teller, and there is a First Interstate Bank automatic teller at the Health Sciences Store. Automatic tellers give access to the Star, Plus, or Cirrus network, but most banks charge fees for network access.
Students, faculty, and staff with current UCLA identification may also write checks for $20 over the amount of purchase at all Students' Store locations; a $2 minimum purchase is required.

**Bruin Gold**

Bruin Gold is a program that lets UCLA students use their official photo Student I.D. Cards as debit cards. You make a deposit ($20 minimum) into a Bruin Gold account linked to your photo I.D. Then your photo I.D. can be used for payment at virtually all ASUCLA locations — Students' Stores, Food Service, Travel Service, and Graphic Services. Thousands of students use Bruin Gold instead of credit cards or checks. Unlike credit cards, Bruin Gold helps you keep track of expenses — the current balance shows on the card reader after each transaction. Unlike checks, Bruin Gold can be used for small purchases, even those under $1. For complete information, contact the Bruin Gold Office on the first floor of Ackerman Union, (310) 825-2336.

**Graduation Et Cetera**

Caps and gowns may be purchased (bachelor's degree) or rented (advanced degrees) at Graduation Et Cetera in the Ackerman Union Student's Store (B Level of Ackerman Union, 310-825-2587). Graduation announcements, diploma mounting, and other services are also offered. Hours during regular school sessions are weekdays 7:45 a.m. to 7:30 p.m. (6 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday noon to 5 p.m.

**Graphic Services**

ASUCLA Graphic Services (second floor of Ackerman Union, 310-206-0894) is the campus center for printing, copying, typesetting, and other graphic services. Hours are weekdays 8:30 a.m. to 5:30 p.m. A smaller Graphic Services Center is located downstairs in Lu Valle Commons (310-825-7568).

The Graphic Services Ackerman Union office features a public fax machine and the Computer and Laser Rental Service (310-206-8454). Macintoshes and an IBM-compatible computer are available for hourly rental; term papers, newsletters, and flyers may be output on Postscript laser printers. A Linotronic 500 imagesetter for high-resolution work and a color thermal printer are also available.

**Meeting Rooms**

A variety of meeting rooms is available for use by the entire campus community. To reserve space in Ackerman Union, Kerckhoff Hall, or Lu Valle Commons, contact the Student Union Operations Office on the A Level of Ackerman Union (310-206-0836).

**Shipping**

The ASUCLA Service Center (211 Plaza Building, 310-825-2423) offers shipping via UPS and Federal Express. Hours are weekdays 9 a.m. to 4:30 p.m.

**Travel Service**

The ASUCLA Travel Service, located on the A Level of Ackerman Union (310-825-9131), offers a wide range of domestic and international airline flights and rail tickets, land arrangements and charter packages, student tours, and other travel-related services. Students may call UCLA-FLY (310-825-2359) for reservations. Hours are weekdays 8:30 a.m. to 6 p.m., Saturday noon to 4 p.m.

**Student Activities**

The opportunities to participate in extracurricular activities at UCLA are virtually unlimited. Though it is impossible to list all the activities here, the following are just a few of the many ways you can get involved in campus life and expand your horizons beyond classroom learning.

**Student Government**

In addition to its Services and Enterprises division, which is responsible for the services described above, ASUCLA includes the Undergraduate Students Association, the Graduate Students Association, and the Communications Board, which publishes the Daily Bruin and other campus student publications. Governed by a student-majority Board of Directors, ASUCLA operates and manages Ackerman Union, Kerckhoff Hall, North Campus Student Center, and Lu Valle Commons.

Many facets of student life at UCLA are sponsored or organized in some way by student government. Getting involved in the decision-making process can be extremely rewarding and can offer avenues of expression you may not find in other aspects of your university experience.

**Undergraduate Student Government** — The Undergraduate Students Association (USA), with offices in Kerckhoff Hall (310-825-7068), is governed by the Undergraduate Students Association Council. USAC administers the association's operating budget through a network of seven student commissions (Academic Affairs, Campus Events, Community Service, Cultural Affairs, Facilities, Financial Supports, and Student Welfare).

Many student government programs benefit both campus and community. The Community Service Commission (310-825-2333) serves Los Angeles through more than 20 programs such as Amigos del Barrio, offering academic and emotional support for Latina/Latino students; the UCLA Prison Coalition, providing tutoring for inmates of juvenile correctional institutions; and the UCLA Special Olympics, to name just a few. Over 2,500 students offer their services on a volunteer basis.

Student government also supports approximately 20 student advocacy groups on campus, such as the African Student Union, American Indian Students Association, Asian Pacific Coalition, Gay and Lesbian Association, International Students Association, MECHA, UCLA Jewish Student Union, and the Union of Students with Disabilities.

The Campus Events Commission (310-825-1958) provides the campus with free and low-cost entertainment programming, as well as opportunities for student involvement. The commission is responsible for the Speakers and Concert Programs, the Ackerman Film Program, and Mardi Gras.

The ASUCLA Library (304D Kerckhoff Hall, 310-206-7997; E-mail: library@asucla.ucla.edu) houses materials related to students and campus governance and aims to enhance understanding among students about University issues and to increase student involvement within the UCLA community.

**Graduate Student Government** — The Graduate Students Association is the official organization representing the interests of UCLA graduate students in academic, administrative, campus, and statewide areas. GSA appoints or elects graduate student members to important campus organizations and committees, including the ASUCLA Board of Directors and the Student Fee Advisory Committee, as well as to departmental student organizations and committees of the Academic Senate. In addition, GSA sponsors various graduate student journals, programs, and social events, including Melnitz Movies (UCLA student film program), GSA also maintains an electronic mail listserv for graduate student government bulletins, agendas, and general graduate student information. The GSA Office is located in 301 Kerckhoff Hall (310-206-8512; E-mail: gsa@asucla.ucla.edu).

**Clubs and Organizations**

Joining a club or organization is a wonderful way to become involved on campus. UCLA currently has about 500 different registered organizations — more than you will find on almost any other university campus in the country. Political, recreational, community service, cultural, academic, religious, and residential clubs can be found at UCLA. And it only takes three people to start your own if you can't find one that suits your interests.
Clubs focusing on sports and recreation are listed in the Department of Cultural and Recreational Affairs, located in the Wooden Center (310-825-3701). For a full listing of registered organizations, contact the Center for Student Programming (CSP), 337 Plaza Building (310-825-7041). This office can help you start a club or join an existing one, and serves as the official registry for all campus organizations. CSP assists students with program and leadership development and fund-raising, interprets and enforces University rules and regulations, and administers official and general purpose bulletin boards on campus.

All student organizations are eligible to use the services of Student Event Management (SEM), located in 337 Plaza Building (310-825-6690). SEM offers technical and logistical consulting for student events, including cost estimates and event management.

Complaints Against Student Organizations
Complaints of misconduct against officially recognized student organizations may be made at the Center for Student Programming (337 Plaza Building), Student and Campus Life (1104 Murphy Hall), or the Office of the Dean Students (1206 Murphy Hall).

Fraternities and Sororities
The 50 Greek letter social organizations and their four governing councils — Asian Greek Council, Interfraternity Council (IFC), National Pan-Hellenic Council, and Panhellenic Council — are sponsored by a component of the Center for Student Programming — Fraternity and Sorority Relations (FSR), 118 Men's Gym (310-825-6322).

Greek letter social organizations registered and officially recognized by FSR are eligible to participate in programs such as the Greek Leadership Conference, Membership Recruitment, Greek Week, New Member Forums, Dating Expectations Programs, intramural tournaments, and all University-sponsored programs. Individual student members of IFC and Panhellenic Council are eligible for scholarships offered by the Intersorority Mothers' Club, Los Angeles Alumnae Panhellenic, and their own councils. The FSR staff assists organizations in campus and community programming, fund raising, membership recruitment and development, training, and philanthropic activity.

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

Fraternities and sororities provide the security of friendship and academic support while encouraging personal development and expansion. Members have group and individual responsibilities related to their particular interests and talents, and all take part in the group's programs and support networks. "Greeks" follow their founding principles of service, scholarship, and friendship. There is a place for anyone who will contribute to a group experience, and the cost to live in a chapter house is no more than living in a campus residence hall, although many members "live out" (not all chapters have houses). More than 3,000 UCLA students participate in "Greek life."

Fraternities

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Mardi Gras

UCLA's annual Mardi Gras is the world's largest student-operated collegiate activity. Each Spring Quarter over 5,000 Bruins from all types of campus organizations help to prepare and present this carnival. Students design and operate more than 70 booths featuring games, food, and live entertainment. There are celebrity judges, carnival rides, clowns, balloons, fireworks, and much more. Mardi Gras is open to the campus community on Friday evening; the public is invited during the day on Saturday and Sunday.

The event generates about $60,000 annually for UCLA's official charity, UniCamp, a summer camp for underprivileged Los Angeles children. For more information, contact the Mardi Gras Committee in 346 Plaza Building (310-825-8001) or the Campus Events Commission in 300A Kerckhoff Hall (310-825-1958).

UCLA Campus Events Speakers and Concert Programs

The Speakers Program, now over 25 years old, brings the world's foremost entertainers, politicians, and literary figures to campus. It also presents two annual awards programs — the Jack Benny Award for comedic excellence and the Spencer Tracy Award for outstanding screen performance. Past speakers and awardees have included Johnny Carson, David Letterman, Whoopie Goldberg, John Cleese, Robin Williams, Jessica Lange, James Stewart, Spike Lee, William Hurt, Patricia Schroeder, Jesse Jackson, Matt Groening, Studs Terkel, Shimon Peres, Walter Cronkite, Dustin Hoffman, Candice Bergen, and Denzel Washington.
The Concert Program brings new and name performing artists like the Talking Heads, Guns N' Roses, 10,000 Maniacs, Public Enemy, and Hammer to UCLA for free and affordably priced concerts at noon in Westwood Plaza and at night in the Cooperage and Ackerman Grand Ballroom.

Publications and Broadcast Media

UCLA's publications and broadcast media, operated by the ASUCLA Communications Board, provide excellent training ground for aspiring writers, journalists, photographers, and radio announcers while serving the communication needs of the campus community. The following are the major student-operated sources of information on campus:

The Daily Bruin, with a circulation of 22,000, 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 regular academic year (once a week during the summer) and is distributed free from kiosks around campus and in Westwood and Brentwood. Students work as reporters, editors, designers, photographers, and advertising sales representatives; new staff members are always welcome. Bruin offices are located in the Alumni Lounge (227 Kerckhoff Hall; 310-825-9998).

Seven newsmagazines reflecting the diversity of the campus community are published twice each term. Al-Talib is a publication devoted to Muslim issues; Ha'Am deals with Jewish issues; La Gente treats Chicano, Latino, and Native American issues; Nommo explores African issues; Pacific Ties is devoted to Asian issues; TenPercent covers gay, lesbian, and bisexual issues; and Together reports on women's issues. Each includes news and features on political and cultural affairs both on and off campus. Prospective staffers are welcome. The offices of these newsmagazines are located in 210 Kerckhoff Hall.

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The UCLA yearbook, Bruin Life, is one of the largest student publication efforts on campus. Available each spring, it contains photographs and information on undergraduate students, graduating seniors, athletic teams, fraternities and sororities, and campus activities. A separate publication, the Freshman Record, is produced for new UCLA students. If you would like to participate, contact the yearbook staff in 212K Kerckhoff Hall (310-825-2640).

Like many other large universities, UCLA has its own radio station. KLA Radio provides music, news, public service programming, and sports coverage during the academic year. The carrier current signal is sent to the residence halls and parts of Ackerman Union and Kerckhoff Hall on 530 AM and to many parts of the Los Angeles area on 99.9 Century Cable FM. The studios are located at the rear of the Grand Ballroom in 2400A Ackerman Union (310-825-9107; request line: 310-825-9999). All positions, including on-air, news staff, and advertising representatives, are open to students.

The Performing Arts

UCLA offers a rich variety of concerts, art exhibits, dance recitals, and theater productions as an integral part of University life. A full calendar of exceptional programs by the Music, Ethnomusicology and Systematic Musicology, and Dance Departments of the School of the Arts and the Theater and Film and Television Departments of the School of Theater, Film, and Television provides opportunities for student involvement and personal growth.

The Music Department offers more than 15 performance organizations. Instrumentalists are invited to play with one of seven different bands and orchestras. Campus choral organizations include a Concert Choir, Chamber Singers, Women's Chorus, Men's Glee Club, and the Collegiate Chorus which, with 120 members, is the largest of the groups.

The Ethnomusicology and Systematic Musicology Department provides students with the opportunity to perform in various non-Western and ethnic groups.

The Dance Department presents afternoon and evening modern dance concerts and demonstrations both on and off campus, and folk and ethnic performing groups meet regularly. Dance students have the opportunity to design and choreograph as well as perform.

Each year the Theater Department presents a series of major productions to the general public, and the Film and Television Department produces about 300 student-directed films in addition to hundreds of television programs. Professionals appearing on campus frequently visit classes to share their skills, and many have established awards and scholarships in the performing arts at UCLA.

Be a Spectator

Since its founding in 1936, the UCLA Center for the Performing Arts has served as the premier West Coast showcase for world-class performers and innovative new work in dance, music, theater, and performance art. The center stages more than 250 public concerts and events each year, often sponsoring debut performances of new works by major artists. The PAC presents about 250 live performances from the most outstanding touring companies and leading artists in all performing arts disciplines each year. Through the center, UCLA's Royce Hall hosts a varied and active performance program, ranging from regular concerts by the Los Angeles Chamber Orchestra to special appearances by Luciano Pavarotti, Mascarello, Isaac Stern, performance artist Karen Finley, Kathleen Battle, Bella Lewitzky Dance, and Branford Marsalis. Discount tickets for students, faculty, and staff are available to all events.
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. In 1993-94 the UCLA athletic programs (men and women) placed third in the Sears 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 past nine years. UCLA is the only university in the country to win five National Collegiate Athletic Association (NCAA) men's and women's championships in a single year (1961-82).

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 56 NCAA men's championships — second highest in the nation — including 15 in tennis, 14 in volleyball, 10 in basketball under the legendary John Wooden, and eight in track and field. In addition, the soccer team won the 1990 NCAA title. You can participate on the varsity level in football, basketball, track, baseball, tennis, volleyball, water polo, golf, soccer, and cross-country. For more information, contact the Men's Athletic Office at (310) 825-8699.

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 13 NCAA titles — third highest in the nation — including the 1981-82, 1983-84, 1984-85, 1987-88, 1988-89, 1989-90, and 1991-92 NCAA championships in softball, the 1981-82 and 1982-83 track and field crowns, the 1984, 1990, and 1991 volleyball titles, and the 1991 golf title. Other nationally ranked teams are those in basketball, swimming, tennis, cross-country, soccer, and gymnastics. Beginning this year, you can also participate in water polo. For more information, contact the Women's Athletic Office at (310) 825-8699.

INTERCOLLEGIATE ATHLETIC FACILITIES — UCLA's major indoor arena is the famed Pauley Pavilion, which seats 12,543 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 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. The Morgan Intercollegiate Athletics Center houses the UCLA Athletic Hall of Fame. Off-campus facilities include Robinson Stadium for varsity baseball and the renowned Rose Bowl in Pasadena, home of the UCLA football team.

Campus Recreation

UCLA offers a wide variety of recreational opportunities to meet the needs of the campus community. The Department of Cultural and Recreational Affairs (CRA), 2131 Wooden Center (310-825-3701), serves as the administrative center for the coordination of programming, facilities, and equipment and supervision of campus recreational activities and services.

INTRAMURAL/CLUB SPORTS — The Intramural Sports Program offers over 40 activities, ranging from basketball and badminton to volleyball and water polo, in men's, women's, and coed competition with team and individual play; many are divided by skill levels so participants of any ability level can get involved. The Club Sports Program offers you the chance to organize, coach, or participate in sports that fall beyond the scope of intramurals but are not offered at the varsity level. Annually over 18 club teams participate in a competitive schedule of league and tournament play with other college, university, and local area teams.
Recognized teams exist in ice hockey, men's and women's rugby and lacrosse, cycling, rowing, waterskiing, sailing, snow skiing, and surfing.

RECREATION CLUBS — Students with special interests in activities that are primarily instructional or social in nature have the opportunity to pursue their interests through clubs such as amateur radio, dance, fishing, snow skiing, and a variety of martial arts.

RECREATION CLASS PROGRAM — A broad range of noncredit recreation classes is available in aquatics, dance, fine arts, outdoor studies, fitness, tennis, and sports skills. Most classes are designed for beginning and intermediate skill levels. You can also participate in cultural events through art exhibitions, the poetry reading program, museum tours, and theater in Los Angeles outings.

BRUIN KIDS — Summer and winter day camps, recreation classes, enrichment programs, and year-round weekend activities are offered for children of the UCLA community aged four to 16. Employment opportunities for UCLA students and a chance to work with children in a learning environment are provided through the Bruin Kids Program.

RECREATION FACILITIES/INFORMAL RECREATION — A popular attraction of CRA is the opportunity for independent recreation and exercise. UCLA students with appropriate identification have several major facilities in which to practice and play. The Wooden Recreation and Sports Center is a comprehensive student activities building with multiple gymnasiums, 10 racquetball/handball courts, two squash courts, a weight training facility, exercise/dance and martial arts rooms, and a games lounge. The Sunset Canyon Recreation Center offers year-round activities in an outdoor park setting and features a 50-meter swimming pool, 25-yard family pool, picnic/barbecue areas, multipurpose play fields, an outdoor amphitheater, 10 lighted tennis courts, and various meeting rooms and lounges. The UCLA Aquatic Center in Marina del Rey offers sailing, windsurfing, and rowing classes and activities, as well as the opportunity to sail or row on your own. The competitive sailing and rowing club teams are administered through the center. Students also have the use of Pauley Pavilion, Drake Stadium, Sycamore Tennis Courts, Los Angeles Tennis Center, Intramural Fields, Men's Gym, and Dance Building for recreational sports and activities.
Student Services

UCLA students enjoy an extremely broad range of benefits and support services which enrich their college careers and help them attain their academic and career goals.

Academic Counseling

Many sources of academic counseling are available. Faculty advisers and counselors in each college and school help students with major selection, program planning, academic difficulties, degree requirements, and petitions for exceptions to these requirements. Advisers in each major department counsel undergraduates concerning majors offered and their requirements, and possible career and graduate school options (see "Academic Resources and Assistance" in Chapter 2 of this catalog). In addition, special graduate advisers are available in each department to assist prospective and currently enrolled graduate students.

Placement and Career Planning Center

The Placement and Career Planning Center (PCPC) offers career planning and employment assistance free to UCLA students. Services are located in the PCPC Building (310-825-2981) and in two satellite locations: EXPO Center (311 Plaza Building, specializing in local, national, and international internships, 310-825-0831) and Engineering and Science Career Planning Office in 5289 Boelter Hall (specializing in engineering and the physical sciences, 310-825-4606).

Career Planning and Exploration—Career advisers and counselors provide assistance in selecting your 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 and cooperative education programs can assist you in exploring different career possibilities, making important professional contacts, and obtaining valuable on-the-job experience. The Career Resources Library offers a collection of over 2,000 career-related books and directories, videos, periodicals, and other materials. In addition, PCPC offers workshops, seminars, and group meetings on a variety of career-related topics; many are repeated several times each term.

Employment Assistance—If you need extra money to finance your college degree, you will find a large volume of part-time, temporary, and seasonal employment leads at PCPC. Information on room and board opportunities in exchange for work also is available. 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 on-campus interviews for positions in corporations, government, non-profit organizations, elementary and secondary schools, community colleges, and four-year academic institutions.

Student Health Service

The Student Health Service (SHS) is an outpatient clinic designed especially for UCLA students. Because it is supported by your registration fees, your current Registration Card and a photo I.D. are required for service. Most services are prepaid by your registration fees, and you may be seen by appointment or on a walk-in basis. Call (310) 825-4073 for the most up-to-date fee information. 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 you withdraw during a school term, all SHS services will continue to be available on a fee basis for the remainder of that term, effective from your date of withdrawal.

The cost of services received outside of SHS (e.g., the Emergency Room) is your financial responsibility. You are strongly encouraged to purchase supplemental medical insurance either through the UCLA-sponsored Medical Insurance Plan (see below) or other plans that provide adequate coverage. For more information on SHS, call (310) 825-4073.

Location and Hours—General and emergency SHS care is available in A2-130 Center for the Health Sciences. Office hours weekdays are 8 a.m. to 5 p.m. except Tuesday, when service begins at 9 a.m. A satellite clinic is located along Bruin Walk between Gates 10 and 11 in Pauley Pavilion (310-825-5704). For emergency care when SHS is closed, you may obtain treatment at the UCLA Medical Center Emergency Room or UCLA Family Practice on a fee-for-service basis.

Primary Care Clinic provides outpatient diagnoses and treatment for most health care needs of both men and women. Care is provided by board certified physicians and nurse practitioners. Though complete physicals are available for a fee, a prepaid "Well Exam" is available if you have general health questions or concerns. You are encouraged to select a clinician who will provide ongoing health care. Call (310) 825-2483 to schedule an appointment.

Specialty clinics provide specialized care when you are referred by the Primary Care Clinic. Services include dermatology, orthopedics, surgery, gynecology, internal medicine, allergy, ENT (ear, nose, and throat), ophthalmology, urology, and neurology. Health clearances, immunizations, and travel shots are available for a moderate fee. Call (310) 825-0851.

Women's Health Service offers comprehensive health care and counseling. Services include routine gynecological examinations, evaluation of gynecologic problems, abnormal pap smear evaluation and treatment, contraception, and pregnancy testing. Counseling for relationships and sexual concerns is also available. Call (310) 825-0854 for appointments and (310) 825-7000 to speak to clinicians.

Men's Health Clinic treats male genital and urinary problems, both sexual and nonsexual in nature. The clinic also provides sexual counseling for UCLA's male students. Call (310) 825-0851.

Dental Care arrangements are available. Call (310) 825-4073 for further information.

Health Education offers many types of services and programs that will interest, inform, and help you to lead a healthier lifestyle. Outreach programs, such as the Peer Health Counselor and Student Health Advocate Programs, provide peer care and educational counseling for health concerns. The programs allow students to be involved in the planning and delivery of many aspects of health care. Call (310) 825-4730.

Supplemental Medical Insurance—UCLA offers a student Medical Insurance Plan (MIP) which is available as a supplement to the services offered in SHS. MIP provides benefits for certain major medical expenses not covered by SHS, such as hospitalization, surgery, and emergency room costs. All international students (graduate and undergraduate) on nonimmigrant visas and all graduate students must maintain adequate medical insurance coverage during all periods of enrollment at UCLA. MIP fulfills the
Student Psychological Services

Student Psychological Services (SPS) offers short-term personal counsel and psychotherapy at two locations. The Mid-Campus Office is located in 4223 Math Sciences (310-825-0768); the South Campus Office is in A3-062 CHS (310-825-7985).

Psychologists, clinical social workers, and psychiatrists are available at both locations, offering assistance with situational stresses and emotional problems from the most mild to the most 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.

The service is confidential and free to regularly enrolled students. Students are seen individually or may choose from a number of groups offered each term. Appointments are made on weekdays between 8 a.m. and 5 p.m. Emergency counseling is also available.

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).

Helpline

UCLA Peer Helpline (310-825-HELP) is a crisis intervention and referral hot line staffed by UCLA students and staff members. You can call and talk to a trained peer counselor about school stress, relationship problems, loneliness, depression, drug problems, suicide, or anything else that is on your mind. Hours are weekdays 5 p.m. to midnight, Saturday and Sunday 8 p.m. to midnight. For more information, contact Clive D. Kennedy, Student Psychological Services, 4223 Math Sciences (310-825-0768).

Office of the Dean of Students

The Office of the Dean of Students, located in 1206 Murphy Hall (310-825-3871), exists to help you, either directly or by referral, with whatever needs you 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 also plays a role in administering campus discipline and applying the standards of citizenship which you are expected to follow at UCLA. Those 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. See "Student Conduct: Violation of University Policies" in the Appendix for more information.

Campus Ombuds Office

The ombudsperson is responsible for listening and responding to grievances or concerns from any member of the campus community (i.e., students, staff, faculty, administrators). Acting impartially, the ombudsperson may investigate unresolved grievances or facilitate the resolution of problems for which there are no established guidelines and may also, where possible and when requested by the grievant, assist in resolving an issue through mediation (including sexual harassment cases). The ombudsperson is empowered to recommend changes to the University Policies Commission and/or to the chancellor regarding University policies and procedures. The office is located in 1172 PCPC Building (310-825-7627), hours are weekdays 8 a.m. to 5 p.m.

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).

Established through the Campus Ombuds Office, the Conflict Prevention and Mediation Program (CPMP) is composed of a select group of students, faculty, and staff volunteers trained specifically to address diversity-related disputes. CPMP mediators specialize in conflicts dealing with issues of race, ethnicity, culture, sexual orientation, disability, and gender. The variety of conflict management services offered seeks to promote constructive interaction and dialogue through a culturally relevant, need-based, and community-centered approach. Services include designing and/or facilitating forums on topics of concern, serving as discussion facilitators, intervening as mediators in designated disputes, offering educational and skills-oriented workshops, providing conflict management assessment, and offering informational presentations on CPMP Services. They are neutral, independent of the administration, confidential, and free. For more information, call (310) 825-9840.

Student Legal Services

If you are a currently registered and enrolled student with a legal problem, you can get assistance free of charge from attorneys or law students under direct supervision of attorneys. They will help you solve legal problems, including those related to landlord/tenant relations, domestic relations, accident and injury problems, criminal matters, and contract and debt problems. Assistance is available by appointment only from 9 a.m. to 5 p.m. weekdays in 70 Dodd Hall (310-825-9894).

Central Ticket Office

Tickets for all UCLA events are available at the Central Ticket Office (CTO) in the West Alumni Center (310-825-2101). CTO also offers student discount tickets to campus athletic and cultural events and local motion picture theaters (current Registration and UCLA Student I.D. Cards must be presented at the time of purchase). You may also purchase tickets to off-campus events through Ticketmaster, as well as student discount tickets for RTD buses and tokens for the Santa Monica and Culver City bus systems.

Services for International Students

The Office of International Students and Scholars (OISS) and the International Student Center (ISC) provide services and programs for UCLA’s international community, particularly for 2,000 nonimmigrant students. A comprehensive orientation program for these students assists them in achieving their academic objectives. Programs throughout the year allow them to share their viewpoints with American students and the community.

The OISS staff, located in 105 Men’s Gym (310-825-1681), includes professional and peer counselors specially prepared to assist you with questions about immigration, employment, government regulations, financial aid, academic and administrative procedures, cultural adjustment, and personal matters. OISS is also a designated Sexual Harassment Information Center for international students, as well as a campus Harassment Information Center available to all UCLA students (see "Harassment" in the Appendix for more information).

OISS also provides visa assistance for faculty, researchers, and postdoctoral scholars.
The International Student Center, 1045 Gayley Avenue, Suite 200 (310-794-8138), seeks to improve student and community relationships and assists international students with language, housing, and personal concerns in addition to sponsoring cultural, educational, and social programs for UCLA students and community members. OISS and ISC frequently offer programs with interethnic and international themes.

Services for Students with Disabilities
The Office for Students with Disabilities (OSD), A255 Murphy Hall (Voice 310-825-1501 or TDD 310-206-6083), provides a wide range of academic support services to students with permanent or temporary disabilities in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Free support services include readers, note takers or purchased ASUCLA Lecture Notes, sign language interpreters, Learning Disabilities Program, special parking, registration assistance, fee deferments authorized by the California Department of Rehabilitation, on-campus transportation, campus orientation and accessibility, proctor and test-taking arrangements, tutorial referral, housing assistance, support groups, workshops, special materials, adaptive equipment, and referral to the Disabilities and Computing Program. Accommodations are varied and specifically designed to meet the disability-related needs of each student. All contact and assistance are handled confidentially.

The Disabilities and Computing Program (DCP) offers consulting and training on adapted computer equipment to assist students with disabilities in their academic work. Special equipment includes reading machines, voice-controlled computers, outlining software, large print monitors, and more. For further information, call Voice (310) 206-7133 or TDD (310) 206-5155.
Veterans' and Social Security Services

Academic Record Services, 1134 Murphy Hall, provides information for veterans and eligible dependents about VA educational benefits, tutorial assistance, the work-study program, and emergency loans; 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.

Women's Resource Center

The Women's Resource Center (WRC), located in 2 Dodd Hall (310-825-3945), offers services to all UCLA students, with special focus on women's needs.

The center presents workshops and support groups on many topics, including child care, self-defense, assertiveness training, rape prevention and education, career development, single parenting, health, returning to school, and personal relationships. 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 UCLA students 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. The WRC 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).

A library includes specialized publications on women's issues. Volunteer opportunities are offered in areas such as creative writing, legislative research, graphic arts, and publicity. The WRC, committed to improving the status of women on campus, works with other campus agencies to help women reach their full potential.

Child Care Services

Two Child Care Centers provide full- and part-time care for children two months to five years old. Fees range from $240 to $775 per month depending on the age of the child, the schedule selected, and the site chosen. A limited number of grants are available at the Bellagio center for eligible student families. The Bellagio center is located in the northwest corner of campus at Sunset Boulevard and Bellagio Drive; the female center is located at the corner of Stone Canyon Drive and Circle Drive North. A satellite day-care center for children two to five years old is located in the Colina Glen faculty housing area; priority is given to Colina Glen residents. Call (310) 825-5066 for more information.

The Outreach Program helps parents make off-campus child care arrangements. The program coordinator meets parents each Monday from noon to 1 p.m. in 2 Dodd Hall. For more information, call (310) 825-6474.

The University Parents Nursery School is a multicultural cooperative school for two- to five-year-old children of UCLA students, faculty, and staff; priority is given to students living in Family Student Housing. Experienced teachers, assisted by co-oping parents, provide a gradual transition from the home to the school environment. Hours are weekdays 7:30 a.m. to 5:30 p.m. Part-time spaces are available (the morning program ends at 12:30 p.m.). The nursery school is located in the UCLA Family Student Housing Community Center, 327 South Sepulveda Boulevard (310-397-2735).

Safety and Security

Emergency (Police, Fire, or Medical) — Dial 911 from any campus phone (do not dial an additional 9 to establish an outside line). For non-emergency information, contact the UCLA Department of Community Safety at 601 Westwood Plaza (310-825-1491).

Campus Escort Service — The Department of Community Safety provides a free escort service every day of the year from dusk to 1 a.m. Uniformed community service officers (CSOs) — specially trained UCLA students — are available to walk students, staff, faculty, and visitors between campus buildings and local living areas or Westwood Village. To obtain an escort, call (310) 825-1493 about 20 minutes before you need one.

Evening Van Service — The free service provides a safe and convenient mode of transportation around campus at night. Seven vans driven by CSOs operate Monday through Thursday from 6 p.m. to midnight and provide transportation between Ackerman Union, apartments on the west side of campus, Lot 32, the campus libraries, and the residence halls. For further information or a free brochure, call (310) 825-9800.

UCLA Rape Prevention and Education Services are co-sponsored by the Women's Resource Center and the Department of Community Safety. Services include workshops, self-defense classes, intake counseling, and referrals to offer practical safety suggestions, increase physical and psychological preparedness, and heighten awareness of the complex issues of rape and sexual assault. For more information, call (310) 206-8240 or the Crime Prevention Unit at (310) 825-7661.

CPR and Basic Emergency Care Courses — The Center for Prehospital Care offers medical education programs in basic emergency care and American Heart Association cardiopulmonary resuscitation (CPR) which can be organized most days and times. For more information or to schedule a course, call (310) 206-0176.

The Office of Environment, Health, and Safety (EH&S) provides for the health and safety of all UCLA faculty, staff, students, and visitors and ensures that UCLA operations do not have an adverse impact on the environment. In addition, EH&S promotes the University's compliance with applicable health, safety, and environmental regulations. For further information, call (310) 825-6689.

UCLA Alumni Association

Celebrating its sixtieth year of serving the UCLA community, the UCLA Alumni Association has nearly 60,000 members, making it one of the largest alumni groups in the nation. Whether you are 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 Homecoming Week, Spring Sing, class reunions, and the scholarship program. The Alumni Association was instrumental in developing the UCLA Bruins California license plate; all proceeds go directly to fund need-based scholarships administered by the association.

The association also offers a plethora of benefits and services. Members can make new friends, pursue lifelong learning, save money, and make a difference. Recently the association greatly expanded its career services program to meet the needs of members. UCLA graduates, Bruin parents, and friends of the University are invited to take advantage of all the association has to offer. It is located in the West Alumni Center, 325 Westwood Plaza (310-825-ALUM; 800-825-ALUM outside Los Angeles County).
Undergraduate Study
Undergraduate Admission

Applying for Admission

The first step in applying for admission is to obtain the UC Application for Undergraduate Admission and Scholarships containing all necessary forms and instructions from your California high school or community college counselor or from any University of California Undergraduate Admissions Office. One application is used to apply to all UC campuses. You apply to one UC campus for the basic $40 application fee; for each additional campus you select, you must pay an additional $40 fee.

Complete the application, taking care to list your desired major and the correct major code for the campus(es) to which you are applying. Mail the completed application and the nonrefundable application fee in the self-addressed envelope included in the application packet.

If you are in high school when you apply (freshman applicant), your self-reported application information is used to make preliminary admission decisions. Do not send your sixth and/or seventh semester high school transcripts. Once admitted, you must submit a final transcript, including a statement of graduation or proficiency, which will be used to verify your application information. You must submit official results of the Scholastic Assessment Test (SAT) or American College Test (ACT) and when you take each test. You should take these tests by the December test date, as they are part of the review process for admission.

If you have attended or are attending another college when you apply (transfer applicant), your self-reported application information is used to make preliminary admission decisions. Once admitted, you must submit official transcripts from all colleges and universities attended (high school transcripts may also be required), which will be used to verify your application information. Transcripts and other documents cannot be returned or forwarded to other institutions.

When to Apply

<table>
<thead>
<tr>
<th>Time</th>
<th>Application Periods</th>
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<tbody>
<tr>
<td>Winter Quarter 1995:</td>
<td>Closed to new applicants</td>
</tr>
<tr>
<td>Spring Quarter 1995:</td>
<td>File October 1-31, 1994 (If open to new applicants, junior-level applicants only)</td>
</tr>
<tr>
<td>Fall Quarter 1995:</td>
<td>File November 1-30, 1994 (Freshmen and transfers)</td>
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(Applications for admission to Fall Quarter 1994 were accepted only during November 1993.)

All majors are open for Fall Quarter. For Spring Quarter all majors in the College of Letters and Science, except communication studies and world arts and cultures, are open. Majors in the Schools of Engineering and Applied Science, Nursing, Arts, and Theater, Film, and Television are closed.

Notification of Admission

You will be mailed a notice from the UC Undergraduate Application Processing Service acknowledging receipt of your application. Later, you will receive a letter from the UCLA Office of Undergraduate Admissions and Relations with Schools regarding the admission decision. The length of time before admission notification varies. In general, Fall Quarter applicants are notified beginning March 1; Spring Quarter applicants are notified in mid-December.

If you are accepted for admission, you will be asked to sign and return a Statement of Intent to Register and a Statement of Legal Residence. A nonrefundable $100 deposit, also required at this time, will be applied to your University registration fee as long as you register in the term to which you are admitted.

Entrance Requirements

All campuses of the University of California have the same minimum freshman admission requirements. The requirements are based on two principles: (1) the best indicator of success at the University is a record of high grades in previous schoolwork and (2) the completion of certain academic courses in high school prepares you to begin University work and choose a general field of study.

Fulfilling the minimum admission requirements, however, does not necessarily assure admission to UCLA. The selection of applicants is based on demonstrated high scholarship in preparatory work, which often goes well beyond the minimum eligibility requirements. UCLA offers admission to those students with the best overall academic preparation.

In addition to the primary criteria for admission selection, other elements are considered to ensure a diverse student body which serves the interests of California. If you present evidence of educational and economic disadvantage or a disability, that will be taken into account. If you belong to an ethnic group which has low UC eligibility rates and historically low participation in higher education, that will also be taken into account. California residency is another factor. While these elements are given consideration, academic performance remains the key factor for admission to UCLA.

Admission as a Freshman

You are considered a freshman applicant if you have not enrolled in a regular session of any college-level institution since graduation from high school (except for summer session immediately following high school graduation). To qualify for admission as a freshman, you must meet three major requirements: the Subject Requirement, the Scholastic Requirement, and the Examination Requirement. These are the minimum requirements for admission to the University; meeting them does not automatically assure admission to UCLA.
Subject Requirement

Outlined below are the high school academic courses required for admission to the University of California. Each course must be completed with at least a grade of C. The requirement consists of 15 year-long courses, seven of which must be taken during your last two years in high school. These are the minimum courses required for admission; you are encouraged to exceed these requirements whenever possible.

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

2. **English** — Four years of college preparatory English that include frequent and regular writing, and reading of classic and modern literature. No more than two semesters of ninth-grade English can be used to meet this requirement.

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

4. **Laboratory Science** — Two years of laboratory science (three years are recommended) which provide fundamental knowledge in at least two of these areas — biology, chemistry, and physics. Laboratory courses in Earth/space sciences are acceptable if they have prerequisites or provide basic knowledge in biology, chemistry, or physics. No more than one year of ninth-grade laboratory science can be used to meet this requirement.

5. **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, and composition.

6. **College Preparatory Electives** — Two units, in addition to those required above, to be selected from the following subject areas: history, English, advanced mathematics, laboratory science, language other than English, social science, and visual and performing arts.

Scholastic Requirement

Eligibility for admission to the University of California is based on a combination of your grade-point average (GPA) in the academic subject requirements and your American College Test (ACT) or Scholastic Assessment Test (SAT) scores. For detailed scholarship information, see the UC publication *Introducing the University* or contact Undergraduate Admissions and Relations with Schools (UARS).

Examination Requirement

All freshman applicants must submit scores from the following tests:

1. Either the American College Test (ACT) composite score or the Scholastic Assessment Test I: Reasoning Tests (SAT I) total score.

2. Three Scholastic Assessment Test II: Subject Tests (SAT II) which must include
   a. Writing AND
   b. Mathematics, level 1 or 2, AND
   c. One additional test (either English literature, foreign language, science, or social studies).

You should take these tests by the December test date, as they are part of the review process. Request that test results be sent directly to UCLA when you 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 SAT I or ACT and the three SAT II tests, (3) quality, content, and level of coursework throughout your entire high school program, including your senior year, and (4) number of and performance in honors and advanced placement (AP) courses.

You should take as many honors and advanced placement courses as possible and should try to exceed the minimum academic subject requirements in all subjects, particularly mathematics, laboratory sciences, and foreign languages. High test scores are necessary in conjunction with strong performance in classes and a consistent pattern of academic courses. Overall performance must be well above average.

For detailed information on admission requirements for freshman students, see the UC publication *Introducing the University* or contact UARS.

Admission as a Transfer Student

You are considered a transfer applicant if you 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. You may not disregard your college record and apply for admission as a freshman. Priority is given to junior-level applicants. If you wish to transfer to UCLA, you should follow these general guidelines:

The number of advanced standing students applying to UCLA has increased significantly during the last several years. Students admitted to the University exceed the minimum University of California transfer eligibility requirements, and those with the strongest preparation and performance are offered admission.

In accordance with the Master Plan for Higher Education, UCLA gives first preference 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.

The academic criteria are as follows: grade-point average (GPA) 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. Applicants who have completed the English composition and mathematics requirements as early as possible in their academic program and who will have 90 transferable quarter units by the time they enroll in the University receive priority admission consideration.

For more detailed information on admission requirements for transfer students, see the UC Application for Undergraduate Admission and Scholarships and the UC Answers for Transfers booklet or contact UARS.
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. Obtain the UC Application for Undergraduate Admission and Scholarships and submit the required application fees with the application form. The filing periods are the same as those for new applicants (see “When to Apply” at the beginning of this chapter). If you have attended another UC campus and wish to be considered for admission to UCLA, you must have been in good standing when you left that campus. Intercampus transfers are not automatic; you must compete with all other applicants.

Senior-Level Applicants
Students attaining senior standing are not generally admitted by the University.

Second Bachelor’s Degree Applicants
By policy, second bachelor’s degrees are not generally granted by the University, except in the School of Nursing.

Transfer Credit and Credit by Examination
The University gives 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 the Office of Undergraduate Admission and Relations with Schools (UARS). All courses which meet the criteria are used in determining your eligibility for admission. (To convert semester units into quarter units, multiply the semester units by 1.5 — e.g., 12 semester units x 1.5 = 18 quarter units.)

College credit for examinations given by national testing services is generally not allowed, except for the Advanced Placement (AP) Tests given by the College Board and the International Baccalaureate. Contact UARS for more information.

Applicants from Other Countries
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 which would enable them to be admitted to a university in the home country.

Your 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 (see “When to Apply” at the beginning of this chapter). This will allow time for the necessary correspondence and, if you are admitted, to obtain your passport visa.

Students whose native language is not English must have sufficient command of English to benefit from instruction at UCLA. To demonstrate that command, you are required to take the UCLA English as a Second Language Placement Examination (ESLPE). Depending on your ESLPE results, you may have to complete one or more English as a second language courses. In addition, you are advised to take the Test of English as a Foreign Language (TOEFL) as a preliminary means of testing your ability. Make arrangements for this test by writing to the Educational Testing Service, 1947 Center Street, Berkeley, CA 94704. Have your test results sent directly to the UCLA Office of Undergraduate Admissions and Relations with Schools.

Mandatory Medical Insurance Requirement
UCLA requires, as a condition of registration, that all international students on nonimmigrant visas have adequate medical insurance coverage during all periods of enrollment. See “Mandatory Medical Insurance Requirement for International Students” in the “Undergraduate Registration and Enrollment” section later in this chapter for a description of what constitutes adequate medical insurance. Most travel insurance plans are NOT acceptable; medical insurance plans from foreign countries (including Canada) also are NOT acceptable.
Undergraduate Registration and Enrollment

Information:
Registration/Enrollment Office
1113 Murphy Hall
(310) 825-1091

Detailed information on registration (fee payment) and enrollment procedures is contained in the quarterly Schedule of Classes, available for purchase at the Students' Store several weeks before the beginning of each term. To obtain a copy by mail, write to ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, CA 90024-1645, Attn: Mail Out. Include a check or money order for $4.50 payable to ASUCLA.

Registration consists of paying fees and enrolling in classes. The UCLA Billing Statement, mailed monthly to your UCLA mailing address by the Student Accounting Office, is used to pay registration fees and other University charges. Enrollment in classes is completed through URSA (University Records System Access). You must complete both processes by the established deadlines to be officially registered and enrolled for the term.

Payment is required of all eligible students by the applicable deadlines. Payments may be mailed or deposited in the Main Cashier's Drop Slot (1125 Murphy Hall). Payments submitted after the published deadline must be made in person at 1125 Murphy Hall and will be assessed an additional $50 late payment fee. Students on financial aid may be eligible for a waiver of the $50 fee if funds are delayed by the University.

Mandatory Medical Insurance Requirement for International Students

UCLA requires, as a condition of registration, that all international students on nonimmigrant visas have adequate medical insurance coverage during all periods of enrollment.

UCLA offers a student Medical Insurance Plan (MIP) which fulfills the requirement. For undergraduates the MIP fee appears as a voluntary requirement. For further information on MIP or adequate medical insurance requirements, call the SHS Insurance Office at (310) 825-1856.

Enrollment in Classes

The quarterly Schedule of Classes contains up-to-date listings of class times, meeting rooms, instructors, and all information necessary for enrolling in classes. Using the Schedule and with the aid of academic counseling from your school or college advisers, you can assemble a program of courses (see "Choosing Your Major" and "Planning a Program later in this chapter). You should plan two or three alternate programs in case your first choice of courses is not available. You may not choose two courses in the same final examination group and should not select classes that conflict in meeting times. If conflicts are unavoidable, consult with the instructor of each course at the first class meeting.

University Records System Access (URSA)

URSA (310-208-0425) enables all UCLA students to acquire information via a touch-tone telephone from their University academic records stored on the Registrar's Student Records System computer database.

URSA allows you to process your class enrollment, to obtain course confirmation (including day/time, location, examination code, instructor name), UCLA grades for any completed term, GPA, completed units, and outstanding holds (i.e., restrictions from receiving services), to confirm registration fee payment and Registration Card mailing, to update or review selected student information ("degree expected term," telephone number, residence hall address, privacy release, ethnic-based mailing option, and ethnic background), and to change the security code used to access URSA.

URSA is operational Monday through Saturday from 5 a.m. to midnight, including holidays. You may access the system for grades, GPA, units, and holds information for up to 10 years after your graduation or your last term of attendance. If you have outstanding holds, you will be informed at the beginning of your call.

Telephone Enrollment

By using URSA, you can enroll in classes, add, drop, or exchange classes/sections, put yourself on the wait list for a class, add a class using a PTE Authorization Number, change the grading basis for a class (i.e., Passed/Not Passed), obtain a reading of your Study List, check your wait-list position, and obtain instructor names for all courses. You enroll during your assigned appointment periods, which you also obtain by calling URSA. Consult the Schedule of Classes for full enrollment details.

In-Person Enrollment

For classes that require written approval or specialized processing, you may enroll at computer terminals at 1113 Murphy Hall Monday through Friday from 9 a.m. to 5 p.m.
Study Lists
At 5 p.m. on Friday of the second week of instruction the Study List of enrolled courses becomes “official,” and all wait lists are eliminated. You should obtain a reading of your Study List through URSA after all enrollment transactions. **You are responsible for all courses and the grading basis as listed on URSA, and you cannot receive credit for courses not listed.** Errors or omissions should be corrected before your academic dean’s deadline for changes by petition. Unapproved withdrawal from or neglect of a course entered on the Study List will result in a failing grade.

Beginning with the third week of instruction, changes to your Official Study List require an Enrollment Petition which is available for purchase in the school supplies section at any ASUCLA Students’ Store. Approval signatures are required before processing. If you add a special studies (199) course, you must also bring an approved copy of the Petition for Enrollment in Special Studies 199 Course. Consult the **Schedule of Classes** for deadlines and complete instructions. Note: When retroactive approval is given, in exceptional cases, to drop a course or to change the grading basis, the course and action will appear on the official transcript.

Change of College/School or Major
Changing your college/school or major requires the approval of the college/school or department you want to attend. Applications for change of college/school are made by petition, which is available without charge from your college or school office. Change of major petitions are available from the department you want to attend. You may not change majors after the opening of the last term of your senior year.
Undergraduate Fees and Financial Support

Fees

Although the exact cost of attending UCLA will vary according to personal habits, tastes, and financial resources, 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 the Registrar's Office. Legal residents of California are not required to pay tuition at the University. Students classified as nonresidents must pay tuition of $2,566 per term (for a full definition of residence and nonresidence, see the Appendix of this catalog).

At the time of registration each term, all undergraduates must pay the following fixed fees. Fees for Fall Quarter 1994 are current as of publication date but are subject to change without notice by The Regents.

<table>
<thead>
<tr>
<th>Term Expenses, Fall 1994</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee</td>
<td>$237.00</td>
</tr>
<tr>
<td>Educational fee</td>
<td>$1,120.00</td>
</tr>
<tr>
<td>Ackerman Student Union fee</td>
<td>$2.50</td>
</tr>
<tr>
<td>Undergraduate Students Association fee</td>
<td>$18.00</td>
</tr>
<tr>
<td>Wooden Recreation Center fee</td>
<td>$11.00</td>
</tr>
<tr>
<td><strong>Total for California residents</strong></td>
<td><strong>$1,388.50</strong></td>
</tr>
<tr>
<td>Nonresident tuition fee</td>
<td>$2,566.00</td>
</tr>
<tr>
<td><strong>Total for nonresidents</strong></td>
<td><strong>$3,954.50</strong></td>
</tr>
</tbody>
</table>

The registration fee covers certain student expenses for counseling service, all laboratory and course fees, athletic and gymnasium facilities and equipment, lockers, registration, graduation, and care and treatment on campus by the Student Health Service. This fee is charged whether or not you make use of these services. A duplicate degree fee of $2,000 per term is assessed to students admitted for a second baccalaureate degree program.

Other Fees

Miscellaneous fees charged to UCLA undergraduates include a $50 charge for late payment of registration fees (after the fee deadline) or late filing of the Study List (after Friday of the second week of classes) and a $20 late fee if the UCLA Billing Statement has an unpaid balance in excess of $25. A $60 fine will be assessed if any check for registration fee payment is returned by a bank (i.e., stopped payment, insufficient funds, etc.). Minimal charges of $5 or less are assessed for most petitions and other special requests. A complete list of fees may be found in the Schedule of Classes.

Fee Refunds

Students who formally withdraw from the University during the first five weeks of instruction may receive partial refunds of fees. For the refund schedule and more information, see "Withdrawal" in Chapter 4 of this catalog or consult the Schedule of Classes for policy details and specific refund dates for each term.

Reduced Fee Programs

UCLA recognizes the need for undergraduate part-time study in special circumstances. If you have ongoing family or employment responsibilities or health problems which preclude full-time study, you may qualify for part-time enrollment.

If you have approval from your college or school to enroll in 10 units or less, you may qualify for a fee reduction. Nonresident students pay only half the nonresident tuition fee; residents pay half the educational fee. You must file the Request for Fee Reduction form with your college or school by Friday of the second week of instruction. Fee assessment is based on total units enrolled as of Friday of the third week of instruction. If you receive the part-time fee reduction from your academic dean, you may not also use the UC employee reduction; you must use one or the other.

Living Expenses

Printed below are the estimated yearly budgets for undergraduate California residents. Nonresidents must add the $7,699 annual tuition fee to their total expenses for an accurate estimate. Expenses cover the three regular session terms of the 1994-95 academic year and do not include Summer Sessions. The budgets are designed to serve as a guide and are subject to change.

Estimated Annual Budgets for Undergraduate California Residents

<table>
<thead>
<tr>
<th></th>
<th>Commuter, Living in Parents' Home</th>
<th>Living in UCLA Residence Hall, Co-Op, Sorority, or Fraternity</th>
<th>Living in Off-Campus Apartment or House</th>
</tr>
</thead>
<tbody>
<tr>
<td>University fees</td>
<td>$3,893.50</td>
<td>$3,893.50</td>
<td>$3,893.50</td>
</tr>
<tr>
<td>Books and educational supplies</td>
<td>850.00</td>
<td>850.00</td>
<td>850.00</td>
</tr>
<tr>
<td>Food and rent</td>
<td>2,975.00</td>
<td>5,975.00</td>
<td>6,350.00</td>
</tr>
<tr>
<td>Transportation</td>
<td>2,580.00</td>
<td>155.00</td>
<td>1,875.00</td>
</tr>
<tr>
<td>Personal</td>
<td></td>
<td>1,100.00</td>
<td>885.00</td>
</tr>
<tr>
<td><strong>Total budget</strong></td>
<td><strong>$10,298.50</strong></td>
<td><strong>$11,973.50</strong></td>
<td><strong>$13,853.50</strong></td>
</tr>
</tbody>
</table>

For more information on housing, see Chapter 1 or contact the UCLA Community Housing Office, 350 De Neve Drive (310-825-4491).
Financial Support

Information:
Financial Aid Office
A129J Murphy Hall
(310) 206-0400

It is not required that you come from a low-income family in order to qualify for financial aid. You must, however, demonstrate "financial need," which is defined as the difference between the cost of attending UCLA and the amount that you and your family should be able to contribute. The University expects that students and their families will bear as much of the necessary cost of a student's education as their circumstances will permit.

The Financial Aid Office publishes a Financial Aid Handbook which provides more complete information than this catalog can give. You can get a copy free of charge from the Financial Aid Office, A129J Murphy Hall, UCLA, Los Angeles, CA 90024-1435.

Applying for Financial Aid

The deadline for filing all undergraduate financial aid applications for academic year 1995-96 is March 2, 1995 (applications for 1994-95 would have had to be filed by March 1994). Because of the limits being placed on financial aid funding, meeting deadlines is more crucial than ever. Applications received after the deadline will be considered only if funds are still available. The Daily Bruin and other campus media publish information on deadline dates.

Prospective students must first apply for admission to UCLA by filing the UC Application for Undergraduate Admission and Scholarships during the filing period (see "Undergraduate Admission" at the beginning of this chapter). You can also use the admissions application to apply for undergraduate scholarships.

Free Application for Federal Student Aid (FAFSA)

One of the key assumptions of financial aid is that parents, to the extent that they can contribute, have primary responsibility for financing the cost of a student's education. To permit an evaluation of need, all students who apply for need-based aid must provide financial information on the Free Application for Federal Student Aid (FAFSA). If you are financially independent according to financial aid guidelines, your own financial circumstances are analyzed rather than those of your parents.

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. The FAFSA is available from California high schools and colleges and from the UCLA Financial Aid Office, and should be filed by March 2. Be sure to indicate that a report is to be sent to UCLA.

Continuing students may obtain UCLA Scholarship and Financial Aid Application Packets beginning in January of each year at the Financial Aid Office. Continuing undergraduate students from foreign countries may pick up a Financial Aid Application for International Students at the same office. No financial aid can be awarded to international students in their first year of attendance at UCLA.

Types of Financial Aid

There are four basic types of aid: scholarships, grants, loans, and work-study employment. Since most students are eligible for several of these, the Financial Aid Office usually offers a combination "package" consisting of some funds that are a gift (scholarship or grant) and some that will have to be paid back or earned through employment. If you indicate a preference for work or loan, the Financial Aid Office will attempt to honor your request.

Unless otherwise stated, you must demonstrate financial need to qualify for aid, and you must be making normal academic progress as defined by your college or school, your department, and the Financial Aid Office (for a full definition of financial aid minimum progress standards, see the Appendix of this catalog).

Scholarships

Scholarships are gifts that do not have to be repaid. The Undergraduate Scholarship Program at UCLA rewards academic excellence and promise and provides assistance in meeting the expenses of an undergraduate education. Scholarships are expected to create opportunities for further academic growth and development.

Financial need is a prerequisite 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. You must reapply each year for continued consideration.

Regents Scholarships

One of the highest honors that may be conferred on an undergraduate student is the awarding of a Regents Scholarship. Unlike other University scholarships, these are awarded for four years to students entering from high school, and for two years to juniors. A UCLA faculty committee selects Regents Scholars on the basis of their exceptional academic achievement and promise. Financial need is not a criterion for this award; students receive a yearly honorarium of $500 if they have no financial need. Scholars who establish financial need by filing the FAFSA receive a yearly stipend to cover the amount of their need. In addition to the monetary awards, Regents Scholars receive special privileges.

National Merit Scholarships

UCLA sponsors a number of four-year scholarships for entering freshmen who are finalists in the National Merit Scholarship competition. Finalists who are admitted to UCLA must select UCLA as their institution of choice and must meet UCLA's scholarship criteria in order to receive a UCLA Merit Scholarship. Awards range from $500 to $2,000.

UCLA Alumni Association Scholarships

Alumni Scholarships are available to California high school graduates who will be UCLA freshmen in the Fall Quarter and to community college transfer students. No financial need is involved, but eligibility requirements exist, and you should have demonstrated leadership ability, be involved in extracurricular activities, and show academic excellence and promise. Alumni Scholarships are merit-based and competitively awarded; amounts range from $500 to $10,000. The Dr. Ralph Bunche Scholarship and Leadership Awards, 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. In addition to the monetary awards, Alumni Scholars receive special privileges. Recipients who receive work-study and/or loans as part of a financial aid package will receive additional alumni grant monies.

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 of $100 per month during the academic year. Applications for four-year scholarships may be obtained by calling the appropriate department at UCLA — Army, (310) 825-7381; Air Force, (310) 825-1742; Navy, (310) 825-9075 — or by writing to Armed Forces Opportunities, P.O. Box 2865, Huntington Station, NY 11746-2102. When writing, specify which service (Army, Air Force, Navy/Marine) scholarship is desired. Completed applications...
Grants

Grants are funds that do not have to be repaid and are based solely on need. Whenever awarding policies and funds permit, your financial aid package will include a grant.

Federal Pell Grants

Federal Pell Grants are federal aid awards intended to be the "floor" of financial aid packages. As such, they may be combined with other forms of aid in order to meet the full costs of education. Amounts for 1994-95 range from $400 to $2,300, depending on federal funding, and are determined by your family's financial resources. U.S. citizens and eligible noncitizens may apply by filing the FAFSA. The University requires all eligible undergraduates to apply for a Federal Pell Grant.

State University Grants

These grants provide eligible students with financial assistance from state funds. Awards range from $300 to $2,400. All undergraduate students are considered.

Federal Supplemental Educational Opportunity Grants

These awards are federally funded and are granted only to undergraduates with financial need. Awards range from $600 to $2,400. Recipients must be U.S. citizens or eligible noncitizens.

Loans

Loans allow you to postpone paying some of the costs of your education until you have completed school. A financial aid offer almost always includes a long-term, low-interest loan.

It is essential that borrowers realize their commitment and responsibility to repay according to repayment schedules. Before accepting a loan, view, the University will place a hold on your academic records and registration materials. If you fail to participate in an exit interview, the University will place a hold on your academic records and registration materials. Contact (310) 825-9864 for an interview appointment before graduating, transferring, or withdrawing from UCLA.

Federal Perkins Loans

These low-interest loans are available to all students who are U.S. citizens or eligible noncitizens. Repayment begins six to nine months after you terminate at least half-time study. Minimum repayment is $90 per quarter, including interest, up to a maximum of 10 years.

Federal Nursing Loans

To be eligible for a nursing loan, you must be a U.S. citizen or eligible noncitizen and a student in the School of Nursing. Up to $1,500 is available per academic year. For more information, contact the financial aid counselor either in the Financial Aid Office or in the School of Nursing.

Emergency Educational Loans

You may need not be receiving financial aid to apply for emergency loans. You may borrow up to $100 for immediate emergency needs; this amount is repayable within five weeks. To qualify, you must be a registered UCLA student with a satisfactory loan repayment record. Applications are available from the Student Loan Services Office, A227 Murphy Hall.

Federal Family Education Loan Program

Federal Stafford Loans are long-term, need-based loans made by banks and credit unions. They are available to U.S. citizens and eligible noncitizens who are enrolled in at least a half-time program at UCLA. Freshmen may borrow up to $2,625, sophomores up to $3,500, and juniors and seniors up to $5,500 per academic year, to a maximum of $23,000.

Unsubsidized Federal Stafford Loans for Middle-Income Borrowers are not based on need. You must first apply for a Federal Stafford Loan to be considered for this program.

Federal Parent Loans for Undergraduate Students (PLUS)—Through this program your parents may be eligible to borrow up to the cost of your education for the academic year minus any estimated financial aid.

Work-Study Programs

Work-study is a need-based program designed to expand part-time job opportunities for students. The program allows you to work a maximum of 20 hours per week while attending school. An academic year's work-study award may range from $1,000 to $2,100, but your gross earnings may not exceed the amount awarded to you. There are two basic work-study programs available.

Under Federal Work-Study, the federal government pays a portion of your hourly wage; your employer contributes the balance. Whenever possible, work is related to your educational objectives. Employment may be on or off campus. Hourly pay rates comply with minimum wage laws and vary with the nature of your work, experience, and capabilities. To be eligible you must be a U.S. citizen or eligible noncitizen.

The President's Work-Study program is administered in the same manner as Federal Work-Study except that The Regents of the University and your employer provide funding, and you are limited to on-campus jobs.
# Undergraduate Majors and Degrees

<table>
<thead>
<tr>
<th>DEPARTMENTS/MAJORS</th>
<th>DEGREES</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College of Letters and Science</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African Studies</td>
<td></td>
<td>Special Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td>Afro-American Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>B.A., B.S.</td>
<td></td>
</tr>
<tr>
<td>Computing, Specialization in</td>
<td></td>
<td>Special Program (taken jointly with either anthropology major)</td>
</tr>
<tr>
<td>Art History</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Asian American Studies</td>
<td></td>
<td>Special Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td>Astronomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astrophysics</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Atmospheric Sciences</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Cell and Molecular Biology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Business and Administration</td>
<td></td>
<td>Program (taken jointly with an organized major)</td>
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<tr>
<td>Chemistry and Biochemistry</td>
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<td></td>
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<tr>
<td>Biochemistry</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>General Chemistry</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Chemistry/Materials Science</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Chicana and Chicano Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Chicana and Chicano Studies</td>
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<td>Special Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td>Classics</td>
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<tr>
<td>Classical Civilization</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Greek</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Greek and Latin</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Latin</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Communication Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Cybernetics</td>
<td>B.S.</td>
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<tr>
<td>Computing, Specialization in</td>
<td></td>
<td>Special Program (taken jointly with the cybernetics major)</td>
</tr>
<tr>
<td>Development Studies</td>
<td>B.A.</td>
<td>Certificate Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td>Diversified Liberal Arts</td>
<td></td>
<td></td>
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<tr>
<td>Earth and Space Sciences</td>
<td></td>
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<tr>
<td>Earth Sciences</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geology — Engineering Geology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geology — Paleobiology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geophysics — Applied Geophysics</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geophysics — Geophysics and Space Physics</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>East Asian Languages and Cultures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>East Asian Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>B.A.</td>
<td></td>
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<tr>
<td>Business Economics</td>
<td>B.A.</td>
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<td>Linguistics and East Asian Languages and Cultures</td>
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<td>DEPARTMENTS/MAJORS</td>
<td>DEGREES</td>
<td>OTHER</td>
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<tr>
<td>Linguistics and Italian</td>
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<td>Linguistics and Philosophy</td>
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<td>Linguistics and Psychology</td>
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<td>Linguistics and Scandinavian Languages</td>
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<td>Near Eastern Languages and Cultures</td>
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<td>Ancient Near Eastern Civilizations</td>
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<td>Near Eastern Studies</td>
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<td>Computing, Specialization in</td>
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<td>Psychobiology</td>
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<td>Slavic Languages and Literatures</td>
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<td>Design</td>
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<td>Ethnomusicology and Systematic Musicology</td>
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<td>Ethnomusicology</td>
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<td>Music</td>
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<td>World Arts and Cultures</td>
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<td><strong>School of Engineering and Applied Science</strong></td>
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<td><strong>School of Theater, Film, and Television</strong></td>
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<td>Motion Picture/Television</td>
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Getting Your Bachelor’s Degree

The College and Schools

The UCLA campus consists of one college and 12 schools, most of which are subdivided into departments. The courses of instruction are administered within the departments.

The College of Letters and Science provides a broad, nonprofessionally oriented curriculum leading to both undergraduate and graduate degrees.

The schools provide training for specific professions and are authorized to grant professional degrees (e.g., Master of Business Administration, Doctor of Education, Master of Public Health). UCLA has 12 professional schools, four of which offer undergraduate degree programs: School of the Arts, School of Engineering and Applied Science, School of Nursing, and School of Theater, Film, and Television.

Each college and school has its own degree requirements and is headed by a dean or provost who has final academic authority. Thus, when you attend UCLA, you are enrolled not only at the University of California, Los Angeles campus, but in a specific college or school within the University. Your academic life is governed by the college or school which houses your major.

As the chart on the previous pages shows, UCLA offers Bachelor of Arts (B.A.) and Bachelor of Science (B.S.) degrees in a broad range of disciplines. Currently there are no undergraduate minors at UCLA but, if you are in the College of Letters and Science, there are a number of special programs which you may complete as an adjunct to your major. The bachelor’s degree (you may earn only one) is the culmination of your undergraduate work; master’s and doctoral degrees are earned in graduate study.

Knowing Your Responsibilities

UCLA provides its students with a wide variety of academic assistance and personal support resources, but it is up to you to realize when you need help and to seek it out. It is also your responsibility to keep informed and to comply with the rules, regulations, and policies affecting your academic standing and your life as a UCLA student. Consult this catalog, the college and school announcements, and the Schedule of Classes for the information you need; watch for official announcements in the Daily Bruin and on campus bulletin boards. Meeting academic deadlines, monitoring your Study List for accuracy, completing prerequisites, and fulfilling degree requirements are all part of your academic duties as a student. Living up to your responsibilities will add immeasurably to the value and enjoyment of your education (also see “Student Conduct” in the Appendix of this catalog).

Choosing Your Major

One of the most important decisions you will have to make in college is your choice of major — the field of study which represents your principal academic interest and which possibly will contribute toward your career goals. Some students select their major at the time they fill out the University’s application for admission. A far greater number, however, are undecided about their major.

If you are in the College of Letters and Science, you do not need to declare your major in your freshman year. The college allows you to attend with an undeclared major until the end of your sophomore year. In fact, if you are not certain of your specific academic goals, it is often wise to wait and explore the diversity of subject areas offered at UCLA.

Enroll in introductory courses (usually numbered below 100) in a variety of disciplines to learn the scope and vocabulary of the major. It is not unusual for students to become enthusiastic about disciplines previously unfamiliar to them. With careful planning, such courses may also apply toward fulfilling college requirements for whatever major you choose. To narrow your choices further, carefully consider general college requirements, the description of courses offered in the major, and the departmental requirements for completing the program of study. Look at the books required for each course. Sit in on a few classes and talk with professors during their office hours. Discuss your interests and plans with a departmental counselor or faculty adviser, a college counselor, or advisers in the Placement and Career Planning Center.

A few words of caution: certain majors, especially in the arts, theater, film, television, engineering, and the sciences, require early declaration. Some have enrollment quotas and will allow application by new majors only during a specified term. Check with the departmental adviser for the majors that interest you.

In addition, each UCLA undergraduate is limited to between 208 and 216 quarter units, depending on the college or school, to complete the academic program and fulfill all degree requirements. So, if you wait to declare a major, don’t wait too long. In any case, you must declare a major by the beginning of your junior year (90 quarter units).

When you are ready to declare your major, or if you wish to change from one major to another, pick up a Petition for Change of Major at the college or school office. There is no fee for this petition.

Planning a Program

Every new student should obtain academic counseling before enrolling in classes at UCLA (counseling is required in the School of Engineering and Applied Science). Working with a tentative major in mind, you need to plan courses to satisfy all of the degree requirements while staying within the maximum number of units required for graduation. The Orientation program for new students will take you through a step-by-step process designed to insure you enroll in an effective program (see "Orientation" later in this chapter). If you cannot attend Orientation, see your college or school adviser or, if you have selected a major, make an appointment with your major department adviser before enrolling in classes.

Undergraduate Degree Requirements

In all campus units except the School of Engineering and Applied Science, you are required to earn a minimum of 180 units from all college-level coursework for the bachelor’s degree at UCLA. A maximum of 208 units is allowed in the School of the Arts, School of Nursing, and School of Theater, Film, and Television; in the College of Letters and Science a maximum of 216 units (228 for double majors and special programs) is allowed. In the School of Engineering and Applied Science, the minimum units allowed are between 180 and 200 (depending on the program); 213 maximum units are allowed.

As you work toward a bachelor’s degree, be aware that in addition to unit requirements there are three types of requirements which you must satisfy. The first type consists of Universitywide requirements which all undergraduates must satisfy; the rest vary depending on your major and the college or school which offers it.
(1) University requirements — Subject A or English as a Second Language (ESL), and American History and Institutions;
(2) College or school requirements (e.g., credit and scholarship, English composition, general education requirements);
(3) Department requirements (courses in preparation for the major and in satisfaction of the major).

University requirements are described below. Turn to “Requirements for the Bachelor's Degree” in the appropriate school or college chapter for a description of the college or school requirements, and then to the individual departments within each college and school for the department requirements.

University Requirements

The University of California has established two requirements which all undergraduates must satisfy in order to graduate: Subject A or English as a Second Language (ESL), and American History and Institutions. It is your responsibility to see that these requirements are fulfilled.

Subject A

Because proficiency in English composition is so important to successful performance in many courses, Subject A is the only requirement for graduation that you must satisfy before entering UCLA or during your first year in residence. You may meet this requirement by

1. Scoring 3, 4, or 5 on one of the College Entrance Examination Board (CEEB) Advanced Placement Tests in English OR
2. Scoring 600 or better on the SAT II Subject Test in Writing OR
3. Presenting transfer credit for an acceptable college-level course in English composition (passed with a grade of C or better) at another institution OR
4. Passing the Subject A Examination. All freshmen from California high schools should have taken the Universitywide Subject A Examination in May 1994; others will take an examination at UCLA early in their first term.

If you do not meet the requirement in one of the ways described above, Academic Senate regulations require you to enroll in either English A or 2 (determined by performance on the Subject A Examination) as early as possible during your first year in residence. Each course must be taken for a letter grade and passed with a grade of C or better. If you receive a final grade of C - or less, you must repeat the course during your next term in residence. Satisfaction of the Subject A requirement is a prerequisite to English 3 and all subsequent English courses.

English as a Second Language (ESL) Students: If your native language is not English, you are required to take the UCLA English as a Second Language Placement Examination (ESLPE) in addition to the Subject A Examination. Results of both examinations will be reviewed to determine which track (Subject A or ESL) better meets your needs. If you are placed in the Subject A track, you may satisfy the Subject A requirement by following the guidelines listed above. If you are placed in the ESL track, you may satisfy the requirement by completing the required courses in the English as a Second Language 33 series — one or more of courses 33A, 33B, 33C — and 35, depending on your ESLPE results. Each course must be passed with a grade of C or better (C - or a Passed grade is not acceptable). You must begin taking the required courses during your first term in residence at UCLA and then proceed in the English as a Second Language 33 series followed by course 35. All units apply toward graduation but cannot be applied toward general education requirements.

Transfer students whose native language is not English are required by the Office of Undergraduate Admissions and Relations with Schools to take the ESLPE if they did not earn a grade of B or better in the courses equivalent to UCLA's English 3 and 4 at the transfer institution prior to entering UCLA. Students without transfer credit for those courses must take both the ESLPE and the Subject A Examination.

American History and Institutions

This 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 requirement in American History and Institutions 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:
   - Afro-American Studies M104A, M104B, M158A, M158B, M158C
   - Asian American Studies M196A
   - Chicana and Chicano Studies M159A, M159B
   - Economics 183
   - English 80, 85, M104A, M104B, 115A, 170, 171, 172, 173, 174, 176, 177
   - 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 Entrance Examination Board (CEEB) Advanced Placement Test in American History.

Candidates for an instructional credential, but not for a degree, must take one of the following courses: History 7A, 7B, 151A, 151B, 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).

Course Credit and 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.

In order to qualify for a bachelor's degree in any college or school at UCLA, you must earn at least a C (2.0) average in all courses taken at any University of California campus. If you fail to maintain this level, you may be placed on academic probation or may become subject to dismissal.

Academic Probation

You will be placed on probation if your overall grade-point average falls between 1.5 and 1.99 or if you do not earn at least a 2.0 GPA in any one term. While you are on probation, you may not take any course on a Passed/Not Passed basis, and you may have to limit your Study List to 12 units.

Your probation will end at the close of a regular term if you have attained a C (2.0) average for the term and a cumulative C average in all University work. If you do not end probation within two terms, you will become subject to dismissal.
Academic Dismissal

You will be subject to dismissal from the University under any of the following conditions:

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

If you are subject to dismissal, your transcript will carry that notation. You should make an appointment with your college or school counselor. Depending on your situation, you will be given conditions for continuation, or you will be dismissed from the University.

Your college or school counselor can explain the conditions for readmission if you wish to return to the University after dismissal (see "Readmission" earlier in this chapter).

Progress Toward the Bachelor's Degree

The undergraduate curriculum at UCLA is designed as a four-year curriculum. In order to graduate in four years, you need to complete at least 45 units during each academic year, not just the 36 required for "minimum progress." In the absence of special circumstances justifying slower progress, you should plan to complete 45 units per year, in an arrangement of courses appropriate to your needs. Consult your college or school counselor if you have questions or need advice.

Each college and school enforces minimum enrollment or minimum progress regulations. You may be subject to disqualification for failing to meet minimum progress requirements. Check with your college or school counselor. Please read the degree requirements section under each college and school for specific Study List limits. See Chapter 4 for information on concurrent enrollment, credit by examination and credit from other institutions, and special studies (199) course limitations.
Academic Resources and Assistance

Alternative Academics

UCLA has a broad range of options that can lend an added dimension to your undergraduate academic program. You will find other services and programs available to both graduate students and undergraduates in Chapter 1 of this catalog.

Center for American Politics and Public Policy (CAPPP)

The Center for American Politics and Public Policy selects 25 to 30 undergraduates each fall and spring to participate in its Quarter in Washington, DC Program, which offers an exciting opportunity to combine UCLA courses with research and field experience in areas directly related to the policy-making process of the federal government. Students live in the Washington area for 12 weeks, dividing their time between courses taught by UC faculty and a part-time field placement position. They are registered as UCLA students and earn academic credit for the courses taken. Most of the courses emphasize politics and public policy. The core course carries political science credit. Efforts are also made to provide at least one course in a subject other than political science, such as art or history. All courses take advantage of Washington's unique resources for study and research.

CAPPP administrators help students find a field placement, which is central to a research seminar each student takes, in a Washington organization. Washington field placement locations have included the American Enterprise Institute, CNN, Carnegie Endowment for International Peace, General Accounting Office, Heritage Foundation, Japan Economic Institute, Justice Department, Office of National Drug Control Policy, Senator Edward Kennedy's Office, Treasury Department, and others. For further information and applications, contact the CAPPP Office in 310 GSLIS Building (310-206-3109).

Council on Educational Development

The Council on Educational Development (CED) offers special courses and programs that encourage educational diversity and enrichment for undergraduates. CED works closely with the college, schools, and research centers on campus to support new academic programs and courses. Many of these courses cover socially important issues which, because they are new, are not addressed in existing academic departments. Many involve nontraditional educational concepts, interdisciplinary topics, and subjects on the leading edge of faculty interest.

Each year several courses focus on medicine, law, and human values. Students analyze ethical, legal, and scientific values in medical and mental health care issues, such as genetic screening, human experimentation, patients' rights, and medical technology.

For information about CED courses, consult the Schedule of Classes. Your college, school, or department can advise you about degree credit for CED courses. The office is located in 80 Powell Library (310-825-5467).

EXPO Center

The Extramural Programs and Opportunities (EXPO) Center offers access to a wide variety of off-campus learning experiences. For more information on any of the programs or services listed below, contact the EXPO Center, 311 Plaza Building (310-825-0831).

UCLA National Internship Program — More than 4,000 UCLA students have learned about the inner workings of government and business while serving in the internship program, the largest of its kind at any university in the nation. Bruins serve full-time internships for one or more terms on the staffs of elected officials, public interest groups, government agencies, and corporate offices in Sacramento and Washington, DC. Stipends for students in the program can be arranged.

Los Angeles Internship Program — Local internships are available throughout the year in fields such as advertising, business, film, media, politics, and television.

International Opportunities — The EXPO Center counsels students on study, travel, volunteer, international internship, and work opportunities outside the U.S., offering information on some 2,400 overseas study programs open to UCLA students. EXPO also maintains a library of current materials related to study, travel, and other opportunities abroad. International Student and Teacher Identity Cards and Youth Hostel memberships are issued at the center.

CAPPP students in Washington, DC.
Field Studies Development

Field Studies Development, a division of the Office of Instructional Development, helps students, faculty, and academic departments to develop meaningful learning experiences outside the classroom. These may be in the form of internships, field studies, or research, or community service. The office is located in 80 Powell Library (310-825-7867).

Departmental Field Studies — Academic field study programs have been developed in Afro-American studies, anthropology, Asian American studies, business and administration, communication studies, education, English, film and television, folklore, geography, history, physiological science, psychology, sociology, urban planning, and women's studies. Departmental coordinators work with you to develop field projects and find placements.

Independent Field Studies — You may design internships and field study opportunities to meet your specific academic, personal, and career goals. A field studies coordinator assists you with your plans and helps identify faculty sponsors for your field study. Most departments offer independent field study opportunities.

Community Service — Learning Programs — These programs enable students to perform community service while studying topics related to economics, history, sociology, education, urban planning, or other subjects.

Sequential or Immersion Options — Field Studies Development co-sponsors course sequences (taken during one term or over a period of two or three terms) where students study a single issue from different perspectives. For example, the Sociology Department sponsors a three-course "term" which focuses on the control of crime issues.

Developmental Disabilities Immersion Program (DDIP) — Co-sponsored by Field Studies Development, the Department of Psychology, and the Department of Psychiatry and Biobehavioral Sciences, DDIP offers an intensive study and work experience in developmental disabilities. The program is a full two-term sequence offered in Winter and Spring Quarters. For more information, call (310) 825-1627.

Freshman and Sophomore Programs

Honors Collegium

The Honors Collegium is an innovative educational alternative designed primarily for UCLA’s promising freshmen and sophomores. Some upper division courses are also offered. For a complete description of this program, see Chapter 5 on the College of Letters and Science.

Lower Division/First-Year Seminars

These departmentally sponsored seminars are designed to provide freshmen and sophomores the opportunity to participate in a small classroom setting to enhance writing, verbal, and analytical skills. Many courses carry general education credit.

Professional Schools Seminar Program (PSSP)

This program offers seminars that explore topics bridging various academic disciplines and professional practice. Students seeking to define their own academic and career goals gain valuable exposure to (1) research frontiers in the professions, (2) policy and ethical issues, and (3) historical and sociological perspectives on professional practice.

Seminars are offered in Fall, Winter, and Spring Quarters (consult the Schedule of Classes). Enrollment is limited to allow students close contact with professional school faculty members; lower division students are preferred. You must satisfy the Subject A requirement before enrolling in these seminars. General education credit is granted for most seminars. For further information, contact the PSSP Office in 80 Powell Library (310-825-5467).

Individual Classes

Most departments offer the individual studies (199) course for seniors — or juniors with at least a B average — who want to pursue a particular research interest. Consult your department or the departmental listings in this catalog for further information.

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.

The requirements for an individual major vary with each college and school at UCLA, although maintaining a high scholastic average is usually mandatory. Please refer to the appropriate college or school chapter.

Reserve Officers’ Training Corps (ROTC)

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 you to qualify for an officer’s commission in the Army, Navy, Air Force, or Marine Corps while completing your 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 carry a monthly stipend in the junior and senior years, and additional financial aid is available to qualified students. Individual programs are described in detail in Chapter 5 on the College of Letters and Science.

Student Research Program (SRP)

The Student Research Program (A265 Murphy Hall, 310-825-6443) invites undergraduates to become directly and fully involved in the University research community through opportunities to participate in faculty research projects. You gain valuable research experience, acquire in-depth knowledge of a specific field or discipline, and establish a "partnership" with a faculty member. The program is available to all undergraduates on a voluntary basis (approval of a proposal for credit is pending). If you participate on a voluntary basis, you receive transcript notation after completing 60 hours of research (approximately six hours per week). There is no required minimum grade-point average. Consult the SRP Information and Faculty Directory Handbook for further information on the enrollment process.

Teaching Careers

Although UCLA has no undergraduate major in education, you may prepare for a career in teaching and/or education on campus. Information is available from the following offices:

1. Specialization in Education Program Office, 1009 Moore Hall, for information regarding this specialization. The program is described in detail in Chapter 5 on the College of Letters and Science.

2. College of Letters and Science Counseling Service, A316 Murphy Hall, for information regarding the Diversified Liberal Arts Program which is described in detail in Chapter 5 on the College of Letters and Science.

3. Placement and Career Planning Center, for information on employment opportunities in teaching and education.

4. UCLA Graduate School of Education and Information Studies, Office of Student Services, 1009 Moore Hall, for information on master's and doctoral degree programs in education and current information on requirements for various instructional credentials.
Advising and Academic Assistance

UCLA's academic standards are high, and many students find they need some form of academic assistance. Help is available in several forms: staff and student counselors, faculty advisers, services, and special programs. You need only to seek it out. This section introduces you to the many kinds of assistance available to undergraduates. Refer to the section on "Student Services" in Chapter 1 for other helpful programs.

College and School Advisers

Each college/school and academic department at UCLA has a staff of academic counselors and advisers who are knowledgeable and experienced. They are eager to help you plan your academic program, monitor your progress toward the bachelor's degree, provide information about college and major requirements and prerequisites, and assist you with academic problems, improving study habits, and program planning. Counseling offices for each undergraduate college and school are listed below.

College of Letters and Science — A316 Murphy Hall, (310) 825-1965 or 825-3382 (Honors Programs — A311 Murphy Hall, 310-825-1553 or 825-3786)

School of the Arts — 1100 Dickson Art Center, (310) 206-3564

School of Engineering and Applied Science — 6426 Boelter Hall, (310) 825-2826

School of Nursing — 2-200 Factor Building, (310) 825-7181

School of Theater, Film, and Television — 103 East Melnitz Building, (310) 825-5761

Counseling Assistants

Counseling assistants (CAs) are UCLA graduate students who have been specially trained to help new and lower division students with the transition into University life. Employed by the Division of Honors and Undergraduate Programs in the College of Letters and Science, they represent a number of academic disciplines in the college. CAs help new and lower division students with program planning and course selection and provide assistance in skill building and personal support. You may make an appointment with a CA at the information window at A316 Murphy Hall. CAs are available at the College Counseling Service in Murphy Hall and at Griffin Commons. For additional information, call (310) 206-6681.

ASK Peer Counselors

The ASK program provides an extension to the counseling services available to College of Letters and Science undergraduates. ASK counselors are students trained to provide you with academic information, advisement, and referral in a convenient walk-up setting.

You can find ASK counselors weekdays at these campus locations: Campbell Hall (southwest corner), Royce/Powell Quad, and Schoenberg Hall (vending area) from 10 a.m. to 2 p.m., next to A316 Murphy Hall from 9 a.m. to 1 p.m., and adjacent to 1105 Murphy Hall from 9 a.m. to 4 p.m.

Orientation

Orientation at UCLA provides a comprehensive introduction to campus life. During the summer and before the beginning of Winter and Spring Quarters, special programs offer new undergraduates extensive academic counseling and educational planning. During Orientation you work in small groups with peer counselors and gain insight into necessary academic skills, learn how to plan and construct your academic program, and become familiar with the educational opportunities, student services, and facilities available at UCLA. Individual counseling sessions help you adjust to University life and fulfill the advising requirements of the college and some schools. Sessions for parents are also offered.

During the summer, Orientation offers three-day, two-night dormitory live-in programs for first-year students and one-day programs for transfer students. Prior to Winter and Spring Quarters, a one-day on-campus program is offered. There is a fee for participation. For more information, contact the Orientation Office in 201 Griffin Commons (310-206-6685).

College Tutorial Services

College Composition and ESL Tutorials

The College Composition Tutoring Lab, in cooperation with the UCLA Writing Programs, offers individual assistance to students enrolled in English A, 2, and 3 and to students writing papers for other UCLA courses. The lab is staffed by trained undergraduate peer tutors who have shown outstanding ability in advanced composition courses and who can help students at any stage of the writing process — from generating and organizing ideas to polishing final drafts.

The College ESL Tutoring Lab assists nonnative-speaking students with English grammar, idioms, pronunciation, listening comprehension, and composition. Priority is given to students enrolled in English as a Second Language 33A, 33B, and 33C, and other ESL courses. Most of the ESL tutors are graduate students pursuing degrees in teaching English as a second language.

Both the Composition and ESL Labs are located in 228 Griffin Commons and offer free individual tutoring by appointment. For tutoring appointments or further information, call (310) 206-1491.

College Math/Sciences Tutorials

The College Math/Sciences Tutorials, located in 230 Griffin Commons, provide an organized by-appointment tutorial program for most introductory courses in biology, chemistry, mathematics, and physics. Trained tutors meet in small group sessions on a weekly basis, teaching methods to improve problem-solving skills and test-taking strategies. Requests for tutors must be made during the first three weeks of the term; early registration is strongly advised. Drop-in tutoring is also offered. Schedules vary each term. For more information, call (310) 206-6965 or 825-7305.

College Tutorials for Student Athletes

The College 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 located in 209 Griffin Commons. For tutoring appointments and further information, call (310) 206-8699.

Academic Advancement Program (AAP)

The Academic Advancement Program, with more than 5,500 students, is the nation's largest undergraduate affirmative action program, a multicultural and multicultural program working to retain and graduate historically underrepresented (African American, Chicano/Latino, Native American, Pacific Islander, and Pilipino), first-generation college, and low-income students. AAP's goal is to increase the number of AAP students who enter graduate and professional schools and developing the academic, political, economic, and community leadership necessary to transform our society in the twenty-first century. AAP encourages and promotes the academic achievement of its students by providing them with support services, academic programs, learning resources, scholarships, and research opportunities.
You are eligible to join AAP, participate in its programs, and use its resources if you are a student who comes from a historically underrepresented population, are the first generation to go to college, or are from a low-income family. All students, except Native Americans, must be California residents. For more information, contact the AAP Office in 1209 Campbell Hall (310-825-1481).

Freshman and Transfer Summer Programs
The six-week Freshman and Transfer Summer Programs prepare students to succeed at UCLA by exposing them to the rigor and demands of academic life and the wide range of campus programs, services, and learning resources.

You enroll in two University courses (both meet UCLA’s requirements for graduation) and receive close personal attention, in either small groups or individual sessions, from your teaching assistants and tutors. You are encouraged to live on campus so that you can participate in the many cultural and social events, interact with students of diverse backgrounds, build a network of friends, and broaden your life experiences and world outlook.

Counseling Services
AAP counselors work with students to plan their academic programs, monitor progress toward the bachelor’s degree, provide information about requirements and prerequisites for different majors, discuss graduate school and career options, and provide support and assistance for students’ personal problems. One counselor is responsible for all students. Upper division AAP peer counselors provide a student perspective on courses, study strategies, educational goals, and stress management to entering students.

AAP counseling services include a special component called the Program Leading to Undergraduate Success (PLUS), which provides retention services such as counseling, tutoring, and a variety of specialized developmental programs for first-generation college students. The PLUS team personalizes the educational process and gives students the opportunity to develop the skills necessary to achieve their academic and career goals.

Tutorial Services
The Tutorial Services unit builds on the premise that critical thinking and intellectual independence are best developed through questioning and active dialogue. Free individual or small group tutoring is offered to all AAP students who wish to improve their critical thinking and analytical reading, composition, quantitative reasoning, and study skills while mastering course materials. AAP provides tutoring for more than 400 courses through its humanities, social sciences, and math/sciences laboratories.

Graduate Mentor Program (GMP)
The primary goal of the Graduate Mentor Program is to increase the number of AAP students who enroll in graduate or professional schools through the encouragement, support, guidance, and advocacy of underrepresented graduate student mentors. Services offered include individual mentoring, meetings with faculty at roundtable discussions, workshops and seminars (on such topics as the graduate application process, financing graduate studies, and GRE preparation), summer undergraduate research stipends, letters of recommendation, and a resource library.

Instructional Media
The Instructional Media Laboratory provides individual student access to course-related interactive and videotape programs. Students, assigned by faculty to study specific supplementary materials, may learn at their own pace and at times that suit their individual schedules. The laboratory is located in 270 Powell Library (310-206-1211).
Academic Excellence

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

Dean's Honors List
The College of Letters and Science, School of the Arts, School of Engineering and Applied Science, and School of Theater, Film, and Television award Dean’s Honors to deserving students each term. The School of Nursing awards Dean's Honors on an annual basis. These honors are based on the grade-point average attained within a specified number of units. Consult your college or school for further information.

Honors at Graduation
Your college or school awards honors according to your overall GPA at graduation. To be eligible you 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 included in the appropriate college and school chapters.

Departmental Honors
In the College of Letters and Science, departmental honors and highest honors are awarded at graduation on your major department's recommendation, based on successful completion of a departmental honors program. Consult your department for its requirements.

Departmental Scholar Program
Departments in all campus units except the School of Nursing may nominate exceptionally promising juniors and seniors as UCLA Departmental Scholars to pursue bachelor's and master's degree programs simultaneously. Nominations are submitted to the college or school dean or provost for recommendation to the dean of the Graduate Division. If you are interested in becoming a Departmental Scholar, consult your department 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 these national freshman honor societies is based solely on academic achievement during your freshman year. To be eligible you must have a 3.5 GPA with 12 graded University of California units in the first term of your 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 (310-825-3871).

Golden Key
Golden Key is a national 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, 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 more information, contact the Office of the Dean of Students, 1206 Murphy Hall (310-825-3871).

Mortar Board
Mortar Board is a national honor society for college seniors which 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, 337 Plaza Building (310-825-7041), early in Winter Quarter and are due by mid-February. Approximately 40 members are selected each spring by the outgoing chapter.

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 GPA considered is 3.65 (for 140 or more UC units); the minimum number of UC units considered is 75 (students at the 75-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. If you are elected, you will be notified by mail. For more information, contact Phi Beta Kappa in the Honors Programs Office, A311 Murphy Hall (310-206-5207).

Outstanding Senior Award
The Outstanding Senior Award offers recognition to graduating seniors who have demonstrated scholastic excellence, creativity in the department, and outstanding service to the University and community. Nominations are accepted in January and early February, and awards are presented at the annual Alumni Awards Ceremony in June. For more information, contact the UCLA Alumni Association in the West Alumni Center, 325 Westwood Plaza (310-206-5023).
Nature of Graduate Education

The principal characteristic of graduate study is the pursuit of new knowledge through research. At UCLA graduate students benefit from — and contribute to — the resources of one of the outstanding research universities in the country. 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 (see details in Chapter 1) all provide an extraordinary scope of 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. As a graduate student, your education is enriched by the several hundred postdoctoral fellows and visiting scholars from other universities who engage in research and teaching at UCLA every year. This unique research environment promotes the quality of original work and study which 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 or Juris Doctor, is intended to develop your mastery of a field and prepare you for the practice of a profession. The doctoral degree (Ph.D., Ed.D., etc.) is designed to prepare you for creative activity and original research, often in association with college or university teaching.

Administration

The Graduate Division

The UCLA Graduate Division is responsible for administering policy established by the Academic Senate's Graduate Council for master's, doctoral, and professional degree programs other than those in law, medicine, and dentistry. It oversees graduate recruitment and admissions, fellowships, teaching assistantships, graduate student researcher appointments, and other graduate student support, affirmative action, and the maintenance of high quality standards in all UCLA graduate programs. The dean of the Graduate Division also serves as vice chancellor — academic affairs.

The Graduate Council

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

The Graduate Adviser

After admission to a department, program, or school, each graduate student is assigned a graduate adviser who assists the student in program planning and completing degree requirements. The graduate adviser is available for counseling whenever needed; departments usually require at least one student consultation each term. When the master's or doctoral committee is established, the faculty chair of that committee often assumes the adviser's role.

Graduate Students Association (GSA)

UCLA's Graduate Students Association (GSA) shares an equal voice with the Undergraduate Students Association in the governance of the Associated Students. For more details on the GSA, see "Student Activities" in Chapter 1.
Graduate Admission

Admission 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.

International applicants who have completed their postsecondary education outside the U.S. are expected to hold a degree, with above average scholarship, from a non-U.S. university or university-level institution. If your examinations have been graded Excellent, Very Good, Good, and Pass, you must have at least a Very Good general rating to qualify for admission. Students 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, etc., 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, etc., also do not qualify for graduate admission.

Meeting the minimum requirements does not ensure graduate admission, which is limited by the number of places available in UCLA’s schools, college, and departments. Applications are evaluated in terms of scholastic qualifications and formal preparation for the graduate field of study. Departments may have special requirements for admission, which are included under individual departmental listings in this catalog.

Applying for Admission

Graduate students at UCLA must submit the 1994-95 Application for Graduate Admission to UCLA Graduate Application Processing, P.O. Box 23895, Oakland, CA 94623-0895. You may obtain this form, in person or by mail, from your prospective school or department. Applications are generally accepted for Fall, Winter, and Spring Quarters, although some departments limit admission to Fall Quarter due to course sequencing. Such restrictions are stated in this catalog’s departmental listings and in the application packet. Enrollment in Summer Sessions courses does not constitute admission to graduate standing.

Applications and supporting papers should be on file by the following dates (if the dates below fall on a weekend or holiday, the next working day applies):

- December 15, 1993, for Fall Quarter 1994
- October 1, 1994, for Winter Quarter 1995
- December 29, 1994, for Spring Quarter 1995
- December 15, 1994, for Fall Quarter 1995

Applications postmarked after these dates will be considered only when enrollment and funding limitations permit.

Supporting papers and materials to be submitted, including official transcripts of record and a $40 nonrefundable application fee, are specified in the application packet. Submitted materials are not returnable.

Graduate Record Examination — If you are applying for admission to a department or school which requires Graduate Record Examination (GRE) scores, you should arrange to take the examination no later than February so your scores arrive on time. GRE scores should be sent directly to your prospective department and not to the Graduate Division.

<table>
<thead>
<tr>
<th>1994-95 GRE Test Dates</th>
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<tbody>
<tr>
<td>October 8, 1994</td>
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<tr>
<td>December 10, 1994</td>
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<tr>
<td>April 8, 1995</td>
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<td>June 3, 1995</td>
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Mandatory Medical Insurance Requirement

UCLA requires, as a condition of registration, that all graduate students and all international students on nonimmigrant visas have adequate medical insurance coverage during all periods of enrollment. See “Mandatory Medical Insurance Requirement” in the “Graduate Registration and Enrollment” section later in this chapter for a description of what constitutes adequate medical insurance. Most travel insurance plans are NOT acceptable; medical insurance plans from foreign countries (including Canada) also are NOT acceptable.

UCLA offers a student Medical Insurance Plan (MIP) which fulfills the requirement. For graduate students the MIP fee is included each term in the amount due on the UCLA Billing Statement. This is the only method by which MIP can be purchased.

If you decide to waive out of MIP because you have adequate private medical insurance, you must complete the Medical Insurance Waiver Request included each term with the UCLA Billing Statement and submit the form when you pay your registration fees. For further information on MIP or adequate medical insurance requirements, call the Student Health Service Insurance Office at (310) 825-1856.

International Applicants

Applicants who have credentials from universities and colleges in foreign countries should submit applications at least two months before the
## Graduate Majors and Degrees

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<thead>
<tr>
<th>SCHOOLS, DEPARTMENTS/MAJORS</th>
<th>DEGREES</th>
<th>OTHER</th>
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<tbody>
<tr>
<td>African Area Studies</td>
<td>M.A.</td>
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<td>Afro-American Studies</td>
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<td>American Indian Studies</td>
<td>M.A.</td>
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<tr>
<td>Anatomy and Cell Biology</td>
<td>M.S.*, C.Phil., Ph.D.</td>
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<tr>
<td>Anesthesiology</td>
<td>M.S.</td>
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<tr>
<td>Anthropology</td>
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<td>Applied Linguistics</td>
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<td>Archaeology</td>
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<tr>
<td>Architecture and Urban Planning</td>
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<td>M.A., Ph.D.</td>
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<td>Art</td>
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<td>Art History</td>
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<td>Asian American Studies</td>
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<tr>
<td>Astronomy</td>
<td>M.S., M.A.T.*, Ph.D.</td>
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<td>Atmospheric Sciences</td>
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<tr>
<td>Biological Chemistry</td>
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<td>Biomathematics</td>
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<td>Chemistry and Biochemistry</td>
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<td>Classics</td>
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<td>Greek</td>
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<td>Latin</td>
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<td>Dance</td>
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<td>Dance/Movement Therapy</td>
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<td>Dentistry</td>
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<td>Postgraduate Certificate Programs</td>
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<td>Oral Biology</td>
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<td>Design</td>
<td>M.A., M.F.A.</td>
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<td>Earth and Space Sciences</td>
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<td>Geology</td>
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<tr>
<td>Geophysics and Space Physics</td>
<td>M.S., Ph.D.</td>
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<td>East Asian Languages and Cultures</td>
<td>M.A., C.Phil., Ph.D.</td>
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<tr>
<td>Economics</td>
<td>M.A., M.Ed., Ed.D., Ph.D.</td>
<td>Credential Programs in Multiple and Single Subject Instruction, Bilingual Emphasis, Pupil Personnel Services, Administrative Services, School Psychologist</td>
</tr>
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<td>Education</td>
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<td>Certificate of Specialization (Engineering and Applied Science)</td>
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<td>Engineering and Applied Science</td>
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<td>Civil Engineering</td>
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<td>Environmental Science and Engineering</td>
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<td>Ethnomusicology</td>
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<tr>
<td>Film and Television</td>
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*The department only admits applicants whose objective is the Ph.D.

**Not admitting new students at this time.
## SCHOOLS, DEPARTMENTS/MAJORS

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<td>Teaching English as a Second Language</td>
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<tr>
<td>Theater</td>
<td>M.A., M.F.A., C.Phil., Ph.D.</td>
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*The department only admits applicants whose objective is the Ph.D.*

**Not admitting new students at this time.**
dates listed on page 53. International applicants should have an academic degree or professional title earned at a university and will be evaluated on the basis of grades (marks) and class or rank achieved. You should submit official transcripts of record, in duplicate, for all college and university work. Specific instructions are given in the application packet.

**Proficiency in English**

- **Test of English as a Foreign Language (TOEFL)** — 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, or who have completed at least two years of full-time study at such an institution, are exempt from both the TOEFL 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 countries. Applications are available from the Educational Testing Service, CN 6000, Princeton, NJ 08541-6000.

- **UCLA English as a Second Language Placement Examination (ESLPE)** — If your native language is not English, you are required to take the UCLA ESLPE (in addition to the TOEFL) before the term in which you are to register. Depending on your ESLPE results, you may have to complete one or more courses in the English as a Second Language 33 series, beginning in your first term in residence at UCLA. These 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. You should expect to spend a longer period of time at the University than would normally be necessary to complete a degree program if you are required to take any English as a second language course. If you do not achieve a minimum score on the ESLPE, your admission is deferred until you have acquired the necessary proficiency in English. 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.

- **Test of Spoken English (TSE)** — If you are an international student and wish an appointment as a teaching assistant, you should take the Test of Spoken English offered at the TOEFL Center in your home country.

**No Degree Objective**

UCLA has no special graduate, limited, or unclassified categories of 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. All admission to no degree objective (NDO) programs, except for students in official Education Abroad Programs, must be preapproved 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" later in this chapter). If you are applying for a second academic degree at the same level or lower than the one you already hold, you are required to show compelling cause to the department. 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. If you wish to apply Summer Sessions courses to your subsequent graduate program, you should consult in advance with your departmental adviser. This is also true if you have been readmitted to graduate standing and you wish to resume graduate study in Summer Sessions. Information and applications are available from the Office of Summer Sessions, 1147 Murphy Hall. Also refer to the sections on "Academic Residence" and "Transfer of Credit" later in this chapter.

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

**Readmission**

Students who are granted a formal leave of absence (see "Leaving UCLA in Chapter 4) do not have to apply for readmission if they resume their graduate work in accordance with the terms of their leaves. All other continuing graduate students who fail to register for any regular session, or who fail to complete a term through cancellation or withdrawal, must compete for readmission with new applicants.

If you have registered at any time as a graduate student at UCLA and are returning after an absence (except a formal leave of absence), you must file an Application for Graduate Admission. Forms are available from the departments and should be submitted to UCLA Graduate Application Processing, P.O. Box 23895, Oakland, CA 94623-0895. The following materials must accompany the application:

1. A check or money order for $40 (nonrefundable) made payable to The Regents of the University of California.
2. The Graduate Petition for Change of Major, if appropriate. (If you are reapplying in a new major, request this form along with the Application for Graduate Admission.) Your UCLA graduate transcript must also be submitted.
3. Transcripts of all academic work completed since your registration at UCLA as a graduate student.

**UCLA ACCESS to Programs in Molecular and Cellular Life Sciences**

The life and basic biomedical science departments at UCLA offer a mechanism for a combined recruitment, admission, and first-year program that provides Ph.D. students in the molecular and cellular life sciences with maximal choice and flexibility in selecting a research specialization. Through UCLA ACCESS, you are able to select research projects from 165 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. For further information, refer to "Special Programs and Training" later in this chapter.

**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., and M.D. degree programs in the Schools of Dentistry, Law, and Medicine, write to the respective schools for their announcement booklets and for information and application procedures.
Requirements for Graduate Degrees

UCLA offers instruction leading to a broad range of master's and doctoral degrees, both academic and professional. Graduate students earn master's or doctoral degrees through distinguished achievement in study and research. Achievement in study is evaluated by means of the qualifying and comprehensive examinations. Achievement in research is judged by the merits of the thesis or dissertation.

The doctorate, and specifically the Doctor of Philosophy degree, is awarded in recognition of a candidate's in-depth knowledge of a broad field of learning, and for demonstrated ability to make original and distinguished contributions to the field. More generally, the degree is an affidavit of critical aptitude in scholarship, imaginative enterprise in research, and proficiency and style in communication.

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/or examinations for their master's degree. Each department also sets additional requirements for doctoral degrees according to the demands of the field of study. You are advised to consult the appropriate school announcement or your departmental graduate adviser for details.

Transfer of Credit

There are two general regulations governing transfer of credit. No courses completed before the award of the bachelor's degree may be applied toward a graduate degree unless you are a UCLA Departmental Scholar (see "Academic Excellence" in Chapter 2). Also, courses taken for any other degree may not be applied toward a master’s degree at UCLA unless you are enrolled in a Graduate Council-approved concurrent degree program (see "Concurrent and Articulated Degree Programs" later in this chapter).

From Within the University — You may petition to have units and grade points for graduate work completed at other campuses of the University applied toward satisfaction of master's degree requirements at UCLA. Such courses may fulfill up to one half of both the total course and

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<th>REQUIREMENT</th>
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<th>DOCTORAL DEGREE</th>
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<tr>
<td>ACADEMIC RESIDENCE</td>
<td>One year (three terms) in graduate standing at University of California,</td>
<td>Two years (six terms) in graduate standing at University of California, including three consecutive terms at UCLA.** In most cases a longer period of residence is necessary.</td>
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<td>two terms at UCLA.</td>
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<tr>
<td>PROGRAM OF STUDY</td>
<td>Nine graduate and upper division courses (36 units) in graduate standing,</td>
<td>No specific course requirements. Program is planned with adviser and guidance committee.</td>
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<td>including at least five graduate courses.</td>
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<tr>
<td>SCHOLARSHIP</td>
<td>B average required in all courses taken in graduate standing at UC and in all</td>
<td>B average required in all courses taken in graduate standing at UC.</td>
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<td>courses applied toward the master’s degree.</td>
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<tr>
<td>FOREIGN LANGUAGE</td>
<td>Requirements are determined by individual departments and programs.</td>
<td>Requirements are determined by individual departments and programs.</td>
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<tr>
<td>ADVANCEMENT TO CANDIDACY</td>
<td>All requirements for advancement, including foreign language examinations, must</td>
<td>The departmental written and University Oral Qualifying Examinations must be passed;</td>
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<td>be satisfied. Forms must be filed by second week of the term in which degree is</td>
<td>departmental, course, and language requirements must be completed. Advancement is officially granted when you obtain your committee chair's signature, pay the $50 fee, and return the application to the Graduate Division.</td>
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<td>to be awarded.</td>
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<td>FINAL REQUIREMENT FOR THE DEGREE</td>
<td>Master's thesis or comprehensive examination (written, oral, or both).</td>
<td>Doctoral dissertation. A final oral examination in defense of the dissertation may also be required.</td>
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</table>

*Individual departments and programs may set higher standards. Refer to departmental listings under the appropriate college or school chapter or consult your departmental graduate adviser for details.

**If the master’s degree was earned at UCLA, one year of residence will have been satisfied.
graduate course requirements, and one third of the academic residence requirement, but may not have been used to fulfill the requirements for another degree.

From Outside the University — With approval of the dean of the Graduate Division and your major department, courses completed with a grade of B or better in graduate standing at institutions outside the University of California may apply toward UCLA master's programs. However, courses taken for any degree awarded at another institution may not be applied toward a graduate degree at UCLA. A maximum of two courses (eight quarter units or five semester units) may be applied, but they cannot be used to reduce either the minimum graduate course requirement or the academic residence requirement. (To convert semester units into quarter units, multiply the semester units by 1.5 — e.g., 12 quarter units × 1.5 = 18 quarter units. To convert quarter units into semester units, multiply the quarter units by .666 — e.g., 12 quarter units × .666 = 7.99 or 8 semester units.)

From Summer Sessions — Regular session courses offered in UCLA Summer Sessions by regular faculty qualify for credit toward a higher degree with departmental approval. Courses offered by visiting faculty may apply, with a recommendation from the department chair. It is best to consult your departmental graduate adviser about applying Summer Sessions courses to your graduate program.

From UCLA Extension — Extension courses taken after July 1, 1969, can be applied only if they are concurrent courses prefixed by XLC (offered for students in degree programs and open to Extension students by petition) in the 100, 200, or 400 series, completed with a grade of B or better. By petition to the dean of the Graduate Division and with departmental approval, a maximum of two such courses may be applied toward the nine-course minimum and the five-graduate-course requirements for the master's degree. The master's program, then, would include at least three courses in the 200 or 500 series for academic degrees, or three courses in the 200, 400, or 500 series for professional degrees.

If your master's program requires more than nine courses, concurrent Extension courses may be applied toward one half of the course requirements over the minimum of nine.

Grades earned in Extension courses or in courses taken outside the University of California are not included in computing your grade-point average nor may they be used to remove scholarship deficiencies. Correspondence courses are not applicable to graduate degrees.

Academic Residence

Master's Degree — The minimum residence requirement consists of three academic terms in graduate standing at the University of California, including at least two terms at UCLA.

Doctoral Degree — The minimum residence requirement is two years (six terms) in graduate standing at the University of California, including one year (usually the second) in continuous residence at UCLA. If you 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 (four units) during a term.

You 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 two units of upper division and/or graduate work in each session OR (2) enroll in one eight-week session for at least four 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 your program has a language requirement, you should fulfill it either before you 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 you can acquire broad knowledge in your field of study and keep abreast of foreign developments in the field. You are urged to complete language requirements as early as possible in your graduate career. If your department requires two or more foreign languages, you must complete at least one before the University Oral Qualifying Examination (unless your department requires that both be completed before the examination).

Depending on your department's regulations, you may fulfill foreign language requirements either by passing the Graduate School Foreign Language Test (GSFLT) in French, German, Russian, or Spanish or (in languages not offered by GSFLT) by passing examinations given by UCLA language departments. You may register for the examination at the UCLA Extension Cashier's Office, 10995 Le Conte Avenue. UCLA enrollment is not required. Consult UCLA Extension for registration procedures.

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 your native language.

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

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.

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 you must consult with your department to determine the plan for meeting your degree requirements. University minimum requirements are the same under either plan.

Master's Thesis (Plan I)

After advancement to candidacy (described on next page), students under Plan I must submit a thesis reporting on results of their original investigation of a problem. While the problem may be of one of 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 Graduate Division for each student (consult the Graduate Division for more details on committee members' eligibility requirements). The thesis committee, which
must be appointed before you 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 have approved the subject for the thesis, work may begin. You are responsible for preparing the thesis in the proper form and for observing filing deadlines.

Master’s Comprehensive Examination (Plan II)
Following advancement to candidacy (described in next column), 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 your department.

Doctoral Degree
Doctoral programs are individualized and permit a high degree of specialization. The University does not specify course requirements for doctoral programs. Individual programs set their own requirements, which may include specific courses, and these must be completed before you take the University Oral Qualifying Examination. You will determine your course of study in consultation with a graduate adviser until the doctoral committee is appointed.

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. You 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 you complete the recommended or required work. Once all departmental and foreign language requirements are met, the department chair consults with you and then nominates a doctoral committee.

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

Advancement to Candidacy
Master’s Degree
When you have completed approximately half the program for the master’s degree (usually at least two terms), you should formally apply for advancement to candidacy. Application forms are available from your
department and must be filed there no later than the second week of the term in which you expect to receive your degree (by the end of the second week of the first Summer Session for a September degree).

You may not be advanced to candidacy until all departmental requirements for advancement, including foreign language examinations, have been satisfied. You then have one year from the date of advancement to complete all requirements for the degree, including your thesis or comprehensive examination. Candidacy expires at the end of one year and reinstatement during the term in which you plan to receive the degree is by petition only.

**Doctoral Degree**

You are eligible for advancement to doctoral candidacy after passing the University Oral Qualifying Examination with no more than one negative vote, completing four terms of academic residence and any additional departmental requirements, and maintaining a 3.0 grade-point average in graduate standing. You must complete the application for candidacy form sent to you by the Registrar's Office, have it signed by your doctoral committee chair, pay a $50 advancement to candidacy fee, and submit the form to the Graduate Division, Student and Academic Affairs. You are officially advanced to candidacy on the date the completed form is submitted.

**Candidate in Philosophy Degree**

In several departments, as approved by the Graduate Council, the intermediate degree of Candidate in Philosophy (C.Phil.) is awarded to qualified students on advancement to candidacy for the Ph.D. degree.

The C.Phil. is not a terminal degree but gives formal recognition to a definite state of progress toward the doctorate. Academic requirements are the same as for advancement to candidacy for the Ph.D. (see above). Four terms in academic residence at UCLA are required. (Also refer to "Academic Residence" earlier in this chapter.)

The C.Phil. may not be conferred after or simultaneously with the Ph.D. For departments offering the C.Phil., see the degree chart at the beginning of this chapter. For further details, consult the Graduate Division.

**Doctoral Dissertation**

Once the doctoral committee approves the subject for your dissertation, the candidacy stage of the doctoral program begins and is devoted primarily to independent study and research and to the preparation of the dissertation, which demonstrates your ability for independent investigation. The doctoral committee guides your progress toward its completion. You are responsible for following instructions on the preparation of the dissertation and for observing filing deadlines.

**Final Preparation and Filing of Thesis or Dissertation**

For guidance in the final preparation of the thesis or in the preparation and submission of the dissertation and accompanying abstract, you may refer to the theses and dissertations administrator, Office of the University Archivist, 390 Powell Library.

(1) Consult the theses and dissertations adviser, Office of the University Archivist, 390 Powell Library.

(2) Read Regulations for Thesis and Dissertation Preparation, available in the Graduate Division, Student and Academic Affairs, or in the Archivist's Office.

(3) Attend an orientation meeting on manuscript preparation and filing procedures conducted soon after the start of each term (see the Calendar at the beginning of this catalog).

**Master's Thesis** — When all members of the committee have approved the thesis and you are ready to file it, you must initiate the final steps in the process by submitting the original signature (approval) page, title page, and any other required forms to the Graduate Division, Student and Academic Affairs, where completion of degree requirements will be verified. After final approval by the dean of the Graduate Division, you must file the thesis with the theses and dissertations adviser by the published deadline (approximately two weeks before the degree is to be awarded).

**Doctoral Dissertation** — When all members of the committee have approved the dissertation and you are ready to file it, you must submit the original signature (approval) page and title page to the Graduate Division, Student and Academic Affairs, where completion of degree requirements will be verified. After final approval by the dean of the Graduate Division, you must file two paper copies of the dissertation with the theses and dissertations adviser by the published deadline (approximately two weeks before the degree is to be awarded).

Deadlines for this academic year are

- December 5 for Fall Quarter 1994
- March 13 for Winter Quarter 1995
- June 5 for Spring Quarter 1996

**Doctoral Final Oral Examination**

A final oral examination may be required at the option of any member of the doctoral committee, and in some departments is required of all doctoral candidates. The examination, for which all committee members must be present, may be held before you have prepared the final copy of your dissertation, but passing the examination (with no more than one negative vote of the committee members) does not imply approval of the final manuscript. Consult your doctoral committee chair or graduate adviser for further information.

**Interdepartmental Degree Programs**

In addition to graduate degree programs offered within schools and departments, UCLA offers interdisciplinary programs involving two or more participating departments. A total of 27 interdepartmental programs offer bachelor's, master's, and doctoral degrees in some combination; several units offer all three degrees. These 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 faculty division, a subject area is studied from the perspectives of different disciplines and a greater degree of program flexibility is achieved.

Interdepartmental degree programs which currently lead to advanced degrees are listed below. All are described more fully in Chapter 5 on the College of Letters and Science, with the exceptions of Environmental Science and Engineering which is in the School of Public Health (Chapter 17) and Neuroscience which is in the School of Medicine (Chapter 15). For further information, contact the chair or graduate adviser of the specific program that interests you.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Department/Program Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Area Studies (M.A.)</td>
<td></td>
</tr>
<tr>
<td>Afro-American Studies (M.A.)</td>
<td></td>
</tr>
<tr>
<td>American Indian Studies (M.A.)</td>
<td></td>
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<tr>
<td>Applied Linguistics (Ph.D.)</td>
<td></td>
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<tr>
<td>Archaeology (M.A., Ph.D.)</td>
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<tr>
<td>Asian American Studies (M.A.)</td>
<td></td>
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<tr>
<td>Comparative Literature (M.A., Ph.D.)</td>
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<tr>
<td>Environmental Science and Engineering (D.Env.)</td>
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</tr>
<tr>
<td>Folklife and Mythology (M.A., Ph.D.)</td>
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<tr>
<td>Indo-European Studies (Ph.D.)</td>
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<tr>
<td>Islamic Studies (M.A., Ph.D.)</td>
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<tr>
<td>Latin American Studies (M.A.)</td>
<td></td>
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<tr>
<td>Molecular Biology (Ph.D.)</td>
<td></td>
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<tr>
<td>Neuroscience (Ph.D.)</td>
<td></td>
</tr>
<tr>
<td>Romance Linguistics and Literature (M.A., Ph.D.)</td>
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</tbody>
</table>
Concurrent and Articulated Degree Programs

Each of the programs described thus far leads to a single degree—either master's or doctoral. UCLA also offers concurrent and articulated degree programs, which allow you to earn two degrees simultaneously by combining two free-standing degree programs into a coordinated course of study. You may petition to design your own articulated program (with departmental and Graduate Division approval), but you may not apply credits for one degree to the other. Concurrent degree programs, which may not be individually designed, allow some credit overlap.

These programs accomplish several important objectives: they enable the University to respond to societal changes by creating new fields of study; they prepare students more fully for the world's complexities by combining the cultural (political/social/economic) aspects of their field with the tools of a professional degree; and they allow faculty members to cross departmental lines and interact on a broader scale.

Concurrent degree programs, by allowing a specified amount of credit to apply to both degrees, permit students to reduce the total number of courses required for the two degrees and thereby reduce the time normally required if courses were taken in sequence. Programs leading to concurrent degrees are offered in the following disciplines:

- Education, M.A., Ph.D., M.Ed., or Ed.D. — Law, J.D.
- History, M.A. — Library and Information Science, M.L.I.S.
- Latin American Studies, Interdepartmental M.A. — Urban Planning, M.A.
- Management, M.B.A. — Computer Science, M.S. (School of Engineering and Applied Science)
- 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. — Nursing, M.N.
- Management, M.B.A. — Public Health, M.P.H.
- Management, M.B.A. — Urban Planning, M.A.
- Urban Planning, M.A. — Law, J.D.

Articulated degree programs permit no credit overlap, and students must complete degree requirements separately for each degree. Programs leading to articulated degrees are offered in the following disciplines:

- African Area Studies, Interdepartmental M.A. — Public Health, M.P.H.
- African Area Studies, Interdepartmental M.A. — Film and Television, M.F.A.
- Latin American Studies, Interdepartmental M.A. — Education, M.Ed. in Curriculum
- Latin American Studies, Interdepartmental M.A. — Engineering, M.S.
- 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. — Dentistry, D.D.S. or Certificate

Inquiries about concurrent and articulated degree programs should be directed to graduate advisers in the departments and schools involved. Contact the Graduate Division, Student and Academic Affairs, for information on designing your own articulated program.
Graduate Registration and Enrollment

Information:
Registration/Enrollment Office
1113 Murphy Hall
(310) 825-1091

Detailed information on registration (fee payment) and enrollment procedures is contained in the quarterly Schedule of Classes, available for purchase at the Students' Store several weeks before the beginning of each term. To obtain a copy by mail, write to ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, CA 90024-1645, Attn: Mail Out. Include a check or money order for $4.50 payable to ASUCLA.

Registration consists of paying fees and enrolling in classes. The UCLA Billing Statement, mailed monthly to your UCLA mailing address by the Student Accounting Office, is used to pay registration fees and other University charges. Enrollment in classes is completed through URSA (University Records System Access). You must complete both processes by the established deadlines to be officially registered and enrolled for the term.

Payment is required of all eligible students by the applicable deadlines. Payments may be mailed or deposited in the Main Cashier's Drop Slot (1125 Murphy Hall). Payments submitted after the published deadline must be made in person at 1125 Murphy Hall and will be assessed an additional $50 late payment fee. Students on financial aid may be eligible for a waiver of the $50 fee if funds are delayed by the University.

Deadline Dates
Registration Fee Payment Deadlines:
September 20 for Fall Quarter 1994
December 20 for Winter Quarter 1995
March 20 for Spring Quarter 1995

Classes Dropped for Failure to Pay Registration Fees:
October 7 for Fall Quarter 1994
January 13 for Winter Quarter 1995
April 7 for Spring Quarter 1995

Mandatory Medical Insurance Requirement
UCLA requires, as a condition of registration, that all graduate students and all international students on nonimmigrant visas have adequate medical insurance coverage during all periods of enrollment.

UCLA offers a student Medical Insurance Plan (MIP) which fulfills the requirement. For graduate students the MIP fee is included each term in the amount due on the UCLA Billing Statement. This is the only method by which MIP can be purchased.

If you decide to waive out of MIP because you have adequate private medical insurance, you must complete the Medical Insurance Waiver Request included each term with the UCLA Billing Statement and submit the form when you pay your registration fees.

An adequate private medical insurance plan must provide all of the following minimum benefits:

(1) A minimum of $50,000 in "Lifetime Maximum" benefits.

(2) At least 75 percent of the cost for eligible medical expenses, with no more than a 25 percent out-of-pocket cost to you (patient copayment).

(3) A claims representative located in the U.S. In addition, you must be provided with an identification card (or reasonable alternative) written in English, which includes payment provisions listed in U.S. dollars and the U.S. telephone number of the U.S. claims representative.

If your private medical insurance plan does not meet all of the above requirements, you must purchase MIP. For further information on MIP or adequate medical insurance requirements, call the Student Health Service Insurance Office at (310) 825-1856.

Enrollment in Classes
The quarterly Schedule of Classes contains up-to-date listings of class times, meeting rooms, instructors, and all information necessary for enrolling in classes. Using the Schedule and with the aid of academic counseling from your school or college advisers, you can assemble a program of courses.

University Records System Access (URSA)
URSA (310-208-0425) enables all UCLA students to acquire information via a touch-tone telephone from their University academic records stored on the Registrar's Student Records System database.

URSA allows you to process your class enrollment, to obtain course confirmation (including day/time, location, examination code, instructor name), UCLA grades for any completed term, GPA, completed units, and outstanding holds (i.e., restrictions from receiving services), to confirm registration fee payment and Registration Card mailing, to update or review selected student information ("degree expected term," telephone number, residence hall address, privacy release, ethnic-based mailing option, and ethnic background), and to change the security code used to access URSA.

URSA is operational Monday through Saturday from 5 a.m. to midnight, including holidays. You may access the system for grades, GPA, units, and holds information for up to 10 years after your graduation or your last term of attendance. If you have outstanding holds, you will be informed at the beginning of your call.

Telephone Enrollment
By using URSA, you can enroll in classes, add, drop, or exchange classes/sections, put yourself on the wait list for a class, add a class using a PTE Authorization Number, change the grading basis for a class (i.e., Satisfactory/Unsatisfactory), obtain a reading of your Study List, check your wait-list position, and obtain instructor names for all courses. You enroll during your assigned appointment periods, which you also obtain by calling URSA. Consult the Schedule of Classes for full enrollment details.

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

Study Lists
At 5 p.m. on Friday of the second week of instruction the Study List of enrolled courses becomes "official," and all wait lists are eliminated. You should obtain a reading of your Study List through URSA after all enrollment transactions. You are responsible for all courses and the grading basis as listed on URSA, and you cannot receive credit for
courses not listed. Errors or omissions should be corrected before your academic dean's deadline for changes by petition. Unapproved withdrawal from or neglect of a course entered on the Study List will result in a failing grade.

Beginning with the third week of instruction, changes to your Official Study List require an Enrollment Petition which is available for purchase in the school supplies section at any ASUCLA Students' Store or at your department office. Approval signatures are required before processing.

Change of Major

Continuing graduate students may petition for a change of major after discussing plans with the new department. Forms for this purpose are available from the departments and should be filed with the Graduate Division, Student and Academic Affairs, 1255 Murphy Hall. Deadlines are generally the same as those for the graduate admissions procedure, but you should consult with the adviser in the new program before filing an application.

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, you will be directed by your department to enroll full time whenever possible.

Throughout their appointments, teaching assistants are required to be registered and enrolled in at least eight quarter units and graduate student researchers in at least 12 quarter units. Those assistants/researchers who take a leave of absence, or withdraw, terminate their appointments. Course 375 for teaching assistants and independent studies at the 500 level for graduate student researchers may be included in reaching the eight- or 12-unit load.

Graduate students holding fellowships must be enrolled in at least eight units, both before and after advancement to candidacy. The eight-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 Academic Record Services, 1134 Murphy Hall. Approval signatures are required before processing.

Continuous Registration

Graduate students are normally required to register in all three terms of each academic year, including the term in which their degrees or certificates are to be awarded. If you are granted a formal leave of absence or are eligible to pay the filing fee for a degree (see next column), you are exempt from this requirement. You must be registered in order to receive financial aid, use University facilities, or take any University examination except the master's comprehensive or doctoral final oral examination.

If you fail to register or to file for an official leave of absence by the end of the second week of instruction, you are assumed to have withdrawn from UCLA. You will then have to reapply and compete for readmission with all other graduate applicants if you wish to return to graduate study at UCLA. Continuing graduate students studying or doing research outside California throughout a term may pay half the registration fee, plus all other fees in full. Petitions for the reduced fee are available from your department.

Employment and Degree Progress

Policy governing the employment of graduate students considers you primarily as a student rather than an employee and emphasizes your need to make timely progress toward your degree. You are limited to a maximum of 12 quarters of appointment in academic apprentice teaching titles and a maximum of 18 quarters in a combination of academic apprentice teaching and research titles. Appointment to any title limits your employment maximum to 50 percent time during the academic year.

University policy prohibits the employment of graduate students in academic titles. This policy was established to ensure that you (1) make timely progress toward your degree, (2) not be subject to the conflicting roles of student and faculty member, and (3) not be involved in the instruction of your peers.

Registration in the Final Term for Award of the Degree

(1) You must register in the final term in which the degree is to be conferred if you are (a) completing coursework, (b) using library or other University facilities, (c) taking up faculty time other than for a final reading of the thesis or dissertation or to administer the comprehensive or final examination, (d) a doctoral student and were not registered the term immediately preceding the term in which your dissertation is filed, or (e) receiving University funds in the form of a fellowship or appointment as a teaching assistant, reader, or graduate student researcher. If you were not continuously registered or on leave of absence and you are required to register to receive your degree, you must apply for readmission.

(2) If only the thesis or dissertation and/or comprehensive or final examination remain to be completed in your final term, you may be eligible to pay the filing fee instead of registering (see below).

(3) If you were registered in the preceding term and have completed all degree requirements, including final examinations and filing your thesis/dissertation, during the interval between terms and before the first day of instruction, you are not required to register (or pay the filing fee) to receive your degree at the end of the following term.

The Filing Fee

If you have completed all requirements for a degree except filing the thesis or dissertation and/or taking the master's comprehensive or doctoral final oral examination, you may be eligible to pay a filing fee half the registration fee instead of registering and paying all required fees. Applications are available from the Graduate Division, Student and Academic Affairs, 1255 Murphy Hall. For eligibility conditions and further information on the filing fee and registration in the final term, please consult Standards and Procedures for Graduate Study at UCLA, available in 1255 Murphy Hall or in individual departments.

Health Evaluation

New students enrolling in the School of Dentistry, Education and Information Studies, Medicine, Nursing, or Social Welfare must complete and return to the Student Health Service the Health Evaluation forms provided by their departments. For clearance information, call (310) 825-0861.
Graduate Fees and Financial Support

Fees

Although the exact cost of attending UCLA will vary according to your academic program, personal habits, tastes, and financial resources, 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 the Registrar’s Office. Legal residents of California are not required to pay tuition at the University. Students classified as nonresidents must pay tuition of $2,566 per term (for a full definition of residence and nonresidence, see the Appendix of this catalog).

At the time of registration each term, all graduate students (except those in the Schools of Dentistry, Law, Management M.B.A. program, and Medicine) must pay the following fixed fees. Students in those schools should refer to their individual school announcements for explanation of fees per term. Fees for Fall Quarter 1994 are current as of publication date but are subject to change without notice by The Regents.

### Term Expenses, Fall 1994

<table>
<thead>
<tr>
<th>Expense</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee</td>
<td>$237.00</td>
</tr>
<tr>
<td>Educational fee</td>
<td>$1,120.00</td>
</tr>
<tr>
<td>Ackerman Student Union fee</td>
<td>$2.50</td>
</tr>
<tr>
<td>Graduate Students Association fee</td>
<td>$5.50</td>
</tr>
<tr>
<td>Wooden Recreation Center fee</td>
<td>$11.00</td>
</tr>
<tr>
<td>Mandatory medical insurance</td>
<td>$180.00</td>
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<tr>
<td><strong>Total for California residents</strong></td>
<td><strong>$1,556.00</strong></td>
</tr>
<tr>
<td>Nonresident tuition fee</td>
<td>$2,566.00</td>
</tr>
<tr>
<td><strong>Total for nonresidents</strong></td>
<td><strong>$4,122.00</strong></td>
</tr>
</tbody>
</table>

Other Fees

Miscellaneous fees charged to UCLA graduate students include a $50 charge for late payment of registration fees (after the fee deadline) or late filing of the Study List (after Friday of the second week of classes); $25 for advancement to doctoral candidacy; a $20 late fee if the UCLA Billing Statement has an unpaid balance in excess of $25; and $5 or less for most petitions and other special requests. A $60 fine will be assessed if any check for registration fee payment is returned by a bank (i.e., stopped payment, insufficient funds, etc.). A complete list of fees may be found in the Schedule of Classes.

Fee Refunds

Students who formally withdraw from the University during the first five weeks of instruction or take an approved leave of absence by the end of the second week of classes may receive partial refunds of fees. For the refund schedule and more information, see “Withdrawal” in Chapter 4 of this catalog or consult the Schedule of Classes for policy details and specific refund dates for each term.

Nonresident Tuition Fellowships

A limited number of nonresident tuition fellowships are awarded each year to graduate students with distinguished academic records. Details of eligibility are available from your department.

Living Expenses

Printed below are the estimated yearly budgets for graduate California residents. Students admitted in fall 1994 to the D.D.S., J.D., M.B.A., and M.D. degree programs must add the $2,000 professional school fee, and nonresidents must add the $7,699 annual tuition fee to their total expenses for an accurate estimate. Expenses cover the three regular session terms of the 1994-95 academic year and do not include Summer Sessions. (Budgets for the Schools of Medicine, Dentistry, and Nursing are higher, reflecting the expense of specialized books and supplies; figures are available from your health professions counselor.) The budgets are designed to serve as a guide and are subject to change.

### Estimated Annual Budgets for Graduate California Residents

<table>
<thead>
<tr>
<th></th>
<th>Commuter, Living in Parents' Home</th>
<th>Living in UCLA Residence Hall, Co-Op, Sorority, or Fraternity</th>
<th>Living in Off-Campus Apartment or House</th>
</tr>
</thead>
<tbody>
<tr>
<td>University fees</td>
<td>$4,396</td>
<td>$4,396</td>
<td>$4,396</td>
</tr>
<tr>
<td>Books and educational supplies</td>
<td>1,115</td>
<td>1,115</td>
<td>1,115</td>
</tr>
<tr>
<td>Food and rent</td>
<td>2,975</td>
<td>5,975</td>
<td>7,870</td>
</tr>
<tr>
<td>Transportation</td>
<td>2,475</td>
<td>1,660</td>
<td>2,675</td>
</tr>
<tr>
<td>Personal</td>
<td>—</td>
<td>1,800</td>
<td>885</td>
</tr>
<tr>
<td><strong>Total budget</strong></td>
<td><strong>$10,961</strong></td>
<td><strong>$14,946</strong></td>
<td><strong>$16,941</strong></td>
</tr>
</tbody>
</table>

For more information on housing, see Chapter 1 or contact the UCLA Community Housing Office, 350 De Neve Drive (310-825-4491).
Financial Support

Information:
Graduate Student Support
1252 Murphy Hall
(310) 825-3521

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 students is included in the Application for Graduate Admission. Readmitted students should also request the Application for Graduate Admission, and continuing graduate students should complete the Fellowship and Assistantship Application for Continuing Students. Completed applications must be returned by January 9. (Some departments have earlier deadlines; consult the application packet for details.)

UCLA Graduate Student Support, a booklet describing the full range of financial assistance available, is published annually and mailed to continuing students by the Graduate Division. Contact your 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 tuition 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.

In-Candidacy Fee Offset Grant Program

The In-Candidacy Fee Offset Grant Program pays a portion of the educational fee for eligible doctoral students who have been officially advanced to candidacy. This program is described in detail in Standards and Procedures for Graduate Study at UCLA, available in 1255 Murphy Hall or in individual departments.

Graduate Affirmative Action Awards

Information:
Graduate Affirmative Affairs Office
1248 Murphy Hall
(310) 206-1280

These programs were established to increase the graduate enrollment and retention of students from groups which have traditionally been underrepresented in graduate education. These groups include American Indians, blacks/African Americans, Chicanos/Mexican Americans, Latinos/Hispanics, Pilipino Americans, and Puerto Ricans. In addition, women in the sciences and engineering, Asian American men in the arts, humanities, and social sciences, and Asian American women in all areas are eligible for many of these awards.

As indicated below, the Graduate Division offers one need-based financial aid program (GAP) and several fellowships to underrepresented students. Students may apply for both financial aid and fellowships simultaneously. All applicants for fellowships must be U.S. residents. For more information on these programs and specific eligibility requirements for each fellowship, contact the Graduate Affirmative Affairs Office, 1248 Murphy Hall (310-206-1280).

(1) Project 88 — Funded jointly by the UCLA Office of the Chancellor, the Graduate Division, and participating departments and schools, this program awards four-year fellowships on a competitive basis to historically underrepresented students (American Indian/Alaskan native, black/African American, Chicano/Mexican American, Pilipino, and Puerto Rican) pursuing doctoral degrees. Asian American students pursuing doctoral degrees in the arts, humanities, and social sciences are also eligible.

(2) Eugene Cota-Robles Fellowship — This program is funded by the University of California Office of the President for entering Ph.D. students pursuing careers in research and teaching. All applicants must be U.S. citizens or permanent residents who are American Indian/Alaskan native, black/African American, Chicano/Mexican American, Latino/Hispanic, Pilipino, Asian American women (in all disciplines), and Asian American men in the social sciences and humanities. In addition, women in the physical and life sciences and engineering may apply regardless of ethnicity.

(3) Graduate Opportunity Fellowship Program (GOFP) — Funded by the University of California, this program provides fellowships to students from groups traditionally underrepresented in graduate programs and to women in fields such as engineering and the physical and life sciences.

(4) Dorothy Danforth Compton Dissertation-Year Fellowship Program — Funded by the Danforth Foundation, this program provides research assistantships for underrepresented doctoral students and is designed to encourage a close mentoring relationship between students and faculty members and to enhance research skills. The award provides registration fees, and students are paid a maximum salary of $12,500 for the academic year.

(5) Research Assistantship/Mentorship Program — Funded by the University of California Office of the President, this program provides research assistantships for underrepresented doctoral students and is designed to encourage a close mentoring relationship between students and faculty members and to enhance research skills. The award provides registration fees, and students are paid a maximum salary of $12,500 for the academic year.

(6) Dissertation-Year Fellowship Program — Funded by the University of California Office of the President, this program supports and encourages University of California underrepresented graduate students to complete the dissertation requirements for the Ph.D. degree and to enhance their qualifications as candidates for faculty teaching and research. The award provides a stipend, registration fees (including mandatory health insurance), and a research allowance.

(7) Graduate Advancement Program (GAP) — Awards are made on the basis of need as demonstrated by standard University financial aid criteria. These awards differ from conventional financial aid allocations in that GAP students receive a partial registration fee grant (nonresident tuition is not paid under this program) and a combination of loans and/or work-study.

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 your financial resources. Financial aid applicants must file the Free Application for Federal Student Aid (FAFSA).

Financial aid awards include work-study and low-interest loans. Students are usually awarded a financial aid “package” which is a combination of these forms of assistance. Further information is available from the Financial Aid Office, A129J Murphy Hall.
Special Programs and Training

UCLA ACCESS to Programs in Molecular and Cellular Life Sciences

The life and basic biomedical science departments at UCLA offer a mechanism for a combined recruitment, admission, and first-year program that provides Ph.D. students in the molecular and cellular life sciences with maximal choice and flexibility in selecting a research specialization. Through UCLA ACCESS, you are able to select research projects from 165 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.

UCLA ACCESS is used to recruit and admit students to the following 11 Ph.D. programs: Biochemistry, Biology, Microbiology and Molecular Genetics, Molecular Biology, and Physiological Science in the College of Letters and Science; Anatomy and Cell Biology, Biological Chemistry, Experimental Pathology, Microbiology and Immunology, Pharmacology, and Physiology in the School of Medicine. For specific information, refer to the individual department listings in Chapters 5 and 15.

Admission

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

Applications and further information are available from the Program Coordinator, UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 166 MBI, UCLA, Los Angeles, CA 90024-1570 (310-206-5260).

First-Year Course Requirements

Individual requirements vary based on your background and scientific interest and are determined by your advising committee. In general a formal course of study consists of three lecture courses, three laboratory rotations, and two seminar courses. In addition, you participate in related activities on an informal basis.

Lecture Courses — Three survey courses to be selected from a list of approved courses maintained in the program office (one in molecular biology, one in cellular biology, molecular genetics, or microbiological pathogenesis, and one specialized survey course).

Seminar Courses — You must enroll in two seminars during your first three terms to read and report on current scientific research literature.

Laboratory Rotations — During your first nine months in residence, you rotate for one term each through three laboratories selected from the UCLA ACCESS faculty list. You normally enroll in course 596 for a minimum of four units of credit for each rotation.

Other Activities — You are encouraged to attend the weekly one-hour ACCESS meeting during Fall and Winter Quarters, which features informal presentations by two professors per week. Seminars in scientific ethics and computer literacy are also required.

Teaching Experience — All departments participating in UCLA ACCESS consider teaching experience to be an integral part of the graduate program. You are required to complete two terms of teaching beginning in your second year. You are also required to complete a course, administered through the program, on approaches and methods for successful teaching.

Transfer to the Degree-Granting Program

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

In the event you are unable to identify a suitable mentor and program by the end of your first year, one additional laboratory rotation approved by your advising committee will be available during the summer quarter. If you are unable to arrange for a laboratory after four rotations, you will be recommended for termination of graduate study or given the opportunity to arrange for a terminal master’s degree through one of the participating or affiliated programs.

Graduate Cross-Enrollment Program with USC

As an integral part of an Academic Resource Sharing program linking UCLA with the University of Southern California, the Graduate Cross-Enrollment Program makes possible graduate student exchanges in many departments. The program is limited to specialized courses which would not otherwise be available to UCLA students and is in effect only during the regular academic year (not in summer).

If you have completed at least one term of graduate study at UCLA, are in good academic standing, and have obtained the necessary approvals, you may enroll in a 501 course through your department. When you have completed the course at USC, your grade will be forwarded to UCLA to be recorded on your transcript (S/U grading only). Only eight units of cross-enrollment courses may be applied toward requirements for the master’s degree, and these courses may not be used to satisfy the five-graduate-course requirement. Applications, available from the Graduate Division, Student and Academic Affairs, 1255 Murphy Hall, should be completed before the start of the term in which the course is offered.

Intercampus Exchange Program

If you have completed one term of graduate study at any campus of the University and are in good academic standing, you may attend another campus as an Intercampus Exchange Graduate Student with the approval of your department chair, the chair of the department or group in which you wish to study at the host campus, and the dean of the Graduate Division at both the home and host campuses. The privilege should be used only by students whose graduate study may be...
enhanced by work with certain faculty or use of facilities and resources accessible only at another campus.

Although you are considered to be in residence at your home campus, as an Intercampus Exchange Student you have library, health service, and recreation center privileges at the host campus. Grades are transferred to your home campus and entered on your official record.

Applications are available from the Graduate Division, Student and Academic Affairs, and should be filed at least four weeks before the beginning of the term in which you expect to enter the program. The program is available only during the regular academic year (not in summer).

Graduate students may also take advantage of the Education Abroad Program described in Chapter 1 of this catalog.

Postdoctoral Fellows and Visiting Scholars

The University makes opportunities and facilities available to qualified scholars — those holding doctoral degrees or foreign equivalents — to continue advanced study and research under faculty guidance.

A postdoctoral fellow is one who (1) has been awarded a doctoral degree or the foreign equivalent where at least three years of undergraduate study are prerequisite to admission to the graduate program, (2) has been awarded a fellowship, traineeship, or equivalent support (including academic appointments such as postgraduate researcher) for studies at the postdoctoral level, and (3) is pursuing a program of research and training under the direction of a faculty member with the approval of the department or research unit, and by the dean of the Graduate Division. Enrollment as a postdoctoral fellow is normally for a period of one to three years and is limited to a period not to exceed five years. Interested candidates should make advance arrangements with the relevant department or research unit.

The same opportunities are made available to visiting scholars — senior scholars and distinguished visitors holding doctoral degrees or foreign equivalents — who wish to pursue independent research or advanced study at UCLA, working with a colleague for a limited time, normally no more than one year. Visiting scholars are distinguished from postdoctoral fellows in that they are not in training under faculty supervision but rather are themselves peers of our faculty, visiting from other universities and institutions. Visiting scholars ordinarily have adequate support funds from sources outside the University.

Further information on both postdoctoral fellows and visiting scholars is available from Student and Academic Affairs, 1255 Murphy Hall.

General Policies and Regulations

Standards of Scholarship

To maintain satisfactory progress toward a graduate degree, UCLA requires at least a B (3.0) average in all courses taken in graduate standing at any campus of the University and in all courses applied toward advanced degrees. This standard applies to all graduate students, including candidates in certificate programs. In courses graded on an S/U basis, the grade of S (Satisfactory) is awarded for work which would otherwise receive a B or better. Grades S and U are not included in calculating grade-point averages.

Scholarship Probation

You are on probation and are subject to dismissal if your cumulative average in all work attempted in graduate standing falls below a B (3.0) or if work in any two consecutive terms falls below a B average. The dean of the Graduate Division, in consultation with your department, determines your eligibility to continue graduate study in probationary status. If you are allowed to continue, you must make timely progress toward improving your grade-point average.

Disqualification and Appeal

If you are subject to disqualification for reasons other than failure to maintain the minimum grade-point average, you will have your records reviewed by the Graduate Division, in consultation with the graduate adviser. If disqualification results, you may submit a written appeal to the dean of the Graduate Division for reconsideration. Contact Student and Academic Affairs, 1255 Murphy Hall, for specific details on how to submit an appeal.

Appeals will be considered only if based on appropriate cause such as (1) procedural error, (2) judgments based on nonacademic criteria, (3) personal bias, or (4) specific mitigating circumstances contributing to performance. Alleged errors in academic judgment or evaluation are not considered appropriate causes for appeal.

In cases of appropriate cause, the dean of the Graduate Division refers the appeal to the Graduate Council’s Committee on Degree Programs. You are required to submit a written statement on the basis for your appeal and are entitled to a personal appearance before the committee. After obtaining information on the matter from any appropriate person or office, the committee makes a recommendation to the dean of the Graduate Division, who makes the final decision. In reporting the decision, the committee includes the basis for the decision, its effective date, and any specific recommendations.

Graduate Student Complaints

Because of the separation of functions within the University, students are sometimes uncertain where they should direct their complaints. The following information may be helpful.

If you have complaints of a scholastic or professional nature involving faculty, you should take them up with the faculty member concerned or, if that is not feasible, with the chair of the department. If the department as a whole is involved, you should take the matter to the appropriate divisional or school dean. Should the issue not be resolved at that level, you may appeal to the dean of the Graduate Division, 1237 Murphy Hall.

Complaints of misconduct against individual students should be made at the Office of the Dean of Students, 1206 Murphy Hall. Complaints of misconduct against officially recognized student organizations may be made at the Center for Student Programming, 337 Plaza Building, or with the Office of the Dean of Students, 1206 Murphy Hall.

Complaints concerning alleged violation of the policies and regulations governing graduate study should be made to the dean or associate dean of the Graduate Division, 1237 Murphy Hall.

Complaints from teaching assistants about workloads and evaluations are governed by the provisions of the Teaching Assistant Grievance Procedures, which are spelled out in detail in the Academic Apprentice Personnel Manual. Copies are available from departments and from Graduate Student Support, 1252 Murphy Hall.

Complaints about a violation of University policy regarding the conduct of one or more faculty members should be handled as described in “Non-discrimination,” “Harassment,” and “Faculty Code of Conduct” in the Appendix.
Units and Grading Policy

UCLA students are responsible for understanding the grading policies and regulations established by the Academic Senate. Should any semantic variations exist between explanations in this catalog and regulations in the Manual of the Academic Senate, the manual will prevail in all cases. Copies of the Senate manual are available for your review in the Academic Senate Office, 3125 Murphy Hall.

Grades

Instructors are required to assign a final grade for each student registered in a course. The following grades are used to report the quality of a student's work at UCLA:

**Undergraduate Students**

- **A+ = Extraordinary**
- **A = Superior**
- **B = Good**
- **C = Fair**
- **D = Poor**
- **F = Failure**
- **P = Passed**
- **NP = Not Passed**
- **I = Incomplete**
- **IP = In Progress**
- **DR = Deferred Report**

**Graduate Students**

- **A = Superior Achievement**
- **A- = Superior Achievement**
- **B = Satisfactorily demonstrates potential for professional achievement**
- **C = Passed but work does not indicate potential for professional achievement**
- **D = Satisfactory**
- **F = Failure**
- **S = Satisfactory**
- **U = Unsatisfactory**
- **I = Incomplete**
- **IP = In Progress**
- **DR = Deferred Report**

For Undergraduate Students — The grades A, B, C, and D may be modified by a plus (+) or minus (-) suffix, to either raise or lower your grade-point average. The A + grade will not raise your grade-point average because it carries the same number of grade points as the A grade. The grades A, B, C, and P denote satisfactory progress toward the bachelor's degree, but a D grade must be offset by higher grades in the same term for you to remain in good academic standing. An F grade yields no unit or course credit.

For Graduate Students — The grades A, B, C, and M 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 you to remain in good academic standing. Courses in which a C grade is received, however, may be applied toward graduate degrees.

The Schools of Dentistry, Medicine, and Law maintain their own grading codes. If you are interested in programs in any of these schools, consult the appropriate school announcement.

**Grade Points**

In computing scholarship standing, a course counts as four quarter units. Partial or multiple courses are counted proportionally (e.g., one-half course is equal to two units).

---

<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>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>C+</td>
<td>3.7</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</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>F, NP, U</td>
<td>0</td>
</tr>
</tbody>
</table>

Courses in which you 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 your grade-point average. (If an I grade is later removed and a letter grade assigned, units and grade points are included in subsequent grade-point averages.) NR indicates that no grade was received from the instructor.

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**Computing Your Grade-Point Average**

Your grade-point average, or GPA, is determined by dividing the number of grade points earned by the number of units attempted. The number of grade points earned for a course equals the number of grade points assigned times the number of course units. For example, suppose you take three four-unit courses and receive grades of A-, B-, and C+.

<table>
<thead>
<tr>
<th>Course Units</th>
<th>Total Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>14.8</td>
</tr>
<tr>
<td>4</td>
<td>10.8</td>
</tr>
<tr>
<td>4</td>
<td>9.2</td>
</tr>
<tr>
<td>Total</td>
<td>34.8</td>
</tr>
</tbody>
</table>

To determine your GPA for the term, divide the total grade points earned (34.8) by the total course units attempted (12). Your 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). Only grades earned in regular session or Summer Sessions at any UC campus and grades earned by Letters and Science 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 your GPA.

Other schools and agencies may calculate grade-point averages differently from the University when evaluating your records for admission to graduate and professional school programs. You should contact them about their policies in this regard.

**Class Standing**

Undergraduate classification is determined by the number of units completed:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Completed Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>0 - 44.9</td>
</tr>
<tr>
<td>Sophomore</td>
<td>45 - 69.9</td>
</tr>
<tr>
<td>Junior</td>
<td>90 - 134.9</td>
</tr>
<tr>
<td>Senior</td>
<td>135 or more</td>
</tr>
</tbody>
</table>
In all campus units except the School of Engineering and Applied Science, you are required to earn a minimum of 180 units from all college-level coursework for the bachelor's degree at UCLA. A maximum of 208 units is allowed in the School of the Arts, School of Nursing, and School of Theater, Film, and Television; in the College of Letters and Science a maximum of 216 units (228 for double majors and special programs) is allowed. In the School of Engineering and Applied Science, the minimum units allowed are between 180 and 200 (depending on the program); 213 maximum units are allowed. If you exceed the maximum, you may not be allowed to continue, except in rare cases approved by your college or school. See the degree requirements under each college and school for further details.

Graduate classification is based on your degree objective and whether or not you are advanced to candidacy for a doctorate.

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

By alleviating grading pressures, this option allows you to explore areas in which you have little or no previous experience. The grade P is assigned for a letter grade of C or better. Units earned this way count toward satisfaction of degree requirements but do not affect your GPA. You will receive neither units nor course credit for an NP grade.

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

You may make program changes to or from P/NP grading through the sixth week of instruction (see the Schedule of Classes Calendar for exact dates); changes after the first two weeks of class require a petition (available for purchase in the school supplies section at any ASUCLA Students' Store).

Certain undergraduate courses are offered only on a Passed/Not Passed basis and are designated PN in the Schedule of Classes.

Satisfactory/Unsatisfactory (S/U) Grades
Graduate students in good standing (minimum 3.0 GPA) may enroll for 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 will not be counted in computing the GPA. You will receive neither units nor degree credit for a U grade. You 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 (see the Schedule of Classes Calendar); changes after the first two weeks of class require a petition (available for purchase in the school supplies section at any ASUCLA Students' Store).

Certain graduate courses are offered only on a Satisfactory/Unsatisfactory basis and are designated SU in the Schedule of Classes.

Incomplete (I) Grades
Once an I grade is assigned, it remains on your transcript along with the passing grade you may later receive for the course. Your instructor may assign the I grade when your work is of passing quality but is incomplete for a good cause (i.e., illness or other serious problems). It is your 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, you may receive unit credit and grade points by satisfactorily completing the coursework as specified by the instructor. Do not reenroll in the course; if you do, it will be recorded twice on your transcript. If the work is not completed by the end of the next full term in residence, the I grade will lapse to an F, NP, or U as appropriate. Your college or school may extend this deadline in unusual cases (not applicable to graduate students).

Consult the Schedule of Classes for procedure instructions.

In Progress (IP) 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 IP are assigned in the intervening term(s) and are replaced with the final grade when you complete the full sequence. The school or college faculty or the Graduate Council will determine credit if you do not complete the full sequence and petition for partial credit.

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

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 your grade-point average, you may repeat only those courses in which you receive a grade of C- or lower; NP or U grades may be repeated to gain unit credit. Courses in which you received a letter grade 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 either on the same basis or for a letter grade.

(2) Repetition of a course more than once requires the approval of your college or school or the dean of the Graduate Division, and is granted only under extraordinary circumstances.

(3) Degree credit for a course will be given only once, but the grade assigned each time you take the course will be permanently recorded on your transcript.

(4) For undergraduates who repeat a total of 16 units or less, only the most recently earned letter grades and grade points will be computed in the grade-point average. After repeating 16 units, however, your GPA will be 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, will be used in computing 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. If you are dissatisfied with a grade, you should review your work with the instructor and receive an explanation of the grade assigned. All grade changes are recorded on your transcript. See the Appendix for further details and procedures for appealing grades.

Credit by Examination

Students with high scholastic standing may earn credit for regular University 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 which may include oral and written work in addition to other requirements. To be eligible for the privilege, 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 your record in the same way as regular courses, and corresponding grade points are assigned. Graduate credit earned by examination may be applied toward minimum course requirements for master's degrees but cannot be applied to academic residence requirements for master's or doctoral degrees.

You will need approval from the appropriate instructors, the department, and your college or school or the dean of the Graduate Division, from whom petitions for credit by examination (with fee) are available.

Other Academic Policies

Concurrent Enrollment and Transfer of Credit

Concurrent enrollment means taking courses for credit in UCLA regular session (Fall, Winter, or Spring Quarter) and at another college institution (including UCLA Extension) at the same time. Concurrent enrollment is not permitted except in extraordinary circumstances, and no credit will be given for courses taken concurrently elsewhere without the approval of your college or school. This does not apply to UCLA Summer Sessions (see "Summer Sessions" in Chapter 1).

Undergraduate Students

During the summer or during a term when you are not registered at UCLA, you may elect to take courses for credit at UCLA Extension, a community college, or another four-year institution (see limitations below). The UCLA Office of Undergraduate Admissions and Relations with Schools makes the final decision on credit transferability, but it is your responsibility to select courses with catalog descriptions similar to courses offered in regular session at UCLA. You should avoid courses that are closely related to those you have already taken, as you cannot receive credit twice for the same or similar courses. If you wish to apply a specific course from another college toward satisfaction of degree requirements at UCLA, consult your college, school, or department counselor before taking the course. Only grades earned in regular session or Summer Sessions at any UC campus other than UC Santa Cruz and grades earned by Letters and Science students in UCLA Extension courses prefixed by XLC are computed in the UCLA grade-point average. You may, however, receive unit credit and satisfy course requirements with transferable work taken elsewhere. When you have completed the work, you must have the other college send a copy of your transcript to the UCLA Office of Undergraduate Admissions and Relations with Schools (UARS); you must also fill out a Transfer Credit Evaluation Request form at UARS, 1147 Murphy Hall.

UCLA Extension — If you wish to receive degree credit for work taken through UCLA Extension, you 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 Letters and Science students 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.

Community Colleges — The maximum number of community college units allowed toward the bachelor's degree is 105 quarter units (70 semester units). The UCLA Office of Undergraduate Admissions and Relations with Schools will not grant transfer credit for community college courses beyond 105 quarter units, but you may still receive subject credit for this coursework to satisfy lower division requirements. Consult your college or school counselors for possible further limitations. (To convert quarter units into quarter units, multiply the semester units by 1.5 — e.g., 12 semester units x 1.5 = 18 quarter units. To convert quarter units into semester units, multiply the quarter units by .666 — e.g., 12 quarter units x .666 = 7.99 or 8 semester units.)

Graduate Students

With approval of the dean of the Graduate Division, certain courses completed outside of UCLA regular session may be applied toward the master's degree. For more details, see "Transfer of Credit" under "Requirements for Graduate Degrees" in Chapter 3.

Transcript of Record

The Registrar prepares and permanently retains a record of each student's academic work. Your transcript reflects all undergraduate and graduate work completed in UCLA regular session and Summer Sessions. It lists chronologically your courses, units, grades, cumulative grade-point average, transfer credits, and total units.

The University Records System Access (URSA) allows all UCLA students to obtain course confirmation, UCLA grades for any completed term, GPA, completed units, and outstanding holds (i.e., restrictions from receiving services) and to confirm registration fee payment via a touch-tone telephone. Presently you can call URSA at (310) 208-0425 Monday through Saturday from 5 a.m. to midnight, including holidays (hours are subject to change). You can call as often as you wish. Access is given based on your nine-digit UCLA student I.D. number and your four-digit security code. This system is easy to use, explaining what to do at each step. A time limit is announced at the beginning of each call. If you exceed the limit, you will be disconnected. You may access the system for up to 10 years after your graduation or your last term of attendance. For additional information, consult the Schedule of Classes.

As needed, you may obtain a free printout of your grades for the most recent graded term at Academic Record Services, 1134 Murphy Hall, by presenting your valid current-term Registration Card and a photo I.D. To have official transcripts sent to other schools or institutions, fill out a Transcript Request form (available in the Murphy Hall North Lobby). Each transcript costs $4; make your check or money order payable to Regents-UC. Transcript fees are subject to change at any time. Requests will not be processed if you have outstanding financial, aca-
demic, or administrative obligations (holds) to the University. Transcripts of work completed elsewhere must be requested directly from the campus or institution concerned.

Transcripts for UCLA Extension courses must be ordered from UCLA Extension, P.O. Box 24901, Los Angeles, CA 90024.

Verification of Student Status
The Registrar verifies registration (fee payment) and enrollment status as a student is eligible. Verification cannot be issued if registration fees for the term have not been paid.

Verifications for loan forms and student aid guarantors are processed through the National Student Loan Clearinghouse, a nonprofit industry-sponsored organization representing schools, guarantors, lenders, servicers, and secondary markets for the sole purpose of standardizing, simplifying, and automating enrollment verifications and deferment processing. UCLA provides student enrollment verification data, including student names, mailing addresses, Social Security numbers, and enrollment status, to the clearinghouse on a regular basis. Release of this information to the clearinghouse has been approved by the U.S. Department of Education and ruled in compliance with the Federal Family Educational Rights and Privacy Act (FERPA).

Submit all verification request forms (including “good student” auto insurance discounts and health insurance verifications) to Academic Record Services, 1134 Murphy Hall. Forms for clearinghouse participants will be forwarded to the clearinghouse by Academic Record Services.

Certificate of Resident Study for International Students
In addition to a formal transcript, each college or school or the Graduate Division may issue a Certificate of Resident Study to a registered international student. To obtain this certificate, you must have completed a program of at least nine courses with a minimum 2.0 grade-point average (2.5 for Graduate Division students), or have satisfactorily completed a research project over a period of nine months or more. The chair of your major department recommends the award of this certificate.

Registration Card
Your valid Registration Card (Reg Card) is your official student identification and is required, along with your UCLA Student I.D. Card, for all University services and student activities. Carry it with you as you will be asked to show it for student health services, library privileges, athletic and cultural student ticket rates, recreation center, check cashing, and many other campus services.

If you lose or do not receive your Reg Card, a temporary verification card (good for seven days) will be issued without fee at 1113 Murphy Hall after the fee deadline for the term. After the term begins, you may replace lost, destroyed, or mutilated cards at 1113 Murphy Hall for a $3 fee. You must show proof of identity for verification or replacement cards.

If you have outstanding obligations (holds), proof of registration cannot be issued. For details on outstanding holds and initiating offices, call URSA at (310) 208-0425.

UCLA Student (Photo) I.D. Card
This card with photo is issued without charge to new or reenrnt students from the beginning to the end of the first academic term and is valid with the current Reg Card. Both the Student I.D. Card and the current-term Reg Card are required for all University services and student activities.

You will need a current Reg Card and other valid identification (driver's license, passport, or California DMV I.D. card) to obtain your Student I.D. Card. There is a fee for issuing the card after your first academic term in attendance, for replacing lost or destroyed cards, and for issuing cards because of a name change affecting your University records.

Change of Name or Address
If you wish to change your name on your official University record, fill out a UCLA Correction or Change of Name form (available in the Murphy Hall North Lobby) and submit it to Academic Record Services, 1134 Murphy Hall. All name changes are recorded on your transcript. If you change your address, notify the Registration/Enrollment Office in 1113 Murphy Hall as soon as possible.
Leaving UCLA

Intercampus Transfer
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. Obtain the UC Application for Undergraduate Admission and Scholarships and submit the required application fees with the application form. The filing periods are the same as those for new applicants (see "Undergraduate Admission" in Chapter 2). Applications are available from the UCLA Office of Undergraduate Admissions and Relations with Schools, 1147 Murphy Hall, Los Angeles, CA 90024-1436, other University of California Undergraduate Admissions Offices, or your local college.

Graduate students who wish to enroll as degree candidates at other UC campuses must apply for admission to those Graduate Divisions.

Absence during a Term
If you have to be absent from classes temporarily for reasons beyond your control, you should notify your instructors. Regardless of the reasons for absence, you are required to complete all coursework. If you cannot complete the work on time because your absence is later in the term or prolonged, you may request that the instructors assign an Incomplete grade (see "Incomplete Grades" earlier in this chapter).

One-Term Absence for Undergraduates
Undergraduate students who have completed at least one term at UCLA and fail to register for the following term may return to the University the next subsequent term as continuing students. If you plan to attend another institution (including UCLA Extension) during your absence, you should consult your college or school counselor before enrolling elsewhere (see "Concurrent Enrollment and Transfer of Credit" earlier in this chapter). If you are absent for two or more consecutive terms, you are no longer considered a continuing student and must apply for readmission (see "Readmission" in Chapter 2 for procedures and deadlines).

Leave of Absence for Graduate Students
Graduate students in good standing may be granted leaves of absence, normally for periods of one to three terms, on approval from the appropriate department and the Graduate Division. Leaves, which may be extended for a total of two years at the discretion of your department and with approval of the Graduate Division, must be requested before the end of the second week of classes (see "Withdrawal" in the next column for fee refund procedures and more information). Request forms are available from the Graduate Division, Student and Academic Affairs, 1255 Murphy Hall. For details on leaves of absence, see Standards and Procedures for Graduate Study at UCLA, available in the Graduate Division offices or in individual departments. Students on leaves of absence are not eligible to use University facilities (except libraries) or faculty time and cannot receive University financial support. Leaves of absence as described here do not apply to undergraduates.

Graduate students who fail to register for a term and do not take an official leave of absence are considered to have withdrawn from the University and must compete for readmission with all other applicants.

Cancellation
Before the first day of classes, you may cancel registration by mailing a written notice and your current Registration Card to the Registration/Enrollment Office, Attn: Cancellation Clerk, 1113 Murphy Hall, Los Angeles, CA 90024-1429. A $10 service charge will be deducted from your fee refund; additional fees will be deducted for failure to return your Registration Card.

Undergraduates who return to the University for the following term are considered continuing students. If you are absent longer than one term, you must apply for readmission (see "Readmission" in Chapter 2 for procedures and deadlines). If you cancel in your first term at UCLA, you must reapply for admission.

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
 Withdrawal from the University means discontinuing attendance in all courses in which you are enrolled. If you withdraw during a term, you need to file a Notice of Withdrawal, available from your academic dean's office (undergraduate) or departmental office (graduate student). Submit your Registration Card along with the form or a fee will be deducted from any refund.

When you withdraw officially during the first five weeks of instruction (calendar days 1 to 35, beginning with the first day of instruction), a percentage of your registration fee will be refunded as follows:

- First and second weeks of instruction: 80% refund
- Third week of instruction: 60% refund
- Fourth week of instruction: 40% refund
- Fifth week of instruction: 20% refund
- After fifth week of instruction: no refund

If instruction begins in midweek, refund percentages may also change in midweek. Claims for refund must be presented within the academic (fiscal) year to which the claim is applicable. Consult the current Schedule of Classes for policy details and specific refund dates.

You may withdraw only if you have not taken any final examinations or otherwise completed the work in any of your classes. For undergraduates, one withdrawal places no restriction on readmission or continuation if you started the term in good academic standing. If you withdraw after one or more previous withdrawals or while in academic difficulty, a restriction may be placed on your continuance in undergraduate standing. Before withdrawing, you 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 you have officially graduated from the University.

If you register and subsequently discontinue coursework or stop payment on registration checks without an approved petition for withdrawal, leave of absence, or cancellation, you will receive F, NP, or U grades, as appropriate, for all courses in which you are enrolled for that term. A $60 fine will be assessed if any check for registration fee payment is returned by a bank (i.e., stopped payment, insufficient funds, etc.). No fees will be refunded, and future registration privileges may be curtailed or revoked. Transcripts will not be issued if you have outstanding financial obligations to the University.

Undergraduate Students — If you return to the University for the term following withdrawal, you are considered a continuing student. If you return later than the following term, you must apply for readmission.
Graduate Students — If you do not register for a term, you are considered to have withdrawn from the University and must apply for readmission when you return.

Graduation from UCLA

Approximately eight out of every 10 UCLA freshmen eventually receive a baccalaureate degree, either from UCLA or from another campus or institution. According to a recent survey of UCLA alumni, one third of all UCLA baccalaureate recipients go on to graduate school. For information on academic requirements for graduation, see “Undergraduate Degree Requirements” in Chapter 2.

Undergraduate Students

The awarding of the bachelor’s degree does not happen automatically but is the culmination of several steps which begin when you identify the term you expect to complete degree requirements through URSA (consult the Schedule of Classes for complete instructions on using URSA to declare degree candidacy). This must be done before you complete 160 units (172 for the School of Engineering and Applied Science) or a $13 late candidacy fee will be assessed. The identified term must fall within the academic year (four quarters) subsequent to the term in which you reach or expect to reach the 160/172-unit mark. Exceptions can be made by your degree auditor depending on your program of study (e.g., double majors).

You may request a review of your degree progress by a counselor in your college or school office at any time. Advisers in your major department are also available for counseling on departmental requirements.

The “degree expected term” you specify through URSA is used by the degree auditors to review your coursework and begin the audit of your completion of degree requirements. You cannot graduate without such an audit. If your expected graduation date changes and you have not yet completed 160/172 units, update your degree term through URSA. Once you have completed 160/172 or more units, a fee will be assessed each term in which you reach or expect to reach the 160/172-unit mark.

The last day to declare candidacy for the current term (with fee if 160/172 or more units completed) is Friday of the fifth week (second week through URSA). Declaration of candidacy after the fifth week may result in a degree award date for the following term and additional candidacy penalty fees.

During the fourth week of each term, a list of all current-term degree candidates is posted in the glass case next to 1105 Murphy Hall. If you have requested through URSA that no public information (including your name) be released, you will not be included on the posted list. You can confirm your “degree expected term” through URSA at (310) 208-0425.

If you intend to complete degree requirements as a nonregistered student (take a course through UCLA Extension or at another institution, remove an Incomplete grade, etc.), you must file a request to graduate “in absentia” with your degree auditor by the fifth-week candidacy deadline. Students graduating “in absentia” will be assessed the special order diploma fee in addition to the declaration of candidacy fee.

Students in the School of the Arts, School of Nursing, School of Engineering and Applied Science, and School of Theater, Film, and Television are audited for degree requirements by staff members in their respective counseling/student affairs offices and should consult them regarding questions on degree requirements and school degree audit procedures.

Students in the College of Letters and Science who entered UCLA in Fall Quarter 1988 and thereafter are mailed a computer-generated Degree Progress Report once a year (copies can also be ordered at A316 Murphy Hall). This report includes a detailed evaluation of transfer credit, courses and grades for each completed term, degree requirements completed, and requirements still outstanding.

Students who entered prior to Fall Quarter 1988 are audited for degree requirements by the Registrar’s degree auditors after completing 160 units, with a “degree expected term” within the subsequent two terms. You should receive information regarding your completion of requirements or any remaining degree requirements and/or deficiencies no later than your final term.

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. If you receive such a notice, contact a degree auditor immediately to discuss your expected completion of the requirements.

Once you complete 180 units and reach the term you have declared as your “degree expected term,” you are reviewed by your degree auditor for award of the degree each subsequent term while in continuous registration, including UCLA Summer Sessions. Keep your degree auditor informed of your plans for completing your degree.

Graduate Students

Candidates for both master’s and doctoral degrees must file an advance petition to candidacy, and complete all degree requirements, including the master’s thesis or comprehensive examination, or doctoral dissertation, before the degree is conferred (consult the Schedule of Classes for filing deadlines). For full details on degree requirements and procedures for graduate students, see Chapter 3 on Graduate Study.

Final Transcript

Official transcripts with your graduation date included are available approximately seven weeks after the end of the term. If you require earlier proof of graduation, contact your degree auditor.

Degree Date

Degrees are awarded at the end of Fall, Winter, and Spring Quarters and at the end of Summer Session C (mid-September). For the School of Law and School of Medicine degrees are awarded at the end of Fall and Spring Semesters. Consult the respective University calendars (quarter, summer sessions, semester) for the actual degree award date, which is the final day of the term.

Diplomas

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

If your 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 will bear a reissue date and the signatures of the current officials of the state and University.

Commencement

Each school and college conducts an academic ceremony for its graduates. Some of the ceremonies feature an address by the Chancellor, student speakers, and recognition of candidates who have achieved high academic distinction and honors, as well as prizes. Check with your school or college for eligibility requirements and program and time schedules.

Academic regalia (caps, gowns, and hoods) are available for rental/purchase at ASUCLA's Graduation Et Cetera (B Level of Ackerman Union, 310-825-2587). In addition, graduation announcements with printed enclosure cards, diploma covers, and diploma mounting are available. You may also purchase graduation announcements at the ASUCLA Campus Photo Studio (second floor of Ackerman Union) through mid-May.
Colleges and Schools

Organization

This catalog is organized into the one college and 12 schools which are the University's component parts. Each of the following chapters is devoted to a single college or school. Each is introduced by general information on scope and emphasis, the academic departments it encompasses, admission standards, and requirements for undergraduate and graduate degrees.

The overall college or school description is followed, in alphabetical sequence, by its departmental listings. Here you will find faculty rosters, departmental degree requirements, requirements for the major, and descriptions of all courses (lower division, upper division, and graduate) offered by that department or interdepartmental degree program. (If you are not certain which college or school offers a particular program, see the organization chart on the inside front cover.)

Since the great majority of UCLA's students and degree programs are housed within the College of Letters and Science, that unit is presented first. It is followed by the other general campus units offering undergraduate programs: School of the Arts, School of Theater, Film, and Television, and School of Engineering and Applied Science. The graduate professional schools of Architecture and Urban Planning, Education and Information Studies, Law, Management, and Social Welfare follow in alphabetical sequence. The health sciences disciplines, which include the Schools of Dentistry, Medicine, Nursing, and Public Health, are the final chapters before the Appendix.

Courses of Instruction

Because the catalog must be prepared well in advance of the academic year it covers, it may not reflect recent changes in courses, curricula, and faculty listings. For more current information, consult the quarterly Schedule of Classes available in the Students' Store shortly before the beginning of each new term.

Courses listed in this catalog represent the total nonclinical offerings of each college, school, and department at UCLA. Certain courses listed may not be offered every term or every year. Where possible, the terms in which a course is offered have been indicated in parentheses after the instructor's name (F = Fall, W = Winter, Sp = Spring, S = Summer).

Academic Credit

A course has a credit value of four quarter units unless otherwise specified in parentheses after the course title.

A listing such as History 1A-1B-1C, Introduction to Western Civilization, indicates three full four-unit courses, 1A, 1B, and 1C. The listing Music 4A-4B-4C, Basic Musicianship (2 units each), indicates three half-courses at two units each. A course may not be prerequisite to the next in the series unless so designated, but since policies vary among departments, you should check with the departmental counselor or adviser. Credit for a specific course may be dependent on completion of a subsequent course, as noted in the description.

Prerequisites

Education is a building process. It is difficult or impossible to learn advanced principles without first understanding elementary ones. Therefore, one or more lower division courses may be prerequisite to taking another lower division or an upper division course. Prerequisites should be noted carefully — it is your responsibility to meet these requirements in preparation for more advanced work. A course has no prerequisites if none is designated in departmental requirements or course descriptions.

Undergraduate Courses

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 prerequisites 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.

Lower division/first-year seminars (numbered 88) are departmentally sponsored courses designed to provide freshmen and sophomores the opportunity to participate in small classroom settings to enhance writing, verbal, and analytical skills. Many carry general education credit.

Variable topics courses (numbered 97 and 197) are offered at both the lower (97) and upper (197) division levels; topics within a defined subject area vary with the instructor and individual offerings. These topics have a fixed and permanent place in the regular curriculum.

Professional schools seminars (numbered 98) are designed by the faculty of the professional schools specifically for freshmen and sophomores. Outside of the professional schools, 98 courses are offered as the lower division equivalent of 198 courses, defined below. Because they are temporary in nature, vary in content, and are offered irregularly, they are not listed in the catalog. Consult the Schedule of Classes for respective offerings.

Group special studies courses (numbered 198) are structured special studies for groups. They may be departmentally sponsored experimental and/or temporary in nature (e.g., courses taught by a visiting professor) or those which are being tested for permanent inclusion in the curriculum. Because they are temporary in nature, vary in content, and are offered irregularly, they are not listed in the catalog. Consult the Schedule of Classes for respective offerings.

Individual special studies courses (numbered 199) involve supervised independent study and research requiring adequate background in the subject proposed for study. These courses are structured by the instructor and student at the time they are initiated and are open to juniors (with a minimum 3.0 GPA in the major field), seniors, and graduate students. To enroll, you must complete the appropriate petition (available from the department) and have it approved by both the instructor in charge and department chair.

Undergraduates may enroll in a maximum of eight units of 199, 199F, 199H, and 199I courses per term. After completing 16 units of 199 and/or 199H credit on a letter grade basis, you must take any additional 199 and/or 199H courses on a Passed/Not Passed basis. Independent field study courses (199F and 199I) must be taken on a Passed/Not Passed basis; a total of eight units is allowed. If you have an outstanding
Incomplete grade in a 199, 199F, 199H, or 199I course, you may not register for another until the I grade is removed. See departmental listings and individual course descriptions for specific prerequisites and credit limitations.

**Graduate Courses***

*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 you take a graduate course as an undergraduate, you 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 501are 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.*

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*These definitions do not apply to the School of Law, which maintains its own course numbering system.

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**UCLA Extension Courses**

In general, you may not attend UCLA Extension for degree credit if you are enrolled in UCLA regular session at the same time. However, certain Extension courses (numbered 1-199), prefixed by XL or XLC in the 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" earlier in this chapter.

**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 of the same format and level offered jointly by more than one department. For example, Historical Archaeology is offered by the Department of Anthropology (Anthropology M115S) and the Department of History (History M103). You will find that particular course listed under both departments in Chapter 5 on the College of Letters and Science.

**Faculty Rosters**

Faculty rosters in each academic department are listed in the following order:

- Professors
- Associate Professors
- Assistant Professors
- Lecturers
- Adjunct and Visiting faculty in each of the first three Academic Senate classifications

In the case of interdepartmental degree programs, all participating faculty members have appointments in regular academic departments. Participating faculty are listed in the above order, with the home department or specialty of each member indicated in parentheses.
"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 22,650 students and 800 faculty, UCLA’s College of Letters and Science is the largest academic unit in the UC system. Underscoring the “multiversity” concept, its four academic divisions of humanities, physical sciences, social sciences, and life sciences provide the framework for more than 100 majors leading to the Bachelor of Arts or Bachelor of Science as well as to master’s and doctoral degrees.

The undergraduate programs in the college stress a “liberal arts education” which brings together perspectives from many fields in a unified approach to learning. Students learn some of the ways issues are analyzed, questions posed, and knowledge 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 will pose their own questions, analyze academic issues of their own making and, through their research, participate in the creation of knowledge.
The primary units of the College of Letters and Science 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 provost.

In addition to departmental advising, the Division of Honors and Undergraduate Programs includes a network of student assistance within its components: College Counseling Service, Honors Programs (see “Honors” later in this section), and Academic Advancement Program (see Chapter 2).

### Humanities

The division's mission is to promote, through scholarly inquiry and transmission of ideas, sensitive, imaginative, and rigorous reflection on the human condition and to engage in thoughtful reflection on those deep and abiding questions that relate to what it is to be human. Faculty and students reflect on art, literature, philosophy, and other expressions of the human spirit, each of which deepens their understanding. The instructional goal is to engage students in this inquiry — to further their knowledge and competence to express themselves clearly, rigorously, with style and originality.

Programs in the humanities range from teaching the craft of composition in writing programs, to developing an appreciation of profound philosophical thinkers and writers from Asia, the Near East, Europe, England, and America. Pauline R. Yu is the divisional dean.

### Life Sciences

Faculty and students in the division play an essential role in unlocking the secrets and mechanisms of life at the most fundamental level. The geography of Southern California is very conducive to life sciences research. An area as ecologically rich and diverse as Southern California is a natural laboratory for environmental physiologists and plant and animal ecologists.

Scientists in biology, microbiology, and molecular genetics, and molecular biology conduct research in cell and developmental biology. Neurochemists, neurophysiologists, psychobiologists, and behavior biologists research the underlying mechanism of the neural basis of behavior. Physiological scientists examine the regulation of human movement, neural control of breathing, and environmental conditions such as weightlessness, which affect bone and muscle structure and function. Cognitive scientists are concerned with the nature of knowledge — how people learn, remember, associate, and think, and how computers relate to thought processes. Frederick A. Eislerling is the divisional dean.

### Physical Sciences

The division's departments present the results of mankind's efforts to understand the physical aspects of the natural sciences, which include the study and understanding of the properties and characteristics of matter and energy; the science of numbers and order; studies of the origin and structure of the universe, solar system, and Earth; and climatic change. 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, and observational.

Faculty 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. Roberto Peccei is the divisional dean.

### Social Sciences

The division's departments are guided by the ideal of creating a deeper understanding of cultures and heritages and helping young people make sense of the rapidly changing world. By studying and comparing diverse cultures with their own, students gain self-knowledge and global awareness.

Anthropology students study human communities and social systems, archaeological records, and artifacts. Communication studies students learn about the mass media of today and their technological advances, social uses, and abuses. Leading economists investigate the applications of economic principles to business decisions. The geographic purview extends from studying the effects of location on human behavior to the Earth's ecosystem. Courses in history bring about understanding of the forces that have shaped the many societies and cultures of this country and the world. Political scientists study the motivations of political behavior and the relations between today's superpowers. UCLA sociologists examine subjects ranging from the everyday interaction of people to the complexities of social organizations. Scott L. Waugh is the divisional dean.

### Undergraduate Study

The degree programs in the College of Letters and Science are designed to expose students to a variety of intellectual challenges by combining a wide distribution of courses and the opportunity to specialize in one particular field. To this end, you are required to select lower division courses that deal with the general foundations of human knowledge. In upper division courses you are relatively free to concentrate attention on one field of interest: your major.

You are expected to select a major by the beginning of your 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 your special need (individual major). Preparation for a major often requires prior completion of courses known as prerequisites.

### Counseling Services

The College Counseling Service is located in A316 Murphy Hall. Staff members are specially trained to assist you with questions pertaining to academic regulations and procedures, selection of courses, and the many options and alternatives available to enhance your university education.

Some questions can be answered at the college information window or by calling (310) 825-1965. If you would like to confer with a counselor or counseling assistant (CA) regarding overall degree requirements, academic difficulty, program planning, or assistance in selecting a major, you can arrange an appointment at the information window. Group counseling sessions on a variety of academic issues are offered throughout the year.

For information on the ASK peer counselors, Orientation, and College Tutorial Services, see Chapter 2.

(continued on page 82)
Majors and Degrees Offered

<table>
<thead>
<tr>
<th>Major</th>
<th>Degree(s)</th>
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</thead>
<tbody>
<tr>
<td>African Area Studies</td>
<td>M.A.</td>
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<tr>
<td>African Languages</td>
<td>B.A.</td>
</tr>
<tr>
<td>Afro-American Studies</td>
<td>B.A., M.A.</td>
</tr>
<tr>
<td>American Indian Studies</td>
<td>M.A.</td>
</tr>
<tr>
<td>Ancient Near Eastern Civilizations</td>
<td>B.A.</td>
</tr>
<tr>
<td>Anthropology</td>
<td>B.S., M.A., Ph.D.</td>
</tr>
<tr>
<td>Applied Linguistics</td>
<td>C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td>B.S.</td>
</tr>
<tr>
<td>Arabic</td>
<td>B.A.</td>
</tr>
<tr>
<td>Archaeology</td>
<td>M.A., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Art History</td>
<td>B.A., M.A., Ph.D.</td>
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<tr>
<td>Asian American Studies</td>
<td>M.A.</td>
</tr>
<tr>
<td>Astronomy</td>
<td>M.S., M.A.T.*, Ph.D.</td>
</tr>
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<td>Astrophysics</td>
<td>B.S.</td>
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<tr>
<td>Atmospheric Sciences</td>
<td>B.S., M.S., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>B.S., M.S., C.Phil., Ph.D.</td>
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<tr>
<td>Biology</td>
<td>B.S., M.A., C.Phil., Ph.D.</td>
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<tr>
<td>Business Economics</td>
<td>B.A.</td>
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<tr>
<td>Cell and Molecular Biology</td>
<td>B.S.</td>
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<tr>
<td>Chemistry</td>
<td>B.S., M.S., C.Phil., Ph.D.</td>
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<tr>
<td>Chemistry/Materials Science</td>
<td>B.S.</td>
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<tr>
<td>Chicana and Chicano Studies</td>
<td>B.A.</td>
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<tr>
<td>Chinese</td>
<td>B.A.</td>
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<tr>
<td>Classical Civilization</td>
<td>B.A.</td>
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<tr>
<td>Classics</td>
<td>M.A., C.Phil., Ph.D.</td>
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<tr>
<td>Cognitive Science</td>
<td>B.S.</td>
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<tr>
<td>Communication Studies</td>
<td>B.A.</td>
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<tr>
<td>Comparative Literature</td>
<td>M.A., C.Phil., Ph.D.</td>
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<tr>
<td>Cybernetics</td>
<td>B.S.</td>
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<td>Development Studies</td>
<td>B.A.</td>
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<tr>
<td>Earth Sciences</td>
<td>B.A.</td>
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<tr>
<td>East Asian Languages and Cultures</td>
<td>M.A., C.Phil., Ph.D.</td>
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<td>East Asian Studies</td>
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<tr>
<td>Economics</td>
<td>B.A., M.A., C.Phil., Ph.D.</td>
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<tr>
<td>Economics/International Area Studies</td>
<td>B.A.</td>
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<tr>
<td>Economics/System Science</td>
<td>B.S.*</td>
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<tr>
<td>English</td>
<td>B.A., M.A., C.Phil., Ph.D.</td>
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<tr>
<td>English/Greek</td>
<td>B.A.</td>
</tr>
<tr>
<td>English/Latin</td>
<td>B.A.</td>
</tr>
<tr>
<td>Folklore and Mythology</td>
<td>M.A., Ph.D.</td>
</tr>
<tr>
<td>French</td>
<td>B.A., M.A., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>French and Linguistics</td>
<td>B.A.</td>
</tr>
<tr>
<td>General Chemistry</td>
<td>B.S.</td>
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<tr>
<td>General Mathematics</td>
<td>B.S.</td>
</tr>
<tr>
<td>General Physics</td>
<td>B.A.</td>
</tr>
<tr>
<td>Geochemistry</td>
<td>M.S., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Geography</td>
<td>B.A., M.A., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Geography/Environmental Studies</td>
<td>B.A.</td>
</tr>
<tr>
<td>Geology</td>
<td>B.S., M.S., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Geology — Engineering Geology</td>
<td>B.S.</td>
</tr>
<tr>
<td>Geology — Paleobiology</td>
<td>B.S.</td>
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<tr>
<td>Geophysics — Applied Geophysics</td>
<td>B.S.</td>
</tr>
<tr>
<td>Geophysics and Space Physics</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>German</td>
<td>B.A.</td>
</tr>
<tr>
<td>Germanic Languages</td>
<td>M.A., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Greek</td>
<td>M.A., B.A.</td>
</tr>
<tr>
<td>Greek and Latin</td>
<td>B.A.</td>
</tr>
<tr>
<td>Hebrew</td>
<td>B.A.</td>
</tr>
<tr>
<td>Hispanic Languages and Literatures</td>
<td>C.Phil., Ph.D.</td>
</tr>
<tr>
<td>History</td>
<td>B.A., M.A., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>History/Art History</td>
<td>B.A.</td>
</tr>
<tr>
<td>Indo-European Studies</td>
<td>C.Phil., Ph.D.</td>
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<tr>
<td>Iranian Studies</td>
<td>B.A.</td>
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<tr>
<td>Islamic Studies</td>
<td>M.A., C.Phil., Ph.D.</td>
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<tr>
<td>Italian</td>
<td>B.A., M.A., C.Phil., Ph.D.</td>
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<tr>
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<tr>
<td>Spanish and Portuguese</td>
<td>B.A.</td>
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<tr>
<td>Teaching English as a Second Language</td>
<td>M.A.</td>
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<td>Women's Studies</td>
<td>B.A.</td>
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<tr>
<td>World Arts and Cultures</td>
<td>B.A.</td>
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*Not admitting new students at this time.

**The department only admits applicants whose objective is the Ph.D.
Your 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 (see "Choosing Your Major" in Chapter 2 of this catalog).

All students with 90 or more units toward a degree are expected to declare a premajor or a major. When you are ready to do so, obtain approval on a Petition for Declaration of Major from the department or interdepartmental degree committee which governs your intended major.

You can obtain help with your academic planning from a variety of resources, including the College Counseling Service in A316 Murphy Hall (310-825-1687 or 825-1965) and the Placement and Career Planning Center (310-825-2981). In addition, faculty members and counselors in each college department are available to discuss in detail the courses and programs in their respective fields. For further suggestions, see "Advising and Academic Assistance" in Chapter 2.

Assessing Progress Toward Your Degree

One of your responsibilities as a UCLA student includes a regular monitoring of all requirements necessary for the degree. It is imperative that you read this catalog carefully and consult regularly with the Letters and Science counseling staff for confirmation of the requirements you need. Departmental counselors can advise you regarding progress and completion of your major requirements. It is important that you maintain an accurate assessment of progress toward your degree by utilizing departmental and College Counseling Service resources. To assist you in your degree planning, the College Counseling Service provides computerized Degree Progress Reports (DPRs) on request.

Minimum Progress

UCLA is a full-time institution, and it is expected that students will complete their undergraduate degree requirements promptly. The recommended study load for an undergraduate in the College of Letters and Science is 12 to 16 units per term. Normal progress (toward graduation in four years) may be defined as the completion of 45 units per year.

According to Academic Senate regulations, Letters and Science undergraduates who do not pass at least 36 units during any three consecutive terms will be placed on probation, and students who do not pass at least 32 units during three consecutive terms will be subject to disqualification from registration at the University. Exceptions may be granted by the college due to poor health, family responsibilities, or regular employment of 20 hours per week or more.

Letters and Science Majors

A major in the College of Letters and Science consists of at least nine and no more than 15 upper division courses (between 36 and 60 units). All courses applied toward the major and preparation for the major must be taken for a letter grade unless otherwise stipulated by the department. If you have been away from the University for several terms, you should consult with your major department or curriculum adviser concerning the requirements under which you will graduate.

There are three categories of majors in the College of Letters and Science:

Departmental Majors

A departmental major consists of a group of related upper division courses, of which at least six courses are in one department. These majors are supervised by established campus departments. There are 86 departmental majors currently offered by the college.

Interdepartmental Majors

An interdepartmental major consists of at least 13 related upper division courses, of which no more than eight are in one department. These 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.

The College of Letters and Science currently offers 26 interdepartmental majors. Although most lead to bachelor's degrees, there are some which lead to graduate degrees only. Check the chart of majors and degrees for the programs which interest you.

Interdepartmental Majors

African Area Studies
African American Studies
American Indian Studies
Applied Linguistics
Archaeology
Asian American Studies
Chemistry/Materials Science
Chicana and Chicano Studies
Communication Studies
Comparative Literature
Cybernetics
Development Studies
East Asian Studies
Economics/System Science
Folklore and Mythology
History/Art History
Indo-European Studies
Islamic Studies
Latin American Studies
Molecular Biology
Near Eastern Studies
Neuroscience
Religion, Study of
Romance Linguistics and Literature
Women's Studies
World Arts and Cultures

You can find a detailed description of each of these majors under their respective headings later in this chapter.

Individual Majors

If you have some unusual but definite academic interest for which no suitable major is offered at the University and you have completed at least three terms of work (nine courses) at the University with a grade-point average of 3.4 or better, you may plan an individual major. The consent of the Division of Honors and Undergraduate Programs and the assistance of a faculty adviser are required.

The major should consist of at least 12 and no more than 15 upper division courses, a majority of which are in departments offering a major in the college. A senior thesis is required. The title of the major will be entered in the memoranda column of your official transcript and, at your request, printed on your diploma (up to a maximum of 70 characters). If you do not elect to have the title printed or if it is longer than 70 characters, your diploma will read "Individual Field of Concentration." For further details about individual majors, contact the Honors Programs Office in A311 Murphy Hall (310-825-1553).

Returning Students and Their Majors

If you return to the University to resume your studies after an absence of several years, you may find your previous major area of study no longer available. You then must select a current major in which to complete your studies. Consult the College Counseling Service for assistance.

Minors

The college will offer minors beginning in academic year 1994-95. A minor will consist of at least seven but no more than nine undergraduate courses (between 26 and 36 units), of which at least five must be upper division and four must have been taken at UCLA. All courses must be taken for a letter grade. In addition, no more than two courses may be applied toward both a major and a minor. Contact your academic counselor for the list of departments that will be offering minors in the 1994-95 academic year.

Supplemental Programs

You may choose from 12 different programs which are not degree-granting majors, but are sequences of supplemental courses designed to enhance your work in certain areas. Each of
the specializations must be taken jointly with an organized departmental or interdepartmental major:

- African Studies
- Asian American Studies
- Business and Administration
- Chicana and Chicano Studies
- Computing, Specialization in (anthropology, cybernetics, economics, geography, linguistics, mathematics, psychology, sociology)
- Diversified Liberal Arts
- Education
- International Relations
- Labor and Workplace Studies
- Organizational Studies
- Urban Studies
- Women’s Studies

Detailed descriptions of the programs (except specialization in computing) are given under their respective headings later in this chapter. For descriptions of the specialization in computing, refer to the majors listed in parentheses above.

Student Research Program (SRP)
For information on this program, see “Alternative Academics” in Chapter 2.

Double Majors
If you are in good academic standing, you may be permitted to have a double major consisting of departmental majors from two departments within this college. They must be completed within the maximum limit of 228 units. You must obtain the approval of both departments. With few exceptions, double majors in the same department are unacceptable. You must designate one of the two majors as the principal one for the purpose of satisfying general education requirements. No more than five upper division courses may be common to both majors.

Courses outside the division of the principal major which are required in preparation for that major may be used to satisfy general education requirements. Courses required for the second major (including preparation for the major) also may satisfy general education requirements.

Changing Your Major
If you are in good academic standing and wish to change your major, you may petition to do so provided you can complete the new major within the 216-unit limit (228 for double majors and special programs). 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 you are on probation or have begun your last term.

If you fail to attain a grade-point average of 2.0 (C) in preparation for the major or major courses, you 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.

**The Study List**
The required study load for undergraduate students in the College of Letters and Science is 12 to 16 units (three to four courses) per term. For exceptions, see “Minimum Progress” earlier in this section. Three courses are often recommended for students in the first term of the freshman year. All other students may carry four and one-half courses (18 units) without petition. After the first term, you may petition to enroll in as many as five courses if you attained at least a B average in the preceding term in a program of at least three graded courses. First-term transfer students from any other campus of the University may carry excess Study Lists on the same basis as students who have completed one or more terms at UCLA; however, they are not encouraged to do so.

**Requirements for Bachelor’s Degrees**
Each student must meet three types of requirements for the Bachelor of Arts or Bachelor of Science degree: University requirements, college requirements, and department requirements (including preparation for the major and major requirements). For details on department requirements, see the department and major of your choice.

**University Requirements**
For information on the Subject A or English as a Second Language (ESL) and American History and Institutions requirements, see “Undergraduate Degree Requirements” in Chapter 2.

**College Requirements**
The College of Letters and Science has eight requirements which must be satisfied for the award of the degree: unit, major, scholarship, academic residence, English composition, quantitative reasoning, foreign language, and general education course requirements.

**Unit Requirements**
You must satisfactorily complete for credit a minimum of 180 units (45 courses) for the bachelor's degree. At least 72 units (18 courses) of the 180 units must be upper division (numbered 100-199). A maximum of 216 (228 for double majors and special programs) units is allowed. If you have advanced placement (transfer) credit, you may exceed the unit maximum by the amount of that credit.

**Scholarship and Major Requirements**
You must attain a 2.0 (C) grade-point average in all courses undertaken at this University for receipt of the bachelor's degree. You must also attain a 2.0 GPA in a major and satisfy both the course and scholarship requirements of that major (including preparation for the major) in the College of Letters and Science.

**Structure of a Degree**
Three types of degree requirements are included within the 180-unit minimum/216- or 228-unit maximum limits for the bachelor's degree:

**University Requirements**
(1) Subject A or English as a Second Language (ESL)
(2) American History and Institutions

**College Requirements**
(1) English Composition or ESL Composition
(2) Quantitative Reasoning
(3) Foreign Language
(4) General Education Course Requirements

**Department Requirements**
(1) Preparation for the Major
(2) Major Requirements

**Electives**
The remaining units, defined as electives, are courses which vary according to your interests and goals. When selecting your courses, keep the following degree criteria in mind:

**Scholarship**
You must attain an overall 2.0 minimum grade-point average in the 180/216 or 228 units required and must satisfy the scholarship requirements of your major department (usually a 2.0 average in the preparation and major courses, but it may be higher in the former, according to departmental requirements).

**Academic Residence Requirement**
See “Academic Residence Requirements” on next page.

**Upper Division Unit Requirement**
At least 72 units (18 courses) must be upper division (numbered 100-199).
Academic Residence Requirements
Sixty-eight of the last 80 units completed for the degree must be earned in residence in the college. No more than 16 of the 88 units may be completed in UCLA Summer Sessions. While enrolled in the college you must complete at least 10 upper division courses (40 units), including six courses in the major. These academic residence requirements apply to all students, both continuing and transfer.

English Composition Requirement
Note: You must complete the University’s Subject A or English as a Second Language (ESL) requirement prior to completing the college’s English Composition requirement.

You may satisfy the English Composition requirement by taking one course from English 3, 4, Humanities 2A, 2B, 2C. The course must be taken for a letter grade, and you must receive a grade of C or better (C - is not acceptable). Humanities 2A, 2B, or 2C may be applied toward the humanities general education requirements; English 3 or 4 may not be applied.

The composition requirement may also be satisfied by scoring 4 or 5 on one of the College Entrance Examination Board (CEEB) Advanced Placement Tests in English or by passing the English 3 Proficiency Examination. Students scoring 660 or better on the SAT II Subject Test in Writing are eligible for this proficiency examination.

You must satisfy the composition requirement within your first three terms in residence.

Transfer Students — You may take the English 3 Proficiency Examination (1) if you have completed a transferable English composition course with a Passed grade or a C or better. Admission into course 36 is determined by completion of English as a Second Language 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 consent of the department.

Quantitative Reasoning and Foreign Language Requirements
In the College of Letters and Science you must demonstrate basic skills in quantitative reasoning and satisfy the foreign language requirement.

Note: All courses taken to satisfy these requirements must be completed with a grade of Passed or better. SAT I and II scores will be converted to a new scale effective April 1995.

Quantitative Reasoning — May be satisfied by achieving an SAT I mathematics score of 600 or better, a mathematics subject test score of 550 or better, or by completing one of the following courses: Anthropology 80; Biostatistics 100A, 100B, 100C, 100D; Computer Science 10C, 10F; Economics 40; Geography 40; Mathematics 1 (recommended only for students continuing into calculus), 2, or any higher numbered course except 38A, 38B, and 104; Philosophy 31; Political Science 6; Program in Computing 10A, 10B, 10C; Sociology 18; Statistics 50.

Foreign Language — May be satisfied by one of the following methods: (1) completing a college-level foreign language course equivalent to UCLA’s level three or above OR (2) scoring 3, 4, or 5 on the CEEB Advanced Placement (AP) foreign language examination in French, German, or Spanish, 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 these regularly scheduled examinations).

If you wish to demonstrate proficiency in a language which is taught in a UCLA department but for which there is no scheduled examination, contact the appropriate department to arrange for one. If you wish to take an examination in a language not taught at UCLA, contact the College Counseling Service.

The following language courses may be used to fulfill the foreign language requirement:

African Languages (Linguistics) 1A-1B-1C (Swahili); 7A-7B-7C (Zulu); 11A-1B-11C (Yoruba); 31A-31B-31C (Bambara); 41A-41B-41C (Hausa); 51A-51B-51C (Amharic)

Armenian (Armenian Languages) 105A, 105C

Arabic (Near Eastern Languages) 120A-120B-120C (Ancient Egyptian); 140A-140B (Sumerian)

Armenian (Near Eastern Languages) 1A-1B-1C

Bulgarian (Slavic Languages) 103A-103B-103C

Chinese (East Asian Languages) 1, 2, 3

Czech (Slavic Languages) 102A-102B-102C

Dutch (German Languages) 103A-103B, 103C

French 1, 2, 3

German (Germanic Languages) 1, 2, 3

Greek (Classics) 1, 2, 3

Hebrew (Near Eastern Languages) 1A-1B-1C, 2A-2B-2C, 3A-3B-3C

Hungarian (Germanic Languages) 101A, 101B, 101C

Indigenous Languages of the Americas (Linguistics) 18A-18B-18C (Quechua)

Irish (Near Eastern Languages) 1A-1B-1C (Persian)

Italian 1, 2, 3

Japanese (East Asian Languages) 1, 2, 3

Korean (East Asian Languages) 1A, 1B, 1C

Latin (Classics) 1, 2, and 3, or 16 (Summer Sessions course)

Lithuanian (Slavic Languages) 101A-101B-101C

Polish (Slavic Languages) 102A-102B-102C

Portuguese (Spanish and Portuguese) 1, 2, 3

Romanian (Slavic Languages) 101A-101B-101C

Russian (Slavic Languages) 1, 2, 3, or 11A-13B (two units each)

Scandinavian 1, 2, 3 (Swedish); 11, 12, 13 (Norwegian); 21, 22, 23 (Danish)

Semantics (Near Eastern Languages) 140A-140B, 141 (Akkadian)

Serbo-Croatian (Slavic Languages) 103A-103B-103C

Spanish (Spanish and Portuguese) 1, 2, 3

Turkish Languages (Near Eastern Languages) 101A-101B-101C (Turkish); 111A-111B-111C (Uzbek)

Ukrainian (Slavic Languages) 101A-101B-101C

Yiddish (Germanic Languages) 101A, 101B, 101C

General Education (GE) Course Requirements

The general education requirements of the college are intended to introduce undergraduates to the richness and diversity of the various academic disciplines. Within the four major divisions of the college — humanities, physical sciences, social sciences, and life sciences — you are encouraged to explore the different possibilities for further university study. Whether or not you have a specific educational goal, general education requirements are designed to broaden your intellectual perspective and to set you on the path to becoming an educated member of society.

The set of GE course requirements you will follow are specified on the chart labeled “Courses to Fulfill GE Requirements” on the next pages. You must earn units in four courses in the humanities (literature, philosophy, language and linguistics, culture and civilization, the arts), three courses in the physical sciences, four in the social sciences (two from historical analysis and two from social analysis), and three courses in the life sciences. In the humanities, at least one course must be from literature and no more than two may be from any single subgroup. In the physical sciences, two courses must be complementary...

(continued on page 87)
Courses to Fulfill GE Requirements

See “Quantitative Reasoning and Foreign Language Requirements” on page 84 for courses to fulfill those requirements.

(A) Humanities
Four courses, with at least one from Group A1 and no more than two courses from any single subgroup:

(1) Literature

Classics 40. Survey of Greek Literature in Translation
41. Survey of Latin Literature in Translation
English 10A. English Literature to 1660
10B. English Literature, 1660–1832
70. Major British Authors before 1800
75. Major British Authors, 1800 to the Present
80. Major American Authors
85. The American Novel
88L. Lower Division Seminar: Poetics of Myth
88M. Lower Division Seminar: When Myth Systems Collide — 20th-Century Literature and Culture Confront Traditional Myths
90. Shakespeare
95A. Introduction to Poetry
96B. Introduction to Drama
95C. Introduction to Fiction
96. The Short Story in England and America

French 12. Introduction to Study of French Literature (in French)
114A, 114B, 114C. Survey of French Literature (in French)

German (Germanic Languages) 50A. Masterworks of German Literature in Translation: Medieval Period through Classicism
50B. Masterworks of German Literature in Translation: Romanticism to the Present
101A. Introduction to German Poetry (in German)
101B. Introduction to German Drama (in German)
101C. Introduction to German Narrative Prose (in German)

Humanities 1A. World Literature: Antiquity to Early Middle Ages
1B. World Literature: Late Middle Ages to the 17th Century
1C. World Literature: Age of Enlightenment to the 20th Century
1D. Great Books from the World at Large
2A. Survey of Literature: Antiquity to Early Middle Ages
2B. Survey of Literature: Late Middle Ages to the 17th Century
2C. Survey of Literature: Age of Enlightenment to the 20th Century

Italian 50A. Masterpieces of Italian Literature: From Its Origins to the Renaissance
50B. Masterpieces of Italian Literature: From the Baroque Period to the Present

Portuguese (Spanish and Portuguese) 40A. 40B. Portuguese, Brazilian, and African Literature in Translation
120A, 120B. Survey of Portuguese Literature (in Portuguese)
130A, 130B. Survey of Brazilian Literature (in Portuguese)

Russian (Slavic Languages) 25. The Russian Novel in Translation

Scandinavian 50. Introduction to Scandinavian Literature

Spanish (Spanish and Portuguese) 60A, 60B, 60C. Hispanic Literatures in Translation
88A. Lower Division Seminar: Reaching 2001 (Fantasy of Reality and Reality of Fantasy)

(2) Philosophy

Philosophy 1. Beginnings of Western Philosophy
2. Introduction to Philosophy of Religion
4. Philosophical Analysis of Contemporary Moral Issues
6. Introduction to Moral and Political Philosophy
7. Introduction to Philosophy of Mind
8. Introduction to Philosophy of Science
21. Skepticism and Rationality
22. Introduction to Ethical Theory

(3) Language and Linguistics

English 68K. Lower Division Seminar: Introduction to English Etymology
Linguistics 1. Introduction to Study of Language
10. Structure of English Words
20. Introduction to Linguistics

Language: Formal University foreign language instruction at level four or higher, no more than one course at level four or higher may be used

Spanish and Portuguese M55. Spanish, Portuguese, and Nature of Language

(4) Culture and Civilization

Art History *88A. Lower Division Seminar: Buddha’s Life and Teachings in Art, Texts, and Worship
Chicana and Chicano Studies 10A. Introduction to Chicano Life and Culture

Chinese (East Asian Languages) 50. Chinese Civilization
East Asian Languages and Cultures 60. Introduction to Buddhism
Folklore and Mythology 15. Introduction to American Folklore Studies
French 14. Introduction to French Civilization
German (Germanic Languages) 100A. German Civilization and Culture before 1700
100B. Modern German Civilization and Culture from 1700 to 1919
100C. German Civilization and Culture in the 20th Century
History *9A. Introduction to Asian Civilizations: History of India
9C. Introduction to Asian Civilizations: History of Japan
9D. Introduction to Asian Civilizations: History of the Near and Middle East
10A. *10B. Introduction to Civilizations of Africa

Italian 42A. Italian Civilization or Italy through the Ages: From Origins through the Renaissance
42B. Italian Civilization or Italy through the Ages: From the Enlightenment to Modern Italy
46. Italian Cinema and Culture

Japanese (East Asian Languages) 50. Japanese Civilization

Soviet Civilization 99A. Introduction to Russian Civilization
99B. Soviet Civilization

Spanish and Portuguese M42. Civilization of Spain and Portugal

M44. Civilization of Spanish America and Brazil

(5) The Arts

S 5A. Africa, Oceania, and Native America
5B. Arts of Pre-Columbian America
56A. Art of India and Southeast Asia
5B. Introduction to Chinese Art
57. Renaissance and Baroque Art

Slavic (Slavic Languages) 99. Introduction to Slavic Civilization

Spanish and Portuguese M50. Introduction to Brazilian Art

European 103A, 103B. Survey of European Art

Musicology and Systematic Musicology 20A, 20B, 20C. Musical Cultures of the World

105A. Music of Latin America
105B. The Afro-American Musical Heritage
112. Film and Social Change

Music 15. Art of Listening

Musicology 2A, 2B. Introduction to the Literature of Music
13. 20th-Century Music of the Western World
133. Bach
134. Beethoven
135A, 135B, 135C. History of Opera

Theater 102E. Theater of Non-European World
104C. History of American Theater: WWI to the Present

*Cross-listed courses can fulfill the GE requirement in only one group. (continued on page 86)
Courses to Fulfill GE Requirements (continued)

(B) Physical Sciences
Three courses from the following, two of which must be complementary and one of which must have a laboratory and/or demonstration component:
- Astronomy 2A, 2B. Introduction to the Physical Universe
- 3A, 3B. Introduction to Astronomy
- 4. Universe of Stars and Stellar Systems
- 5. Life in the Universe
- 6. Cosmology: Our Changing Concepts of the Universe
- 81. Astrophysics I: Stars and Nebulae
- 82. Astrophysics II: Stellar Evolution, Galaxies, and Cosmology
- 88A. Lower Division Seminar: Cosmic Evolution

Atmospheric Sciences 2, 2E. Air Pollution
3. 3E. Introduction to the Atmospheric Environment
4. California Weather and Climate
5. Climates of Other Worlds
6. 6E. Climate and Climatic Change

Chemical Engineering 2. Technology and the Environment
Chemistry and Biochemistry 2. Introductory Chemistry
11A, 11B. General Chemistry
11BL. General Chemistry Laboratory
15. Survey of Organic Chemistry and Biochemistry
15L. Laboratory in Elementary Organic Chemistry and Biochemistry

Civil and Environmental Engineering 3. Fundamentals of Environmental Engineering

Computer Science 2. Great Ideas in Computer Science

Earth and Space Sciences 1. Introduction to Earth Science
2. Earth History
5. Earth Science and Society: Geological Ecological Interactions
8. Earthquakes
9. Origin and Evolution of Solar System
*15. Introduction to Oceanography
*20. Natural History of Southern California

Geography 1. Physical Environment

Mathematics 2. Finite Mathematics
3A, 3B. Calculus for Life Sciences Students
5. Calculus for Liberal Arts Students
3A, 3B. Calculus and Analytic Geometry
31AQ, 31BQ. Calculus and Analytic Geometry with Computer Laboratory

2. Toxic Waste Control

Physics 3A. General Physics: Mechanics of Solids and Fluids
3B. General Physics: Heat, Sound, Electricity and Magnetism
3C. General Physics: Light, Relativity, and Modern Physics
6A. Physics for Life Sciences Majors: Mechanics
6B. Physics for Life Sciences Majors: Electricity and Magnetism
6C. Physics for Life Sciences Majors: Light and Modern Physics
8A. Physics for Scientists and Engineers: Mechanics
8B. Physics for Scientists and Engineers: Waves, Sound, Heat
8C. Physics for Scientists and Engineers: Electricity and Magnetism
10. Physics

Complementary courses include Astronomy 2A/2B, 3A, 3B, 3C, 3E, 3F, 3G, 3H/3I, 3J/3K, Chemistry and Biochemistry 1A/1B, 1A/15, Earth and Space Sciences 1/2, 1/9, 1/15, 1/GEOGRAPHY 1; Mathematics 3A/3B, 3A/3B, 3A/3C, 3A/3J, 3A/3K, 3A/3E, Mechanical, Aerospace, and Nuclear Engineering 1/2, 2/Chemistry and Biochemistry 2, 2/Physics 2A/2B, 6A/6B, 6A/6C, 6A/6D, 6B/6A, 8A/8B, 8A/8C.

Courses with a laboratory and/or demonstration component include Astronomy 2A, 2B, 3A, 3B, 3C, 3E, 3F, 3G, 3H/3I, 3J/3K, Earth and Space Sciences 1, 2, 15, 20, Geography 1, Mathematics 31AQ, 31BQ, Mechanical, Aerospace, and Nuclear Engineering 1, 2, Physics 3A, 3B, 3C, 3D, 4B, 6C, 6A, 8A, 8B, 8C.

(C) Social Sciences
Four courses (two each from Groups 1 and 2):

(1) Historical Analysis
Two courses from a single sequence are recommended:
Classics 10. Survey of Classical Greek Culture
20. Survey of Roman Civilization
History 1A, 1B, 1C. Introduction to Western Civilization
3A, 3B, 3C. Introduction to History of Science
3D. Themes in History of Medicine
4. Introduction to History of Religions
5A, 5B. Survey of British History
6A, 6B, 6C. History of the American People
7A, 7B. Survey of Political History of the U.S.
8B. Latin America: Reform and Revolution
8C. Latin American Social History
9A. Introduction to Asian Civilizations: History of India
9C. Introduction to Asian Civilizations: History of Japan
9D. Introduction to Asian Civilizations: History of the Near and Middle East

*10A, *10B. Introduction to Civilizations of Africa
*11A, *11B. History of China
21. World History, 1200-1500
Political Science 10. Introduction to Political Theory

(2) Social Analysis

Afro-American Studies 55. Social Organization of Black Communities
Anthropology 8. Archaeology: An Introduction
9. Sociocultural Anthropology
33. Culture and Communication
Asian American Studies 21, Asians and Pacific Islanders in American Society

Biography 11. Biomedical Research Issues in Minority Communities
Chicanas and Chicanos Studies 10B. Chicanos in American Society
Communication Studies 10. Introduction to Communication Studies
Economics 1, 2. Principles of Economics
5. Introductory Economics

Geography 3. Cultural Geography
4. Introduction to Geographic Analysis
Political Science 20. World Politics
30. Introduction to Political Economy
40. Introduction to American Politics
50. Introduction to Comparative Politics

Psychology 10. Introductory Psychology) or 11 (Principles of Psychology)
*M5. Lower Division Seminar: Stress, Adaptation, and Coping

Social Sciences 20. Racial Minorities in the U.S.
Sociology 1. Introductory Sociology
2. Changing Society and Making History
3. Sociology of Everyday Life

M5. Social Organization of Black Communities
31. Dilemmas of Third World Development
Women’s Studies 10. Introduction to Women’s Studies: Feminist Perspectives on Women and Society

(D) Life Sciences
Three courses from the following, one of which must have a laboratory and/or demonstration component:

Anthropology 7 (Human Evolution) or 12 (Principles of Human Evolution: Comparative Analysis)
10. Principles of Human Evolution: Genetic Basis
15. Human Biology and Behavior

Biology 2. Principles of Modern Biology
5. Biology of Organisms
5L. Organismic and Environmental Biology Laboratory
6. Ecology, Evolution, and Behavior
9. Introduction to Cell and Molecular Biology

*Plants and Civilization
*11. Biomedical Research Issues in Minority Communities

12. Biodiversity and Extinction: Crisis and Conservation
13. Evolution of Life
21. Field Biology
25. Oceanography
30. Biology of Cancer
40. AIDS and Other Sexually Transmitted Diseases
50. Desert Life
70. Genetic Engineering and Society
80. The Green World: Plant Biology for Now and the Future

B8. First-Year Seminar: Genetics and Society — Current Status and Future Applications

E8. First-Year Seminar: Science and Scientists — Expectations and Realities

Earth and Space Sciences 15. Introduction to Oceanography
16. Major Events in History of Life
17. Dinosaurs and Their Relatives
*20. Natural History of Southern California

Geography 2. Biogeography
5. People and the Earth’s Ecosystems

Microbiology and Molecular Genetics 6. Introduction to Microbiology
7. Developments in Biotechnology

Physiological Science 3. Introduction to Human Physiology
5. Issues in Human Physiology: Diet and Exercise
13. Introduction to Human Anatomy and Physiology
Psychology 15. Introductory Psychology

*68A. Lower Division Seminar: Stress, Adaptation, and Coping

Courses with a laboratory and/or demonstration component include Biology 2, 5, 8, 10, 19, 20, 21, 50, 60, Earth and Space Sciences 15, 16, 17, 20, Geography 2, 5, 5. Physiology Science 3, 5, 13.

All honors sections of the above courses also fulfill GE requirements.

Honors Collegium: Inquire at the Honors Programs Office (A311 Murphy Hall) for information on courses which satisfy any of the areas of the general education requirements.

*Cross-listed courses can fulfill the GE requirement in only one group.
and one must include a laboratory and/or demonstration component. In the life sciences, one course must include a laboratory and/or demonstration component.

All students entering UCLA in Fall Quarter 1994 with 45 or more quarter units are not required to complete the complementary course requirement in physical sciences.

Courses required to satisfy the major or other courses taken in the major department may not be used to satisfy the general education requirements. However, courses outside the major which are required as preparation for a major may be used to satisfy these requirements.

**Course Exemptions** — Students majoring in the humanities are exempt from two courses, one in their major subgroup and one other humanities course. Students majoring in the physical sciences are exempt from two courses in the physical sciences group. Students in the social sciences are exempt from two courses in the subgroup of their major, and students in life sciences are exempt from two courses in the life sciences grouping. At least 14 courses (12, with exemptions) must be completed.

**Course Substitutions** — Two lower division seminars which have been approved for GE credit may be substituted for courses on the "Courses to Fulfill GE Requirements" list. You may make no more than one such substitution per group (humanities, physical sciences, social sciences, life sciences). An annual list of GE seminars is published in the *General Education Handbook*, and descriptions are listed in the quarterly *Schedule of Classes* under "Seminars and Special Programs for Undergraduates."

**Advanced Placement Credit** — For application of advanced placement (AP) credit on the general education requirements, see the AP chart below or consult the College Counseling Service.

**Reciprocity with Other UC Campuses** — Students who transfer to UCLA from other UC campuses and have met all general education requirements prior to enrolling at UCLA are not required to complete the college's GE requirements at UCLA. Written verification from the college dean at the other UC campus is required. Consult a Letters and Science counselor regarding your eligibility for this option.

**Intersegmental General Education Transfer Curriculum (IGETC)** — Transfer students from California community colleges have the option to fulfill UCLA's lower division general education requirements by completing the Intersegmental General Education Transfer Curriculum 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 general education or transfer core courses are graduation requirements rather than admission requirements, you are advised to fulfill them prior to transfer.

The IGETC significantly eases the transfer process, as all of UCLA's general education requirements are fulfilled when you complete it. If you select the IGETC, you must complete it entirely before enrolling at UCLA. Otherwise, you must fulfill the College of Letters and Science general education requirements.

**General Education Groupings by Major**

For the purpose of these requirements, departmental and interdepartmental majors are classified in the divisions listed below. Not all courses within a department apply on GE requirements in the division of the major (e.g., psychology is listed as a life science; however, Psychology 10 appears as a social science under social analysis).

(A) Humanities

- African Languages
- Arabic
- Chinese
- English
- English/Greek
- English/Latin
- French
- German
- Greek
- Greek and Latin
- Hebrew

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### Credit for Advanced Placement Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>UCLA Course Equivalents*</th>
<th>Credit Allowed on GE Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
<td>8 units</td>
<td>No application for art</td>
</tr>
<tr>
<td>Art Studio: General Portfolio or Drawing Portfolio</td>
<td>8 units for either general or drawing portfolio</td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>Biology 2 (4 units) plus 4 unassigned units</td>
<td>4 units toward life sciences requirement</td>
</tr>
<tr>
<td>Chemistry</td>
<td>8 units</td>
<td>No application for chemistry</td>
</tr>
<tr>
<td>Computer Science A Test**</td>
<td>2 unassigned units</td>
<td>No application for computer science</td>
</tr>
<tr>
<td>Computer Science AB Test**</td>
<td>4 unassigned units</td>
<td>Satisfies quantitative reasoning requirement</td>
</tr>
<tr>
<td>Economics, Macroeconomics</td>
<td>Score 3 — 4 unassigned units</td>
<td>Score 3 — No application for economics</td>
</tr>
<tr>
<td></td>
<td>Score 4 or 5 — Economics 2 (4 units)</td>
<td>Score 4 or 5 — 4 units toward social analysis requirement</td>
</tr>
<tr>
<td>Economics, Microeconomics</td>
<td>Score 3 — 4 unassigned units</td>
<td>Score 3 — No application for economics</td>
</tr>
<tr>
<td></td>
<td>Score 4 or 5 — Economics 1 (4 units)</td>
<td>Score 4 or 5 — 4 units toward social analysis requirement</td>
</tr>
</tbody>
</table>

Note: You may not repeat for units or grade points any AP Test credit that has been given UCLA course number equivalency (e.g., History 7A-7B).

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*All UCLA course equivalents consist of lower division advanced placement units.

*Students who take both tests receive a maximum of four units of credit.

(continued on page 88)
<table>
<thead>
<tr>
<th>Test</th>
<th>UCLA Course Equivalents*</th>
<th>Credit Allowed on GE Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td></td>
<td>Score 3 — Satisfies Subject A requirement</td>
</tr>
<tr>
<td>Language and Composition</td>
<td>Score 3 — 8 unassigned</td>
<td></td>
</tr>
<tr>
<td>Literature and</td>
<td>English 3 (8 units)</td>
<td></td>
</tr>
<tr>
<td>Composition**</td>
<td>Score 4 — English 3 (8 units)</td>
<td></td>
</tr>
<tr>
<td>Government and Politics,</td>
<td>Score 5 — English 3 and 4 (8 units)</td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>Political Science 1 (4 units)</td>
<td></td>
</tr>
<tr>
<td>Government and Politics,</td>
<td></td>
<td>4 units toward social analysis requirement; satisfies American History and Institutions requirement</td>
</tr>
<tr>
<td>Comparative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History, U.S.</td>
<td>Score 3 — 8 units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score 4 or 5 — History 7A-7B (8 units)</td>
<td></td>
</tr>
<tr>
<td>History, European</td>
<td>History 1C (4 units) plus 4 units</td>
<td></td>
</tr>
<tr>
<td>Language, French</td>
<td>Score 3 — French 4 (8 units total)</td>
<td></td>
</tr>
<tr>
<td>French Language</td>
<td>Score 4 — French 5 (8 units total)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score 5 — French 6 (8 units total)</td>
<td></td>
</tr>
<tr>
<td>French Literature</td>
<td>8 units</td>
<td></td>
</tr>
<tr>
<td>Language, German</td>
<td>Score 3 — German 3 (8 units)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score 4 — German 4 (8 units)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score 5 — German 5 (8 units)</td>
<td></td>
</tr>
<tr>
<td>Language, Spanish</td>
<td>Score 3 — Spanish 4 (8 units)</td>
<td></td>
</tr>
<tr>
<td>Spanish Language</td>
<td>Score 4 — Spanish 5 (8 units)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score 5 — Spanish 6 (8 units)</td>
<td></td>
</tr>
<tr>
<td>Spanish Literature</td>
<td>8 units</td>
<td></td>
</tr>
<tr>
<td>Latin (Vergil, Catullus/</td>
<td>Score 3 — Latin 1 (4 units per test)</td>
<td></td>
</tr>
<tr>
<td>Horace)</td>
<td>Score 4 or 5 — Latin 3 (4 units per test)</td>
<td></td>
</tr>
<tr>
<td>Mathematics (AB Test)**</td>
<td>Score 3 — 4 units</td>
<td>4 units toward physical sciences requirement</td>
</tr>
<tr>
<td>Calculus</td>
<td>Score 4 or 5 Mathematics 31A (4 units)</td>
<td></td>
</tr>
<tr>
<td>Mathematics (BC Test)**</td>
<td>Score 3 — 8 units</td>
<td>8 units toward physical sciences requirement</td>
</tr>
<tr>
<td>Calculus</td>
<td>Score 4 or 5 Mathematics 31A, 31B (8 units)</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>Music Literature**</td>
<td>No application for music</td>
</tr>
<tr>
<td></td>
<td>8 units</td>
<td></td>
</tr>
<tr>
<td>Music Theory**</td>
<td>8 units</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>B Test**</td>
<td>No application for physics</td>
</tr>
<tr>
<td></td>
<td>8 units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C Test**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 or 8 units</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>4 unassigned units</td>
<td>No application for psychology</td>
</tr>
</tbody>
</table>

*Note: You may not repeat for units or grade points any AP Test credit that has been given UCLA course number equivalency (e.g., History 7A-7B).

*All UCLA course equivalents consist of lower division advanced placement units.

**Students who take both tests receive a maximum of eight units of credit.
A2: Philosophy
A3: Language and Linguistics
French and Linguistics
Linguistics (including all Linguistics and special fields majors)
Spanish and Linguistics
A4: Culture and Civilization
Ancient Near Eastern Civilizations
Classical Civilization
Iranian Studies
Near Eastern Studies
Religion, Study of Russian Studies
A5: The Arts
Art History
Musicology
World Arts and Cultures

(B) Physical Sciences
Applied Mathematics
Astrophysics
Atmospheric Sciences
Biochemistry
Chemistry
Chemistry/Materials Science
Cybernetics
Earth Sciences
Economics/System Science
General Chemistry
General Mathematics
General Physics
Geology (including all specialization options)
Geophysics (including all specialization options)
Mathematics
Mathematics/Application Science
Mathematics of Computation
Physics

(C) Social Sciences
C1: Historical Analysis
History
History/Art History
C2: Social Analysis
Afro-American Studies
Anthropology
Chicana and Chicano Studies
Communication Studies
Development Studies
East Asian Studies
Economics (including all specialization options except Economics/System Science)

Geography
Geography/Environmental Studies
Latin American Studies
Political Science
Sociology
Women's Studies

(D) Life Sciences
Biology
Cell and Molecular Biology
Cognitive Science
Microbiology and Molecular Genetics
Neuroscience
Physiological Science
Psychobiology
Psychology

Credit Limitations

Note: Transfer students with credit from other institutions (advanced standing credit) receive a Degree Progress Report (DPR) from the Office of Undergraduate Admissions and Relations with Schools indicating the transferable units from their former institution(s); however, the following credit limitations may reduce the total number of transferred units which will apply toward the degree in the College of Letters and Science. Consult with a counselor in the College Counseling Service regarding these limitations.

The following credit limitations apply for all students enrolled in the college. In most cases units are not deducted until the final term before graduation. Consult a counselor in the College Counseling Service if you have questions.

Subject A
If you do not satisfy the Subject A requirement prior to enrolling at UC, you must pass an approved course or other program prescribed by your UC campus of residence. Only after satisfying the Subject A requirement can you take for transfer credit an English composition course after enrolling at UCLA. Consult a college counselor regarding Subject A equivalent courses from other UC campuses.

Community College
After completing 105 quarter units (26½ courses) toward the degree in all institutions attended, you are allowed no further unit credit for courses completed at a community college.

Physical Education
No more than four units in physical education activities courses may be applied toward the bachelor's degree.

300- and 400-Level Courses
No more than two courses (eight 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.

Performance Courses
No more than 12 units of music and/or dance performance courses (Dance 71B through 79Z, C171B through C179Z, Ethnomusicology and Systematic Musicology 91A-91Z, and Music 90A through 90N) may be applied toward the bachelor's degree whether taken at UCLA or another institution.

Foreign Language
Credit will not be allowed for completing a less advanced course in grammar and/or composition after you 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).

College Level Examination Programs
Credit earned through the College Level Examination Program (CLEP) and through the California State University English Equivalence Examination may not be applied toward the bachelor's degree.

Advanced Placement (AP) Tests
Advanced Placement (AP) Test credit may not be applied toward a degree unless you had less than 36 units of credit at the time of the examination(s).

ROTC Courses
For students contracted in the Aerospace Studies Department, 36 units of aerospace study 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.

Independent Study Courses
No more than two courses (eight units) of credit may be taken per term in special independent study courses. The total number of units allowed in such courses for a letter grade is 16; see specific restrictions under each departmental listing.

Physics 3A, 6A, 8A, 10
Any two or more courses from Physics 3A, 6A, 8A, and 10 are limited to a total of six units of credit.

Statistics
No credit is allowed for more than one lower division course in statistics (Anthropology 80, Economics 40, Geography 40, Political Science 6, Psychology 41, Sociology 18, Statistics 50) or for more than one sequence of such courses whether taken at UCLA or another institution.
To qualify for College Honors, entering freshmen must (1) have an overall GPA of 3.85 or better and an SAT score of 1,300 or better (on one test date) or an ACT score of 31 or better or (2) graduate in the top three percent of their high school class or (3) qualify through the Honors Programs Educational Enhancement Program (see below). Certain entering transfer students may be admitted with a transfer GPA of 3.85 (or 3.5 if transferring from another UC campus or a college in the Transfer Alliance Program). Continuing UCLA and transfer students with at least 12 or more graded units at UCLA and a cumulative UC GPA of 3.5 or better who can complete the honors course requirements prior to graduation are encouraged to participate, as are both regularly qualified and potentially successful underrepresented minority students.

The Educational Enhancement Program offers low-income, minority, disabled, and other non-traditional students who might not otherwise be able to participate an opportunity to qualify for UCLA's College Honors program. Contact the Honors Programs Office for more information.

You may apply for admission to College Honors at A311 Murphy Hall. For further information, attend one of the group meetings offered regularly by the Honors Programs Office.

Honors at Graduation

Students who have achieved scholastic distinction may be awarded the bachelor's degree with honors. To be eligible, you 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 which places you in the top five percent of College of Letters and Science graduates (GPA of 3.771 or better) for summa cum laude, the next five percent (GPA of 3.682 or better) for magna cum laude, and the next 10 percent (GPA of 3.504 or better) for cum laude. Coursework taken on the Education Abroad Program is applied toward honors at graduation. The minimum GPAs required are subject to change on an annual basis. Required GPAs in effect in your graduating year (fall, winter, spring, summer) determine your eligibility. Consult your graduation-year catalog for the requirements that apply to you.

Dean's Honors List

The Dean's Honors List recognizes high scholastic achievement in any one term. The following criteria are used to note Dean's Honors List 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 List is automatically recorded on your transcript.

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 your college/school honors program. You must also have at least one term's coursework remaining at UCLA. To obtain both the bachelor's and master's degrees you 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. If you are interested in becoming a Departmental Scholar, consult your department well in advance of application dates for graduate admission (see the Calendar at the beginning of this catalog). For further information, consult the Honors Programs Office.

Honors Collegium

The Honors Collegium is a unique and innovative educational alternative of seminars and courses designed primarily for students in their freshman and sophomore years. Some upper division courses are also offered. Refer to Honors Collegium later in this chapter for a complete description of the program.

Honors Programs Office

The Honors Programs Office, located in A311 Murphy Hall (310-825-1553, 825-3786), provides academic counseling and services for College Honors students, Departmental Scholars, Education Abroad Program students, students pursuing individual majors, and students participating in the High School Scholars program. The division also provides counseling for Regents Scholars, National Merit Scholars, and Alumni Scholars during their first year of attendance. Services offered include academic counseling, degree checks, assistance with petitions and, for College Honors students only, letters describing the program to graduate and professional schools.

A variety of scholarships and awards for qualified continuing students and graduating seniors is also available.

In addition, the Honors Programs Office administers Phi Beta Kappa (national honor society).

Preparing for a Professional School

The programs that follow are not degree programs in the College of Letters and Science. The purpose of each grouping of courses is to assist you if you plan to apply to a professional school at the end of your sophomore (90 units) or junior (135 units) year.

If you are not accepted by a professional school or plan to receive your degree before applying, you must declare a major in the College of Letters and Science and complete the requirements for a degree without exceeding 216 units.
New students entering these curricula are listed as "undeclared" majors and are advised in the college unless an adviser is named below in the presentation of the curriculum.

Preprofessional Advising Office
Information and counseling on preparing for professional schools and assistance in filing applications and preparing for interviews are available through the Preprofessional Advising Office, A266 Murphy Hall. Workshops, reference letter services, and MCAT, DAT, AMCAS, LSAT, GRE, GMAT, and other applications are available. For more information, call (310) 825-1817.

Predental Curriculum: Three Years
The College of Letters and Science offers a predental curriculum designed to fulfill the basic educational requirements for admission to several dental schools and the general educational requirements of the College of Letters and Science. You should determine and satisfy the specific requirements of the dental schools to which you expect to apply.

To be adequately prepared for the predental curriculum, you should take the following subjects in high school: English, history, mathematics (algebra, geometry, and trigonometry), chemistry, physics, and foreign language.

The 135 quarter units of work required for admission to the UCLA School of Dentistry in this curriculum include the following:

General University Requirements: (1) Subject A; (2) American History and Institutions.

Specific UCLA School of Dentistry Requirements: (1) Biology 5, 5L, 9, 108; (2) Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL, 132A, 132B/132BL, 153A, 153L; (3) English 3, 4; (4) Physics 3A, 3B, and 3C; or 6A, 6B, and 6C; or 8A, 8B, and 8C; (5) Psychology 10.

Social sciences and humanities courses such as anthropology, history, economics, psychology, political science, appreciation of art and/or music, and philosophy should also be included.

For further information, consult Admissions Requirements of U.S. and Canadian Dental Schools, AADS, 1625 Massachusetts Avenue NW, Suite 101, Washington, DC 20036. Sample copies of the Dental Admission Test (DAT) are available in the Preprofessional Advising Office (310-825-1817).

Predental Hygiene Curriculum: Two Years*
The University offers a four-year program in dental hygiene leading to the degree of Bachelor of Science. The first two years may be taken at Los Angeles; the last two years must be taken at the School of Dentistry at the University of California, San Francisco. Admission to UCSF is by competitive application.

The 90 quarter units of work required for admission to the School of Dentistry at UCSF include specific requirements as follows (the courses referred to are UCLA courses which fulfill the requirements):

Curriculum Requirements: (1) Subject A; (2) American History and Institutions (the examination in American History and Institutions may be taken at the UCSF School of Dentistry, but it is preferable to satisfy the requirements in the predental program); (3) Biology 5, 5L, 9, 108; (4) Chemistry and Biochemistry 11A, 11B/11BL, 132A, 132B/132BL, 153A, 153L; (5) one year of English which includes English 3; (6) Psychology 10 and one additional psychology course; (7) 16 units in social sciences and humanities, including foreign language (one course in speech and one in sociology are required). Courses in anatomy and physiology are strongly recommended. For more information, call the Preprofessional Advising Office at (310) 825-1817.

Premedical Studies: Four Years
If you intend to apply for admission to a medical school and wish to complete the requirements for a bachelor's degree before such admission, you should select a major within the College of Letters and Science. Medical schools have no preference as to major. You should choose the major in which you are most interested and can do best. In addition to fulfilling the requirements of the selected major, you should satisfy the specific requirements for medical schools to which you expect to apply.

High school preparation for premedical studies at the University should include English, three units; U.S. history, one unit; mathematics, three and one-half units; chemistry, one unit; physics, one unit; biology, one unit; foreign language (preferably French, German, or Spanish), two units. It is desirable that a course in freehand drawing be taken in high school.

The following courses are usually required for admission to the UCLA Medical School: (1) two years of college biology to include the study of organicism, cellular, molecular, development, and genetic biology, including at least one year of laboratory courses and one year of upper division courses (Biology 5 and 9, plus additional lower and upper division life sciences courses equivalent to the general requirements, are required; note that Biology 5L is a prerequisite to upper division biology laboratory courses); (2) Chemistry and Biochemistry 11A, 11B/11BL, 11CL, 132A, 132B/132BL, 153A, 153L; (3) 12 quarter units of English, including at least one course in English composition; (4) Physics 3A, 3B, and 3C; or 6A, 6B, and 6C; or 8A, 8B, and 8C; Courses in physical chemistry and calculus are strongly recommended. Course requirements for admission to other University of California medical schools vary slightly.

Because requirements for admission to medical schools outside the University of California also vary somewhat, you should consult the following publications: Medical School Admission Requirements, U.S. and Canada, Association of American Medical Colleges, 2450 N Street NW, Washington, DC 20037-1126; The Education of Osteopathic Physicians, ACOM, 6110 Executive Boulevard, Suite 405, Rockville, MD 20852; and The New MCAT Student Manual (also an AAMC publication available at the above AAMC address). For more information, call the Preprofessional Advising Office at (310) 825-1817.

Prenursing Curriculum: Two Years
The University offers a four-year course of study leading to the Bachelor of Science degree in Nursing. The prenursing curriculum in the College of Letters and Science is designed to prepare you for the program in the UCLA School of Nursing. You should apply to the School of Nursing when you have completed or have in progress 84 quarter credits, including the prenursing courses listed below with grades of C or better, and a cumulative grade-point average of at least 2.8. Since you must apply during the Fall Quarter of the year prior to the year in which you wish to be enrolled, you must present your proposed curriculum for the remaining terms.

Because enrollment in the UCLA School of Nursing is limited, you should become familiar with the admission requirements as early as possible. Attend open counseling sessions in the UCLA School of Nursing (times are posted in the Office of Student Affairs, 2-200 Factor Building, 310-825-7181) and those given by the Preprofessional Advising Office (posted outside A266 Murphy Hall, 310-825-1817).

New students admitted to the college in this curriculum should declare prenursing as their major. Weekly open counseling sessions are available. Students in the college who do not transfer to the UCLA School of Nursing must declare a major and be able to complete all degree requirements within 216 units.

Prenursing Requirements for the UCLA School of Nursing: (1) Anthropology 9; (2) Biology 5, 9; (3) Chemistry and Biochemistry 11A, 15, 15L; (4) Community Health Sciences 130; (5) English 3; (6) Microbiology and Molecular Genetics 6/6L or 101; (7) Physics 10 or one year of high school physics; (8) Psychological Science 13; (9) Psychology 10, 15; (10) Sociology 1; (11) one four-unit humanities course from literature, philosophy, language and linguistics, culture and civilization, or the arts; (12) recommended electives in the social and life sciences. All required prenursing courses must be completed for a letter grade.

*The UCSF School of Dentistry reserves the right to limit enrollment if applications exceed available facilities and to require interviews and aptitude tests if they are necessary in the selection of the class. For further information, see the Announcement of the School of Dentistry, UC San Francisco.
Preoptometry Curriculum: Three Years

A three-year program designed to prepare you for admission to optometric schools may be completed in the College of Letters and Science. If you are planning to transfer to the School of Optometry at Berkeley, you should contact Assistant Dean Carter of the School of Optometry, University of California, Berkeley, CA 94720, (510) 642-9537, as early as your preprofessional studies as possible.

You will be adequately prepared for preoptometric studies if you have taken the following subjects in high school: English, history, mathematics (algebra, geometry, and trigonometry), chemistry, physics, and two years of one foreign language.

The 135 quarter units of work required for admission to the School of Optometry, UC Berkeley, include the following: (1) Subject A; (2) American History and Institutions.

Specific UC Berkeley School of Optometry Requirements: (1) Biology 5, 5L, 9; (2) Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL, 132A, 132B; (3) English 3, and 4 or 129; (4) Mathematics 1, 3A, and 3B, or 3A, 3B, and 3C, or 31A, 31B, and Statistics 50 or Psychology 41; (5) Microbiology and Molecular Genetics 6/6L or 101; (6) Physics 3A, 3B, and 3C, or 6A, 6B, and 6C, or 6A, 6B, and 6C; (7) introductory anatomy (Physiological Science 13) and physiology (Biology 166); (8) Psychology 10. Recommended: neuroanatomy, cell physiology, or additional statistics courses.

The balance of the 135 quarter units required for admission may be selected from social sciences, foreign languages, and humanities.

For further information, obtain the booklet Information for Applicants to Schools and Colleges of Optometry from the American Optometric Association, 243 Lindbergh Boulevard, St. Louis, MO 63141, or call the Preprofessional Advising Office at (310) 825-1817.

Prepharmacy Curriculum: Two Years

The School of Pharmacy on the San Francisco campus of the University offers a four-year curriculum leading to the degree of Doctor of Pharmacy. To be admitted to this curriculum you must have met all requirements for admission to the University and have completed, with an average grade of C (2.0) or better, at least 90 quarter units of the program below. Students taking prepharmacy work at the University of California are normally enrolled in the College of Letters and Science. If taken elsewhere, the courses elected must be equivalent to those offered at the University. To complete prepharmacy studies in the minimum time, you should take elementary chemistry, trigonometry, and a full year of intermediate algebra in high school.*

Curriculum Requirements: (1) Subject A; (2) American History and Institutions; (3) Biology 5, 5L, 9; (4) Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL, 132A, 132B/132BL; (5) English 3, 4; (6) intermediate algebra and trigonometry (if not completed in high school); Mathematics 3A and 3B, or 31A and 31B; (7) Physics 3A and 3B, or 6A and 6B, or 8A and 8C/8CL; (8) 28 quarter units of electives selected from courses in foreign language, social sciences, and humanities.

For further information, call the Preprofessional Advising Office at (310) 825-1817.

Prephysical Therapy Curriculum: Three or Four Years

Students who intend to apply for admission to a physical therapy school should select a major (physiological science and psychology are commonly selected) and complete the following prerequisite courses: (1) Biology 5, 9; (2) Chemistry and Biochemistry 11A, 11B/11BL, 15, 15L; (3) Physics 3A, 3B, 3C; (4) introductory anatomy (Physiological Science 13) and physiology (Biology 166); (5) Psychology 10, 115, 127, 130. Recommended: one course in statistics and one in computing. The prerequisite courses should be taken for a letter grade; GPAs for these courses should not be lower than 3.0, with no grade lower than a C.

You should write to schools with physical therapy programs early in your sophomore year for specific admission requirements and application deadlines. Information concerning in-state and out-of-state programs may be obtained from the American Physical Therapy Association, 1156 15th Street NW, Washington, DC 20005, and the Preprofessional Advising Office (310-825-1817).

Prepublic Health Studies

The professional and academic fields of public health need individuals from many disciplines. Graduates for graduate study may come from a wide variety of academic backgrounds and training, including mathematics and the physical, biological, and social sciences. Preparation typically includes a minimum of two courses each in mathematics, biological sciences, and social sciences, and one course in physical sciences.

Interested students and those who wish to apply to the UCLA School of Public Health should review the school's announcement booklet for additional requirements or recommendations for entry into the various programs of study. Information is available at the Preprofessional Advising Office (310-825-1817).

Prerespiratory Therapy Curriculum: One Year

Santa Monica College (SMC) and the UCLA Medical Center offer a two-year program in respiratory therapy accredited by the American Medical Association (AMA) through which you may obtain a Certificate of Completion. The first year of the curriculum may be taken at UCLA or any other two- or four-year college/university. Many UCLA students opt to incorporate the first-year respiratory therapy curriculum into their UCLA science or premedical B.S./B.A. degree prerequisites and, after completing their UCLA degree, enter the second year at the SMC/UCLA Medical Center School of Respiratory Therapy. The only first-year course that must be taken at Santa Monica College is an introductory course on respiratory therapy as a profession (Respiratory Therapy 1).

The second year of the program (the formal respiratory therapy curriculum) is taken through Santa Monica College. It is a lecture, laboratory, and clinical program conducted at the UCLA Medical Center, beginning with summer school each year. Admission to the second year is competitive application. Because enrollment in the second year is limited, you should become familiar with the admission requirements as early as possible.

Curriculum Requirements (First Year): (1) Respiratory Therapy 1 (taken at SMC in Fall/Spring Quarter); (2) general human anatomy with laboratory; (3) general chemistry with laboratory; (4) basic lower division English; (5) U.S. history or general political science; (6) any general humanities course (art, music, foreign languages, etc.); (7) microbiology with laboratory; (8) human physiology with laboratory; (9) general psychology; (10) speech or advanced English composition.

For further information and/or a counseling appointment, contact the SMC/UCLA Medical Center School of Respiratory Therapy at (310) 825-7222.

Prelaw Studies

Law schools have no preference with regard to specific majors or particular courses. Admission to law school is based on the quality of your academic work, LSAT scores, and other qualities as reflected in letters of recommendation, in the written application, and in interviews. The College of Letters and Science offers advising on preparing for and applying to law schools through daily drop-in counseling sessions (for information, call the Preprofessional Advising Office at 310-825-1817).
African Area Studies (Interdepartmental)

10244 Bunche Hall, (310) 825-3686

Professors
Richard L. Abel, LL.B., Ph.D. (Law)
Edward A. Alpers, Ph.D. (History)
Jacqueline C. DjeDje, Ph.D. (Ethnomusicology and Systematic Musicology)
Robert B. Edgerton, Ph.D. (Anthropology; Distinguished Teaching Award)
Christopher Ethet, Ph.D. (History)
John Friedmann, Ph.D. (Urban Planning)
Peter B. Hammond, Ph.D. (Anthropology)
Thomas J. Hinebusch, Ph.D. (Linguistics, African Languages)
Dean T. Jamison, Ph.D. (Community Health Sciences, Education)
Edmond Keller, Ph.D. (Political Science)
Robert S. Kinser, Ph.D. (Germanic Languages)
Deepak K. Lal, D.Phil. (Economics)
Michael F. Lofchie, Ph.D. (Political Science)
Alfred K. Neumann, M.D. (Community Health Sciences)
Charlotte G. Neumann, M.D. (Community Health Sciences)
Boniface I. Ogichere, D.Phil. (History)
Merrick Postansky, Ph.D. (History, Anthropology)
Hans Schollihammer, D.B.A. (Management)
Russell G. Schub, Ph.D. (Linguistics, African Languages)
Richard L. Sklar, Ph.D. (Political Science; Distinguished Teaching Award)
Edward W. Soja, Ph.D. (Urban Planning)
Hartmut Walter, Ph.D. (Geography)
Thomas S. Weinser, Ph.D. (Anthropology)

Professors Emeriti
Hassan el Nouty, Docteur ès Lettres (French)
Victoria A. Fromkin, Ph.D. (Linguistics; Distinguished Teaching Award)
Walter R. Goldschmidt, Ph.D. (Anthropology)
Richard C. Hawkins, M.A. (Film and Television)
Frederick C. Kintzer, Ed.D. (Education)
Mazzzi R. Kunene, Ph.D. (Linguistics)
Wolf Leslaw, Docteur ès Lettres (Hebrew, Semitic Languages)
Jacques Maquet, Ph.D. (Anthropology)
Georges Sabagh, Ph.D. (Sociology)
Nathan Shapiro, Dottore in Architettura (Design)
Allegre Fuller Snyder, M.A. (Dance)
Benjamin E. Thomas, Ph.D. (Geography)

Associate Professors
Robert C. Bailey, Ph.D. (Anthropology)
Donald J. Cosentino, Ph.D. (English, Folklore and Mythology)
Testhome H. Gabriel, Ph.D. (Film and Television)
Gerry A. Haie, Ph.D. (Geography)
Susanna B. Hecht, Ph.D. (Urban Planning)
Robert A. Hill, M.Sc. (History)
Gail E. Kennedy, Ph.D. (Anthropology)
Hilda J. Koopman, Ph.D. (Linguistics, African Languages)
Mary Niles Maack, D.L.S. (Library and Information Science)
Beverly J. Robinson, Ph.D. (Theater)
William H. Worger, Ph.D. (History), Chair

Assistant Professors
Judith A. Carney, Ph.D. (Geography)
Johannes J. Feddema, Ph.D. (Geography)
Nadine R. Peacock, Ph.D. (Anthropology)
Anna Simons, Ph.D. (Anthropology)

Lecturer
Patrice E.F. Jelliffe, R.N., M.P.H. (Community Health Sciences)

Visiting Assistant Professor
Kobla Ladzekpo, M.A. (Ethnomusicology and Systematic Musicology)

Scope and Objectives
The basic objective of the African Area 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. The Master of Arts is not a professional degree, but students are encouraged to enroll in courses in several professional schools on campus. Articulated degree programs are also offered.

Academic flexibility draws many students to the program. Because there are more than 30 active faculty members on campus, the African interest and experience in many disciplines, students have multiple options to design individualized programs.

According to a recent survey, 45 percent of the program's graduates are continuing study at the postgraduate level, 25 percent are employed in higher education, and 30 percent work with international or foreign organizations in 20 countries.

Master of Arts Degree

Admission
In addition to the University minimum requirements, applicants are required to (1) submit three letters of recommendation from academic referees, one of which may be from an employer if the applicant has been away from school for some time, (2) present a résumé describing both academic and professional experience, and (3) submit a research paper.

In addition to meeting the requirements of the Graduate Division, you must have adequate preparation in undergraduate fields related to the program. Normally, the required preparation for the M.A. degree in African Area Studies is a Bachelor of Arts in the social sciences or arts and humanities.

Major Fields or Subdisciplines
You must select a major field of concentration in one discipline, professional school, or approved interdisciplinary grouping. For more information and a brochure describing the program, contact the Assistant Graduate Adviser, African Studies Center, 10244 Bunche Hall, UCLA, Los Angeles, CA 90024-1310.

Foreign Language Requirement
You are required to satisfy the language requirement by one of the following methods: (1) taking three courses (12 units) in an African language with an average grade of B or better (these courses may not be applied toward the nine courses required for the degree), (2)
passing a Linguistics Department examination in an African language not regularly offered, (3) proving that you are a native speaker of an African language, (4) proving that you have a Foreign Service Institute rating of three or above in an African language, or (5) petitioning for the substitution of an appropriate non-African language.

Course Requirements

A minimum of nine courses is required for the M.A., at least five of which must be at the graduate level. The courses must be distributed between disciplines as follows: (1) major discipline — a minimum of five courses, of which three must be at the graduate level. Sociology and anthropology may be taken as a combined major. Other combined majors must be approved by the graduate adviser; (2) minor discipline — a minimum of three courses, of which two must be at the graduate level; (3) third discipline — a course on Africa, preferably of the survey or methodology type. In addition, African Area Studies M229B and/or History 275 are strongly recommended for all students in the program.

No more than one course graded on an S/U basis may be applied toward the minimum of nine courses required for the degree, except with consent of the graduate adviser. One course in the 500 series may be applied toward the total course requirement and toward the minimum graduate course requirement. With consent of the graduate adviser, another 500-level course may be allowed but may not be applied toward the minimum graduate course requirement.

Thesis Plan

The program normally requires a written comprehensive examination for the M.A. degree; however, a thesis option is available but must be approved by the program chair and your faculty adviser. If approved, you should select, in consultation with the graduate adviser, a faculty committee to supervise your thesis. The thesis must reflect the major area of emphasis. Normally the thesis should be submitted to the committee at the beginning of your fourth term in residence and should be approved before the end of that term. If the committee does not approve the thesis, you will have failed the requirement and are not allowed to resubmit the thesis.

Comprehensive Examination Plan

If you select the comprehensive examination plan, you are required to take a written examination administered by a three-person committee. It is your responsibility to make arrangements for this examination with faculty members in appropriate departments. Exceptions are granted only with consent of the graduate adviser. The examination normally is three to six hours in length.

An oral examination may be held at the discretion of the examining committee after it has read the written examination. If you fail the comprehensive examination, you may retake it only once with consent of the graduate adviser.

African Development Studies within the M.A. in African Area Studies

Students interested in an interdisciplinary program in African development studies within the existing master’s program should consult the graduate adviser. Coursework focuses on planning and development.

Cooperative Degree Programs

In the articulated degree programs described below, no course may be used for credit toward more than one degree. Thus, courses that have been applied toward the completion of the M.A. degree in African Area Studies may not also be applied toward any other degree.

For more information on either of the cooperative degree programs, contact the Graduate Adviser or Assistant Graduate Adviser, M.A. Program in African Area Studies.

M.F.A.-Film and Television/M.A.-African Area Studies

The African Area Studies Program and the Department of Film and Television have an articulated degree program which allows students to combine study for the M.A. in African Area Studies and the M.F.A. in Film and Television. You must be accepted by both areas to pursue this degree program. Additional information is available from the Graduate Adviser, Student Services Office, UCLA School of Theater, Film, and Television.

M.P.H./M.A.-African Area Studies

The African Area Studies Program and the School of Public Health have an articulated degree program whereby you can work sequentially for the master’s degree in African area studies and the Master of Public Health. By planning the major field emphasis in public health while working toward the M.A. in African Area Studies, it may be possible to shorten the amount of time it would normally take to complete both degrees. Potential applicants may also contact the Student Affairs Office, UCLA School of Public Health.

Graduate Courses

M229B. Africana Bibliography and Research Methods. (Same as Library and Information Science M229B.) Problems and techniques of research methodology related to Africana studies. Emphasis on relevant basic and specialized reference materials, including full range of available information resources, library collections of books, serials, and computerized databases.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

African Area Studies Course List

All courses are not offered every academic year. You should verify courses with the respective departments.


91E. Music and Dance of Ghana
M110A-M110B. The Afro-American Musical Heritage
136A-136B. Music of Africa
*C201A-C201B. Proseminar: Ethnomusicology
237. Seminar: African Music
290. Seminar: Ethnomusicology
Film and Television 106C. History of African, Asian, and Latin American Film
*106. History of Documentary Film
*112. Film and Social Change
*218. Culture, Media, and Society
*219. Seminars: Film and Society
*221. Seminars: Film Audiences
276. Seminar: Non-Western Films
Folklore and Mythology M154A-M154B. The Afro-American Musical Heritage
M155. Oral Traditions in Africa
M235. African Myth and Ritual
259. Seminar: Folklore (Africa)
French 121A. Contemporary Francophone Literature: French-African Literature
257A-257B. Studies in French-African Literature
Geography *119. Agricultural and Pastoral Ecosystems
*121. Conservation of Resources: Underdeveloped World
122. Wildlife Conservation in Eastern Africa
*M126. Global Environment: Problems and Issues
*133. Cultural Geography of the Modern World
135. African Ecology and Development
*140. Political Geography
188. Northern Africa
189. Middle and Southern Africa
*229. Seminar: People and Environment
*232. Advanced Cultural Geography
*233. Seminar: Cultural Geography
*234. Environment and Subsistence in Indigenous Cultures
*240. Advanced Political Geography
*241. Seminar: Political Geography
*242. Advanced Population Geography
288. Northern Africa
289. Middle and Southern Africa
*291. Arid Lands
Health Services *240. Health Care Issues in International Perspective
History 10A-10B. Introduction to Civilizations of Africa
88N. Lower Division Seminar: Africa
*M103. Historical Archaeology
109A-109B. History of North Africa from the Moslem Conquest
*M158B-M158C. Introduction to Afro-American History
175A. Topics in African History: Prehistoric Africa — Technological and Cultural Traditions
175B. Topics in African History: Africa and the Slave Trade
175C. Topics in African History: Africa in the Age of Imperialism
175E. Topics in African History: Africa from 1945 to the Present
176A-176B. History of West Africa
176C. Social and Economic History of West Africa since 1600
177. Ethiopia and the Horn of Africa
178A-178B. History of Eastern Africa
179A-179B. History of Southern Africa
200N. Advanced Historiography: Africa
201N. Topics in History: Africa
275. Introduction to Professional Study of African History
276. African Archaeology: Field Techniques
277. African Archaeology: Data Analysis
278A-278B. Seminars: African History
Political Science 133. International Relations of Sub-Saharan Africa
*139A-139Z. Special Studies in International Relations
165A-166B-166C. Government and Politics in Sub-Saharan Africa
*167A. Ideology and Development in World Politics
C197D. Seminar for Majors: South African Politics
202A. Seminar: African History
Urban Planning *232B. Spatial Planning: Regional and International Development
*235A-235B. Urbanization and Rural Development in Third World Countries
*239. Special Topics in Urban and Regional Development Policy
*266. City and Countryside in the Third World
*267A. Resource-Based Development Planning
267B. Rural Development Issues

*A special course which may be applied toward the M.A. degree requirements with the prior approval of the graduate adviser.

African Studies
(Interdepartmental)

10244 Bunche Hall, (310) 825-2944

Professors
Christopher Ehril, Ph.D. (History), Chair
Thomas H. Hinnebusch, Ph.D. (Linguistics, African Languages)
Richard L. Sklar, Ph.D. (Political Science; Distinguished Teaching Award)

Scope and Objectives
This special undergraduate program is designed primarily for (1) students who plan to live and work in Africa or who are interested in government and public service careers involving African affairs and (2) students who plan to pursue graduate work in one of the social sciences or Near Eastern and African languages, with primary concentration on the African field.

The philosophy of the specialization is that people with a solid background in one of the established disciplines can make the best contribution to an understanding of Africa and its...
problems. Thus, the specialization can be taken only jointly with work toward a bachelor's degree, normally in one of the following fields: anthropology, economics, geography, history, linguistics, political science, or sociology. Students completing this special program receive a degree with a major in a selected discipline and specialization in African studies. The chair of the committee in charge certifies completion of the program.

**Special Undergraduate Program**

**Preparation for the Specialization**

*Required:* History 10A-10B and either African Languages M190 or a three-term sequence in any African language.

**Upper Division**

Students are required to take a departmental major in the social sciences or, by special arrangement with the committee chair, in the humanities or arts. In addition, you are required to take an upper division course related to African American studies. This course can be taken in any department of concentration associated with African American studies. The program sees the major as meeting a number of academic, personal, and social needs.

The program offers both a Bachelor of Arts and a Master of Arts degree. While it is important that students become expert within a traditional discipline, it is even more important that students examine both the truth and the fiction regarding the African American experience in the U.S. For African American students, this leads to a heightening of self-awareness and self-pride. For non-African American students, such a major provides a broadening of perspectives to take into account more than a singular cultural view.

The fundamental goal of the curriculum is to provide students with a comprehensive and multidisciplinary introduction to the crucial life experiences of African Americans. This goal is achieved in two primary ways. First, it provides an interdisciplinary exposure to particular features of the African American experience. Majors gain an in-depth understanding of the 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 gain expertise in the concepts, theories, and methods of a traditional academic discipline. Majors are required to select an area of concentration in one of the following fields: anthropology, economics, English, history, philosophy, political science, psychology, or sociology (concentrations in departments not listed must be approved by the program adviser).

**Scope and Objectives**

Originally born during the late 1960s and early 1970s, the Afro-American studies major was designed to fill a void that existed at UCLA in terms of scholarly and curricular material relevant to the African American experience. Students and faculty currently associated with the program see the major as meeting a number of academic, personal, and social needs.

The program offers both a Bachelor of Arts and a Master of Arts degree. While it is important that students become expert within a traditional discipline, it is even more important that students examine both the truth and the fiction regarding the African American experience in the U.S. For African American students, this leads to a heightening of self-awareness and self-pride. For non-African American students, such a major provides a broadening of perspectives to take into account more than a singular cultural view.

The fundamental goal of the curriculum is to provide students with a comprehensive and multidisciplinary introduction to the crucial life experiences of African Americans. This goal is achieved in two primary ways. First, it provides an interdisciplinary exposure to particular features of the African American experience. Majors gain an in-depth understanding of the 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 gain expertise in the concepts, theories, and methods of a traditional academic discipline. Majors are required to select an area of concentration in one of the following fields: anthropology, economics, English, history, philosophy, political science, psychology, or sociology (concentrations in departments not listed must be approved by the program adviser).

The B.A. program in Afro-American Studies is periodically reviewed; check with the program office for changes and/or updates.

**Preparation for the Major**

*Required:* History 10A and the lower division courses listed in one of the following concentrations, plus three courses from at least two additional concentrations (prerequisites 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 8, 9, 10 (or 7), 12; economics — Economics 1, 2, 40, Mathematics 3A, 31E (or 3A and 3B, or 31A and 31B); English — English 3, 4, 10A, 10B, 10C (all must be taken in sequence); history — History 1A-1B-1C, 6A-6B-6C, 10B, and 100A or 101; philosophy — Philosophy 4, 21, 22, 31; political science — Political Science 6, 20, Sociology 1, Economics 1; psychology — Mathematics 2, Psychology 10, 41, 42, Biology 2, Anthropology 7, Physics 10 (or 3A or 6A or 8A), one year of high school chemistry (or Chemistry and Biochemistry 2 or 11A); sociology — Mathematics 2, Sociology 1, 18, Linguistics 1, Anthropology 9. You are strongly urged to complete the required lower division courses within the first two years of the major.

**The Major**

*Required:* (1) Anthropology M164, English M104A or M104B or M104C, History M158B, M158C; (2) four upper division and/or graduate courses in African-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. Note: You may petition the committee which administers the degree program to have a course not on the approved list accepted for the major. In arranging a course of study, you should select a combination of courses that best meets your current and future educational and career goals.

**Approved courses** (recommended courses are in bold):

**Afro-American Studies**

**Program (Interdepartmental)**

160 Haines Hall, (310) 825-7403

**Professors**

Walter Allen, Ph.D. (Sociology)

Gordon L. Berry, Ed.D. (Education)

Lawrence Bobo, Ph.D. (Sociology)

Kimberly W. Crenshaw, J.D., LL.M. (Law)

Jacqueline C. Delgado, Ph.D. (Ethnomusicology and Systematic Musicology)

Sandra Graham, Ph.D. (Education)

Vickie M. Mays, Ph.D. (Psychology)

Claudia Mitchell-Kerman, Ph.D. (Anthropology)

Hector F. Myers, Ph.D. (Psychology)

Melvin Oliver, Ph.D. (Sociology; Luckman Distinguished Teaching Award)

Gail E. Wyatt, Ph.D. (in Residence (Psychiatry and Biobehavioral Sciences)

**Associate Professors**

Teaheine H. Gabrieli, Ph.D. (Film and Television)

Franklin D. Gilliam, Jr., Ph.D. (Political Science)

Robert A. Hill, M.Sc. (History)

Beverly J. Robinson, Ph.D. (Theater)

Valerie A. Smith, Ph.D. (English)

M. Belinda Tucker, Ph.D. (in Residence (Psychiatry and Biobehavioral Sciences)

Richard A. Yarborough, Ph.D. (English; Distinguished Teaching Award)

**Assistant Professors**

Marcyliena H. Morgan, Ph.D. (Anthropology)

Brenda Stevenson, Ph.D. (History)

**Lecturers**

Kenny Burrell, B.A.

Paul Von Blum, J.D.


Honors Option

Students participating in the honors option are required to complete an independent research paper or project undertaken with the guidance of a faculty member. If you are an Afro-American studies major with a grade-point average of 3.5 or better, you complete the honors option by writing an undergraduate thesis. For more information, contact the curriculum coordinator of the Afro-American Studies Program.

Double Major Option

Some students elect to complete the requirements of two majors (Afro-American studies and another). If you are interested in this option, you must maintain good academic standing and complete both majors within the 228-unit maximum imposed by the college. Courses used to satisfy the requirements for the principal major may also be used to satisfy the requirements for the secondary one, but no more than five courses may be common to both majors. Because of the complexity of the double major, you are encouraged to plan your curriculum early and to do so in consultation with the college counselors and/or the Afro-American Studies Program adviser or curriculum coordinator.

Master of Arts Degree

The Master of Arts program in Afro-American Studies is international in scope, focusing on African American cultures in the U.S., the Caribbean, and South America. The program prepares students for positions in the job market, as well as for further graduate study (i.e., Ph.D. level) in their traditional disciplines.

Admission

Applicants for admission must possess a bachelor's degree in the social sciences or humanities and demonstrate an interest in Afro-American studies either through their previous course of study or in their future plans. Students are selected from the following schools and departments: African American studies, proposed program of study, and another). If you are interested in this option, you must maintain good academic standing and complete both majors within the 228-unit maximum imposed by the college. Cours-...
M103E. African American Theater History: The Depression to the Present. (Same as Theater M103E.) Lecture, three hours. Prerequisite: permission of instructor. Historical and critical study of African American theater from the late 1920s to the present, focusing on various forms such as musical theater, drama, and dance, and emphasizing the lives and works of important African American playwrights, actors, and directors.

M104A. Early Afro-American Literature. (Same as English M104A.) Prerequisite: consent of instructor. Survey of early Afro-American literature, including oral and written forms (folktales, spirituals, sermons, fiction, poetry, essays), by authors such as Phillis Wheatley, David Walker, Frances Harper, Frederick Douglass, Harriet Jacobs, Paul Laurence Dunbar, Charles W. Chesnutt, Booker T. Washington, and Pauline Hopkins. Ms. Smith, Mr. Yarborough

M104B. Afro-American Literature from the Harlem Renaissance to the 1960s. (Same as English M104B.) Prerequisite: consent of instructor. Survey of Afro-American literature from the 1920s to the 1960s, focusing on major works and authors such as Langston Hughes, Zora Neale Hurston, Richard Wright, James Baldwin, and Malcolm X. Ms. Morgan

M164. The Afro-American Experience in the U.S. (Same as Anthropology M164.) Promotes understanding of contemporary sociocultural forms among Afro-Americans in the U.S. by presenting a comparative and diachronic perspective on the Afro-American experience in the New World. Emphasis on utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among black Americans. Ms. Morgan

M166. Afro-American Sociolinguistics: Black English. (Same as Anthropology M145.) Lecture, three hours. Basic information on Black American English, an important minoriity dialect in the US. Social implications of minority dialects examined from perspectives of their genesis, maintenance, and social functions. General problems and issues in the sociolinguistics examined through a case-study approach. Ms. Morgan

M172. The Afro-American Woman in the U.S. (Same as Psychology M172 and Women's Studies M172.) Lecture, three hours. Prerequisite: consent of instructor. 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 the sociolinguistics examined through a case-study approach. Ms. Morgan

M175. Interracial Work, Friendship, and Love Relationships of African American Men and Women. (Same as Women's Studies M175.) Lecture, three hours. Prerequisite: consent of instructor. Focus on communication and relationships among African Americans, including friendships, romantic relationships, and work relationships. Ms. Smith, Mr. Yarborough

M195. Investigative Journalism and Communication of Color. (Same as Asian American Studies M197B.) Lecture, three hours. Prerequisite: consent of instructor. Focus on investigative journalism on communities of color; exploration of dimensions of power and oppression as these relate to communities of color. Coursework stresses writing, interviewing, and reporting through writing for campus and community media. Ms. Smith, Mr. Yarborough

M197. Topics in Afro-American Literature. (Same as English M197.) Variable specialized studies course in Afro-American literature. Topics include the Harlem Renaissance, Afro-American Literature in the Nan, Afro-American Fiction. May be repeated for credit. Ms. Smith, Mr. Yarborough

197B. Special Studies in Comparative Literature: Caribbean Literature. General introduction to literature of the English-speaking Caribbean by reviewing its historical and geographical background. To analyze the historical process toward self-determination in the literature, the following topics are included: (1) the alienation and the search for community, (2) "external" relationships (the ancestor, the kinman, the other), and (3) form and language. Ms. Smith, Mr. Yarborough

199. Special Studies in Afro-American Studies (2 to 4 units). To be arranged with faculty member who will direct the study. Prerequisites: 3.0 GPA in the major, junior or senior standing, consent of instructor. Intensive directed research project. Eight units may be applied toward major requirements.

Graduate Courses

M200A. Advanced Historiography: Afro-Ameri- can. (Same as History M200.) Seminar, three hours. May be repeated for credit. Ms. Stevenson

200B. Seminar: Political Economy of Race. Pre- requisite: consent of instructor. Seminar on political economy, with special reference to black political economy. Focus on dynamics of allocation of wealth and power within black and white communities and among social classes and racial and ethnic groups in the U.S. Presented in a context that is at once comparative and international, seminar emphasizes internationalism and transnational and the impact of the U.S. on international condition. Attempts to relate the black cond in the U.S. to the socioeconomic system of this country and to compare it to political, social, and economic conditions of African peoples elsewhere. Ms. Smith, Mr. Yarborough

M200C. Selected Problems in Urban Sociology. (Same as Sociology M262.) Seminar. Prerequisite: consent of instructor. Mr. Allen, Mr. Olver

M200D. Afro-American Sociolinguistics: Black English. (Same as Anthropology M243.) Lecture, three hours. Prerequisite: consent of instructor. 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 the sociolinguistics examined through a case-study approach. Ms. Smith, Mr. Yarborough

M200E. Studies in Afro-American Literature. (Same as English M200.) Prerequisite: consent of instructor. Intensive research and study of major themes, issues, and writers in Afro-American litera- ture. Discussions and research on aesthetic, cultural, and social backgrounds of Afro-American writing. May be repeated for credit. Ms. Smith, Mr. Yarborough

M200F. African American Psychology. Seminar. Pre- requisite: consent of instructor. Seminar on psychology as it pertains to persons of American descent. Critical review of implications of "mainstream" research on Afro-Americans, includ- ing discussion of research on the family, academic achievement, and psychological assessment (test- ing). Emphasis also on theoretical approaches ad- vanced by African American scholars; African philosop- hy, perspectives on racism in psychology, and re- search in the black community. Ms. Smith, Mr. Yarborough

201A-C201Z. Special Topics in Afro-American Studies. Prerequisite: consent of instructor. Variable topics. May be repeated for credit. Courses are concurrently scheduled with courses C101A-C101Z.

M240. Assessment and Treatment of Afro-American Families. (Same as Psychiatry M240.) Seminar, three hours. Designed for both mental health trainees and those interested in developing skills in assessment and refining skills in assessment and treatment of African American families within a socioeconomic context. Ms. Tucker, Ms. Wyatt (Sp)

241. Special Topics in Afro-American Studies. Lecture, four hours; discussion, one hour. Intensive research and study of major themes and issues in various areas of Afro-American studies.

270A. Survey of Afro-American Research. Semi- nar, three hours. Overview of research methodologies in history and related subjects. Reports from faculty in various fields. Introduction to research in and related to Afro-American studies and application of such research.

596. Directed Readings and Readings. Provides students with umbrella under which they can pursue specialized interests from which there is insufficient demand to warrant offering a formal course.

597. Preparation for M.A. Comprehensive Exam- ination. (4 or 8 units). Prerequisites: graduate stand- ing, consent of instructor. May be applied toward M.A. course requirements. S/U grading.

598. Research for and Preparation of M.A. Thesis (4 or 8 units). Prerequisites: graduate standing, consent of instructor. May not be applied toward M.A. course requirements. S/U grading.
American Indian Studies

(Interdepartmental)

3220 Campbell Hall, (310) 825-7315

Professors
Richard L. Abel, LL.B., Ph.D. (Law)
Paula Gunn Allan, Ph.D. (English)
Carole E. Goldberg-Ambrose, J.D. (Law)
James N. Hill Jr., Ph.D. (Anthropology)
Cecilia F. Klein, Ph.D. (Art History)
Kenneth R. Lincoln, Ph.D. (English; Distinguished Teaching Award)
Pamela L. Munro, Ph.D. (Linguistics)
Gary B. Nash, Ph.D. (History; Distinguished Teaching Award)
Robert A. Georges, Ph.D., Emeritus (English)
Charlotte A. Heith, Ph.D., Emerita (Ethnomusicology and Systematic Musicology)
Allega Fuller Snyder, M.A., Emerita (Dance)

Associate Professors
Duane Champagne, Ph.D. (Sociology)
Paul V. Kroskrity, Ph.D. (Anthropology)
Melissa Meyer, Ph.D. (History)
Gregory M. Sarris, Ph.D. (English)

Visiting Associate Professor
Hanay Geigamah, B.F.A. (Theater)

Scope and Objectives

Because UCLA possesses a substantial number of faculty in the humanities and social sciences engaged in teaching and conducting research on American Indians, the nation's first interdisciplinary M.A. program in American Indian Studies was established here.

The program draws primarily on existing courses in the participating departments, where research and research methodologies are of primary concern. Students are exposed to Indian-related research in a number of different disciplines; demonstration of research skills is required. You will graduate with the training you need to teach Native American studies or to serve in an administrative capacity in Indian programs. The M.A. program is coordinated by the American Indian Studies Center and ranks among the top Indian studies programs in the country.

Master of Arts Degree

Admission

A bachelor's degree from an accredited undergraduate institution is required for admission to the M.A. program in American Indian Studies. You must demonstrate interest in American Indian studies either by formal coursework, independent study, or practical experience. As part of the application, you must submit a detailed account of your background, potential career plan, and interest in American Indian studies. Preference is given to individuals with undergraduate majors relevant to the proposed areas of concentration within the M.A. degree:

American Indian Studies, anthropology, English, fine arts, history, linguistics, literature, or sociology.

Entering students must meet the University's minimum admission requirement of a 3.0 grade-point average in all work completed during the last two undergraduate years and in all prior graduate work. The Graduate Record Examination (GRE) is not required, but you are encouraged to take the examination and submit test results as part of the documents supporting your enrollment application. At least three faculty letters of recommendation must be submitted. You may obtain application forms and further information from the Committee to Administer the M.A. Degree in American Indian Studies, American Indian Studies Center, 3220 Campbell Hall, UCLA, Los Angeles, CA 90024-1548.

Major Fields or Subdisciplines

The American Indian Studies M.A. is an interdepartmental program with 11 participating academic schools and departments: Anthropology, Art History, Education, English, History, Law, Library and Information Science, Linguistics, Music, Sociology, and Theater. The 11 disciplines are grouped into four areas of concentration: history and law; expressive arts; social relations; and language, literature, and folklore. Courses related to the American Indian Studies M.A. are also offered in the following departments and school: Political Science, Psychology, and Social Welfare.

Linguistics Requirement

Students in the M.A. program must successfully complete one of the following: (1) Linguistics 114, (2) Anthropology 243P, or (3) for native speakers of an American Indian language, an independent study course (approved by the instructor) in either linguistics or anthropology in which a structural knowledge of the student's language is learned. These courses are designed to show how American Indian languages and communicative norms are primary vehicles for understanding American Indian cultures.

Course Requirements

(1) A minimum of 10 courses is required, at least seven of which must be graduate courses. Four courses are required: American Indian Studies M200A, M200B, M200C (which ordinarily must be taken in the first year), and one of the linguistics requirement options described above, which must be taken by the end of the second year. In addition, one of the remaining six courses must be a graduate course concerned with research methodology.

(2) All M.A. candidates select one of the following areas of concentration: (a) history and law, (b) expressive arts, (c) social relations, (d) language, literature, and folklore. You can petition for optional combinations of interdisciplinary work through the program committee.

In addition to the four required courses, you must complete a minimum of four courses in your area of concentration. Three of these must be graduate-level courses. Two additional courses are to be chosen from other areas of concentration. Courses must be selected from an approved list maintained by the program.

(3) Two courses in the 500 series may be applied toward the total course requirement; however, only one 596 course may be applied toward the minimum graduate course requirement.

Thesis or Comprehensive Examination Plan

You may select either (1) a thesis plan or (2) a comprehensive examination plan to complete the degree program. The committee members supervising the thesis or administering the comprehensive examination are selected by you with the consent of the program committee. Copies of the thesis must be submitted to each committee member by the fifth week of the term in which you expect to graduate. If you choose the comprehensive examination plan, you must demonstrate in a written and/or oral examination your competency in the major and minor areas of study.

Upper Division Course

197. Special Topics in American Indian Studies. Variables selected from the following: Myth and Folklore of Indian Societies; Contemporary American Indian Literature; Social Science Perspectives of American Indian Life; Law and the 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.

Graduate Courses

M200A. Advanced Historiography: American Indian Programs. (Same as History M200W.) Seminar, three hours. Designed to familiarize students with major genres of literature related to American Indian history. Subjects include theories of Indian origins, historical demography, Euro-American attitudes toward Indian peoples, studies of U.S. Indian policy and land cessions, and tribal histories. Standard theoretical approaches, including cultural ecology and dependency theory.

M200B. Cultural World Views of Native America. (Same as English M206.) 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.

Ms. Allen, Mr. Lincoln, Mr. Sarris

M200C. Contemporary Issues of the American Indian. (Same as Anthropology M269 and Sociology M275.) Introduction to most important issues facing American Indians as individuals, communities, tribes, and organizations in the contemporary world, building on historical background presented in course M200A and cultural and expressive experience of American Indians presented in course M200B.

Mr. Champagne

201. Topics in American Indian Studies. Discussion, three hours. Prerequisite: consent of instructor.
Anthropology

341 Haines Hall, (310) 825-2055

Professors
C. Rainer Berger, Ph.D.
Nicholas Blumton Jones, Ph.D.
Robert Boyd, Ph.D.
Carole H. Browner, Ph.D.
Christopher B. Donnan, Ph.D.
Alessandro Duranti, Ph.D.
Timothy Earle, Ph.D.
Robert B. Edgerton, Ph.D. (Distinguished Teaching Award)
Peter B. Hammond, Ph.D.
James N. Hill, Ph.D.
Allen W. Johnson, Ph.D.
Claudia Mitchell-Keman, Ph.D.
Merrick Posmanisky, Ph.D.
Michael Raleigh, Ph.D.
Dwight Read, Ph.D.
Karen B. Sacks, Ph.D.
Susan C. Scrimshaw, Ph.D.
Russell Thornton, Ph.D.
Thomas S. Weisner, Ph.D.

Professors Emeriti
Joseph S. Birdsell, Ph.D.
William O. Bright, Ph.D.
Walter R. Goldschmidt, Ph.D.
John G. Kennedy, Ph.D.
Lewis L. Langness, Ph.D.
William A. Lessa, Ph.D.
Jacques Maquet, Ph.D.
Clement W. Meighan, Ph.D.
Michael Moorman, Ph.D.
Philip L. Newman, Ph.D.
Henry B. Nicholson, Ph.D.
Wendell H. Oswalt, Ph.D.
Douglas R. Price-Williams, Ph.D.
James R. Sackett, Ph.D.
Johannes Wilbert, Ph.D. (Distinguished Teaching Award)
Bobby Joe Williams, Ph.D.

Associate Professors
Jeanne Arnold, Ph.D., in Residence
Robert C. Bailey, Ph.D.
Douglas Hollan, Ph.D.
Gail E. Kennedy, Ph.D.
Paul V. Koschuk, Ph.D.
Richard Leventhal, Ph.D.
Nancy E. Levine, Ph.D.
Joan Silk, Ph.D.

Assistant Professors
Marcylenia H. Morgan, Ph.D.
Kye Young Park, Ph.D.
Nadine R. Peacock, Ph.D.
Thomas Plummer, Ph.D.
Anna Simone, Ph.D.
Manako Taminoh, Ph.D.

Adjunct Associate Professor
Sondra Hele, Ph.D. (Luckman Distinguished Teaching Award)

Visiting Assistant Professor
Joseph Manson, Ph.D.

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 "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 diverse in both methodology and geographic coverage. The greatest strengths within the department lie in the study of cultural evolution, complex societies, hunters/gatherers, iconography, craft specialization, quantitative analysis, and political economy and include major programs focused on Western North America, the high cultures of Mesoamerica and South America, Europe, Africa, and the Caribbean.

Biological anthropology is a comprehensive program on evolutionary anthropology, with emphasis on the behavioral and reproductive ecology of humans and other primates. It includes training in evolutionary theory, behavioral ecology, human ethology, reproductive physiology and ecology, paleoanthropology, primate behavior and evolution, and mathematical modeling. Faculty members have engaged in fieldwork on several continents, particularly Africa, where ongoing projects include work on human reproductive ecology, dietary and subsistence ecology, and human ethology.

Linguistic anthropology is an interdisciplinary field which addresses the manifold ways in which communication and culture mutually define one another in different communities worldwide. Linguistic anthropologists at UCLA have a variety of backgrounds and research interests which include the ethnography of face-to-face communication, language contact and change, verbal art and performance, and language and education. Courses are offered in urban sociolinguistics, ethnographic approaches to discourse analysis, field methods, and conversational analysis, as well as in cross-cultural pragmatics (including visual aspects of communication).

Sociocultural anthropology concerns the examination and understanding of social systems and cultural perceptions, and the human capacities which have enabled 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, South 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.

Cutting across the four fields are three other categories of course offerings: applied anthropology, regional cultures, and history, theory, and method.

The department offers Bachelor of Arts and Bachelor of Science degrees 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.

Bachelor of Arts Degree
Preparation for the Major
Required: Anthropology 7, 8, 9, and one elective from 10, 15, 33, 60, 60P, 80. All courses must be taken for a letter grade, and you must maintain an overall 2.0 GPA.

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, you must take two courses in the sociocultural anthropology field and one course in each of the other three fields (see "Scope and Objectives" above). One upper division survey core course is offered in each field (two in sociocultural anthropology), but you may take any course in the given area to fulfill this requirement. All courses must be taken for a letter grade, and you must maintain an overall 2.0 GPA.

You must complete 14 four-unit 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 course in regional cultures.

(3) Four additional upper division anthropology courses.

(4) Four courses in related fields selected from a list maintained in the department.

Students considering graduate work in anthropology are strongly encouraged to take at least one course in the history and theory of anthropology and one course in methodology in addition to the upper division core courses in the four fields.

Concentrations for the Major
Concentrations, although not required, may help define and structure an anthropology major when you want emphasis in one of the four major fields. Whether or not you opt for a con-
centration, the requirements for the major must still be satisfied. It is possible to use courses within your specified concentration to fulfill overlapping requirements for the major. If you fulfill a concentration as part of your B.A. degree requirements, you will receive a notation on your transcript certifying completion of the concentration. Exceptions to the requirements below are by petition only. More detailed information on the concentrations is available from the undergraduate adviser.

(1) Archaeology — Anthropology 115P, 117 (fieldwork); two courses from 110, 111, 183; one laboratory methods course from C115R, M115S, M116Q, 117P, 118A, C126P, 129Q, 138; one quantitative methods course from 80, 180, 186; one area course from 112, 113P, 113Q, 113R, 114P, 114Q, 114R; three theory courses from 120, 124, 132, 133Q, 133R, 150, 152, 153, 156, 158, 186P, M189A, M189B, Geography 109, 140, 148, Sociology 101

(2) Biological Anthropology — Anthropology 120; one quantitative methods course from 80, 180, 186; one methods course from 115P, M116Q, 117, 117P, 124R, C126P, 129P, 143; one human biology and behavioral ecology course from 124, 124Q, 186P, M189A, M189B; one paleoanthropology course from 121A, 121B, 121C, or both 12 and 129Q (credit will not be granted for both courses 7 and 12); one human genetics course from 125, Biology 108, 135, CM156; one primate behavior course from Anthropology 128A, 128B, Biology 129

(3) Linguistic Anthropology — Anthropology 33, 34, M140, Linguistics 20, Sociology CM124A; two methods courses from Anthropology 141, 142A, 143, Linguistics 103; one ethnography course from Anthropology 144, M145, 146, Linguistics 114; one course from Anthropology 133Q, 133R, 135A, 135B, 135C, Communication Studies 100, Linguistics 110, 127, Psychology M137J; 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 80, C126P, 139, 180, 182, 186, Sociology 101; one region and society course from 158, 171, 172R, M172T, 173Q, 174P, 174Q, 175R, 175T, 175U, 177; two additional courses from one of the subconcentrations listed below:

(a) Applied and Development Subconcentration — Primary courses: Anthropology 60, 60P, 61, 161, M166; additional courses: M155Q, 162, M162P, 167, M168, 186, Development Studies M100B

(b) Ecological and Evolutionist Subconcentration — Primary course: Anthropology 153; additional courses: 128A, 128B, 132, 156, 165, 186, 186P, Geography 140

(c) Social Processes and Practice Subconcentration — Primary courses: Anthropology 151, 152, M154; additional courses: 88A through 88Z, 128A, 128B, 153, 155, 156, 158, M162P

(d) Psychocultural and Medical Subconcentration — Primary courses: Anthropology 135A, 135B, 135C, 135T; additional courses: 135S, M168

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 you must have junior standing and have completed at least two upper division anthropology courses and Anthropology 197H (taken in Winter Quarter of your junior year). You should have a cumulative GPA of 3.0 overall and a 3.5 cumulative GPA in your upper division anthropology courses. The application for admission must be submitted to the honors committee at the end of course 197H. The proposal, research, analysis, and writing of your paper take place over three terms through courses 199HA, 199HB, and 199HC. Course 199HA should be taken in Spring Quarter of your junior year; 199HB and 199HC are taken in Fall and Winter Quarters of your senior year. Exceptions to the above schedule are by petition only. Contact the undergraduate adviser early in your studies for more information.

Bachelor of Science Degree

Preparation for the Major

Required: Anthropology 7 or 12, 8, 9, 10 or 15; Biology 5, 9, 100A, 108; Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL; Mathematics 3A, 3B, and 3C, or 31A and 31B; Physics 3A, 3B, and 3C, or 6A, 6B, and 6C. All courses must be taken for a letter grade, and you must maintain an overall 2.0 GPA.

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 you must maintain an overall 2.0 GPA.

You must complete 16 four-unit 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 course in regional cultures.

(3) Two statistics courses (sequential recommended).

(4) Four additional upper division anthropology courses.

(5) Four four-unit courses in related fields selected from a list maintained in the department.

Specialization in Computing

Majors in either anthropology bachelor's degree program may select a specialization in computing by (1) completing Program in Computing 10A, 10B, and 10C or 15, (2) completing one course from Anthropology 180 or 186, (3) completing either a 199 course that focuses on the integration of computer methods with anthropological studies or one course from Program in Computing 60, Computer Science 172, or Mathematics 61, or an equivalent course (subject to approval of the departmental computer committee), and (4) satisfying all of the other requirements for a bachelor's degree in the specified major. You graduate with a bachelor's degree in your major and a specialization in computing. Interested students should contact the undergraduate adviser.

Graduate Study

Admission

Application to the graduate program in anthropology is limited to Fall Quarter. The department does not require an undergraduate major in anthropology; though this is desirable. Promising students with a B.A. or M.A. in another field may be admitted, in which case a program of background studies based on previous training and current objectives is formulated. Knowledge of a foreign language is not required for admission, but completion of the language requirement before beginning work is highly recommended, and such students are at an advantage in the selection process.

Applications and all supporting material must be submitted by December 15, 1994, to be considered for admission for Fall Quarter 1995.

UCLA Graduate Application Processing (P.O. Box 23895, Oakland, CA 94623-0895) requires submission of an official application (with fees) and official transcripts of record, in duplicate, from each college or university at which work has been completed. In addition, you must submit the following directly to the Graduate Counselor, Department of Anthropology, 341 Haines Hall, UCLA, Los Angeles, CA 90024-1553:

(1) Three letters of recommendation (preferably from anthropologists).

(2) Graduate Record Examination (GRE) scores.

(3) A research or term paper.

(4) Statement of purpose.

The department requires two faculty members to sponsor an applicant before admission is recommended. For further information on the departmental program, a graduate syllabus may be obtained without charge by writing to the above departmental address.
Master of Arts Degree

Foreign Language Requirement
M.A. language requirements may be met by
(1) Passing the Graduate School Foreign Language Test (GSFLT) with a score of 500 or better or
(2) Passing a departmental examination or other demonstrations of proficiency in a foreign language by petition to the department chair and the dean of the Graduate Division.

Students whose native language is not English may petition to waive the requirement. Formal written petition for such waiver must be submitted to the guidance committee, department chair, and the Graduate Division.

Core Course Requirements
You must demonstrate basic knowledge in the four fields by one or a combination of the following: (1) passing the core course with a grade of B or better, (2) petitioning that work taken elsewhere constitutes the equivalent of such courses, or (3) passing a special examination in each, in Spring Quarter of your first year in residence. Courses taken while in graduate standing to meet these field requirements may also serve to meet course unit demands for the M.A. degree.

Course Requirements
The minimum course load is three courses (12 units) per term, but this requirement may be waived by petition to the department chair. An M.A. degree requires 10 courses (40 units) taken for a letter grade with a minimum 3.0 grade-point average.

(1) Four courses may be upper division (100 series).
(2) One course must be a graduate core seminar in your chosen subfield of specialization (e.g., Anthropology M201A for archaeology, course 202 for biological anthropology, course 203 for sociocultural anthropology, course 204 for linguistic anthropology).
(3) You must take courses 200A-200B, which may be applied toward the 40-unit degree requirement if taken for a letter grade.
(4) In addition to the appropriate graduate core seminar, you must take five other graduate seminars (200 series).
(5) Three courses may be outside the major with consent of the guidance committee.
(6) Two courses may be anthropology independent studies (see department for course numbers) with consent of the guidance committee.

Eight units of course 596 taken for a letter grade may be applied toward the total M.A. course requirement, with four of these units applicable toward the minimum graduate course requirement.

Thesis
By your fourth term of study, you select a thesis committee of departmental faculty to supervise your research and writing. The committee, as well as your thesis topic, must be approved by the department and the dean of the Graduate Division. Prior to completing the M.A. degree requirements, you file a Petition for Advancement to Candidacy form with the Graduate Division. The approved thesis must be typed and filed according to University regulations; information on regulations and procedures is available from the Graduate Division.

Evaluation of the thesis provides the basis for the thesis committee's recommendation and departmental faculty vote regarding both the acceptability of the thesis for the M.A. degree and admission into the doctoral program.

Ph.D. Degree

Admission
If you are entering the department with an M.A. in Anthropology from another university or in a field other than anthropology, you must satisfy all master's degree requirements with the exception of the thesis. To fulfill this requirement, you may submit your prior master's thesis or a research paper written as a graduate student (whether or not in anthropology). Only after satisfying these requirements are you admitted into the Ph.D. program.

Foreign Language Requirement
You must satisfy the Ph.D. language requirement before formally nominating the doctoral committee and before taking the qualifying examinations. Any language useful for field study and/or library research is acceptable. You must submit to your departmental committee a comprehensive annotated bibliography and demonstrate familiarity with its contents by taking a written or oral examination. The format of the examination is determined by your doctoral committee. Students who speak English as a second language may waive the language requirement by petition to their committee, the department chair, and the Graduate Division. Under unusual circumstances, the department will consider alternate means of fulfilling the requirement.

Course Requirements
You must be in residence for one year between receipt of the M.A. degree and advancement to doctoral candidacy. During this time, coursework must be done with at least three different members of the faculty. You must be enrolled in a minimum of 12 units (this requirement may be waived by petition to the department chair) or be on an official leave of absence.

Qualifying Examinations
Qualifying examinations are conducted in two parts: (1) a written examination and (2) the University Oral Qualifying Examination. The timing of the examinations is arranged with members of the doctoral committee, but they may not take place earlier than the third term after receiving the M.A. degree. The written examination must be completed within the first eight weeks of the given term; the University Oral Qualifying Examination is expected to be completed in the same term, but no later than the following term.

The format for the written examination is determined by the doctoral committee which examines you in three subfields of your choice. Two of these three subfields are selected from a list available in the department; the third is specific to your needs, interests, and dissertation plans. After you successfully complete the written examination, the doctoral committee administers the University Oral Qualifying Examination, in which you are required to present a defense of your dissertation proposal. The committee determines the conditions for reexamination should you fail either examination.

Final Oral Review

The department requires a review of the completed dissertation by the doctoral committee as a whole and a public presentation of the results of the dissertation.

Lower Division Courses
7. Human Evolution. Lecture, three hours; discussion, one hour. Required as preparation for B.A. degree. Not open for credit to students with credit for course 12. Evolutionary processes and evolutionary past of the human species. Mr. Boyd, Ms. Silk
8. Archaeology: An Introduction. Lecture, three hours; discussion, one hour. 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.
9. Sociocultural Anthropology. Lecture, three hours; discussion, one hour. 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.
15. Human Biology and Behavior. Lecture, three hours; discussion, one hour. Human biology and behavior through the life cycle from conception to senescence. Discussion of natural selection, sexual selection, and life history theory. Factors influencing variation in fertility and mortality; reproductive ecology, growth, development, and aging.

Mr. Bailey, Ms. Peacock
Upper Division Courses

All upper division courses with letter designations (A, B, P, Q, etc.) may be taken independently unless otherwise stated.

Archaeology

110. World Archaeology. Prerequisites: course 8. Survey of ancient civilizations of the Old and New Worlds. Preliminary course for majors in anthropology. Mr. Sackett

111. Study of Archaeology. Survey of contemporary prehistoric archaeology. Emphasis on what archaeologists do, and how and why they do it. Mr. Hill

112. Old Stone Age Archaeology. Lecture, three hours. Prerequisites: courses 8 or consent of instructor. Development of Paleolithic cultural traditions in Europe, Africa, Asia, and the New World. Emphasis on the ordering and interpretation of archaeological data, Pleistocene geology and chronology, and relationship between human cultural and biological evolution. Mr. Sackett

113P. Archaeology of North America. Lecture, three hours. Prerequisites: course 8 or 9. From earliest Californians through 10,000 years of history, study of diversity in California's original peoples. Mr. Sackett

113Q. Prehistory and Ethnography of California. Lecture, three hours. Prerequisite: course 8 or 9. From earliest Californians through 10,000 years of history, study of diversity in California's original peoples. Mr. Sackett

113R. Southwestern Archaeology. Examination of prehistory of the American Southwest from Early Man to historic times. Emphasis on describing and explaining cultural variation and change, employing an ecological and evolutionary perspective. Special attention to "Great Events" (agriculture, town living, and the Great Abandonment), Evolutionary processes generalized and related to contemporary world problems. Mr. Leventhal

114P. Ancient Civilizations of Western Middle America (Nahuatl Sphere). Pre-Hispanic and Conquest period native cultures of Western Middle America, as revealed by archaeology and early colonial writings in Spanish and in Indian languages. Dr. Aztec and Mixteca civilizations and their predecessors, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements. Mr. Leventhal

114Q. Ancient Civilizations of Eastern Middle America (Maya Sphere). Pre-Hispanic and Conquest period native cultures of Eastern Middle America, as revealed by archaeology and early colonial writings in Spanish and in Indian languages. Dr. Aztec and Mixteca civilizations and their predecessors, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements. Mr. Leventhal

114R. Ancient Civilizations of Andean South America. Lecture, three hours. Prerequisites: course 8 or 9. Pre-Hispanic and Conquest period native cultures of Andean South America, as revealed by archaeology and early colonial writings in Spanish and in Indian languages. Dr. Aztec and Mixteca civilizations and their predecessors, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements. Mr. Leventhal

115P. Archaeological Field Training (4 to 8 units). Lecture, two hours; fieldwork, eight or more hours. Prerequisites: course 8, consent of instructor. Procedures of archaeological excavation, mapping, stratigraphy, collecting, and recording of archaeological data (field class conducted off campus). Summer field session in various locations set by individual instructor. Mr. Arnold (P, Sum)

115R. Strategy of Archaeology. (Formerly numbered M115R.) Seminar, three hours. Prerequisites: course 8 or 9, and upper division standing. Upper division standing. Mr. Hill

118A. Diversity in American Cultures. Discussion of the behavior of the genus Homo. Mr. Posnansky

120. Survey of Biological Anthropology. Lecture, three hours. Prerequisites: courses 10, 12, or equivalent. Mr. Bailey

121A. Primate Fossil Record. Lecture, three hours. Recommended: (but not prerequisite) courses 10, 12. Course 121A should be taken before 121B and 121C. Mr. Bailey

121B. The Australopithecines. Lecture, three hours. Mr. Bailey

122G. Biological Anthropology in Review. Lecture, three hours; seminar, three hours. Corequisite: lecture portion of course 7. Required to graduate in anthropology. Dr. Bailey

122M. Biological Anthropology. Lecture, three hours; seminar, three hours. Mr. Bailey

122N. Biological Anthropology. Lecture, three hours; seminar, three hours. Mr. Bailey

122R. Biological Anthropology. Lecture, three hours; seminar, three hours. Mr. Bailey

122T. Biological Anthropology. Lecture, three hours; seminar, three hours. Mr. Bailey
121C. Evolution of the Genus Homo. Lecture, three hours. Prerequisite: consent of instructor. Recommended: courses 10, 12, 121A, 121B. Origin and evolution of the genus Homo, including archaic sapiens and other nonhuman primates. Assessment of biological variables fundamental to human and prehuman behavior with regard to theories on evolution of human culture.

Mr. Blunt Jones

124P. Evolution of Human Sexual Behavior. Lecture, three hours. Prerequisite: consent of instructor. Recommended: courses 7 or 10 or 12 or equivalent. Examination of human sexual relations and social behavior from an 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 the opposite sex.

Mr. Bailey

124Q. Physiology of Human Behavior. Lecture, three hours. Prerequisites: upper division standing and/or consent of instructor. Overview of neural, physiological, and endocrine substrates of a variety of human behaviors. Developmental, cross-cultural, and psychological aspects of behavior, language, and affiliative behavior. Emphasis on evolutionary origins, developmental pathways, and cross-cultural expressions of behaviors examined. Focus on human behavior, with evidence from animal literature as well.

Ms. Peacock

124R. Laboratory Methods in Human Behavioral Endocrinology (6 units). Lecture, three hours; laboratory, three hours (plus time to complete project). Prerequisite: course 124Q or consent of instructor. Introduction to laboratory methods in neuroendocrinology for students in social and behavioral sciences. Emphasis on field-comparable methods. Design and execution of a small research project.

Ms. Peacock

125. Genetics of Human Diversity. Lecture, three hours. Survey of human biological diversity. Emphasis on genetics at the population level for both discrete and quantitative variation. Analytic methods and evolutionary hypotheses.

C126P. Introduction to Field Methods in Human Ecology. (Formerly numbered 126P) Lecture, three hours. Prerequisite: upper division or graduate standing. Survey of methods of anthropological investigations emphasizing human biology and human ecology. Study design, physical assessment of nutritional status, growth and maturation, demographic surveys, systematic observation of behavior, energy expenditure, subsistence ecology, data analysis, demonstrations, and labs. Course fee required. Concurrently scheduled with course C226P. P/NP or letter grading.

Ms. Bailey, Mr. Peacock


Ms. Silk

128B. Behavioral Ecology of Primates. Lecture, three hours. Prerequisite: course 128A. Analysis of evolution of sociality, sexual strategies, parenting behavior, fighting and contests, and altruism and cooperation in primate species. P/NP or letter grading.

Ms. Silk

128P. Primate Behavioral Neurobiology: Evolutionary and Comparative Perspectives. Lecture, three hours. Prerequisite: course 7 or 12. Strongly recommended: course 128A, Biology 5, Chemistry 11A. Survey of use of nonhuman primates as a model for understanding neurobiological bases of complex behavioral and emotional states in nonhuman primates. Attention to empathy, xenophobia, aggression, and social cognition. P/NP or letter grading.

Mr. Raleigh

129P. Laboratory Methods in Biological Anthropology: Skeletal. Lecture, three hours. Prerequisite: courses 10, 12, consent of instructor. Limited to majors and graduate students. Laboratory methodology, data collection and analysis of human variation. Emphasis on skeletal material. P/NP or letter grading.

Ms. Kennedy

129Q. Paleopathology. Lecture, one hour; laboratory, three hours. Prerequisites: course 129P, upper division standing, consent of instructor. Investigation into diseases, trauma, health status, subsistence activities, and ethnic mutilation (i.e., cranial deformation, trepanation) through analysis of human skeletal material. Course has worldwide scope, with some emphasis on the New World.

Ms. Kennedy

Cultural Anthropology

130. Study of Culture. Lecture, three hours. Prerequisite: one lower division sociocultural anthropology course or equivalent, upper division standing. 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 systems, and as component of reality. Emphasis on construction of culture. Core course for cultural field.

132. Technology and Environment. Significance of material culture in archaeology and ethnology; problems of invention and the acceptance of innovations; ecological and sociological concomitants of technological systems; selected problems in material culture.

Mr. Earle

133Q. Symbolic Systems. Prerequisite: upper division standing or consent of instructor. Analysis of anthropological research and theory on cultural systems of thought, behavior, and communication expressed in a symbolic mode (as distinguished from discursive, instrumental, and causal modes). Methods for study of symbolic meaning, including the experiential approach.

133R. Aesthetic Systems. Lecture, three hours. Prerequisite: upper division standing. Provides framework for a cross-cultural understanding of aesthetical phenomena as an aspect of anthropological research. Human capacities for aesthetic experience; sociocultural formation of aesthetic production; ethno-aesthetics; experiential dimension of aesthetic production.

135A-135B. Introduction to Psychological Anthropology. Lecture, three hours. P/NP or letter grading.

135A. Historical Development. Prerequisite: course 9 or consent of instructor. Survey of the field of psychological anthropology, with emphasis on early foundations and historical development of the field. Topics include study of personality, pathology and deviance, altered states of consciousness, cognition, motivation, and emotion in different cultural settings.

Mr. Holman

135B. Current Topics and Research. Prerequisite: upper division standing or consent of instructor. Survey of the field of psychological anthropology, with emphasis on current topics and research. Topics include study of personality, pathology and deviance, altered states of consciousness, cognition, motivation, and emotion in different cultural settings.

Mr. Holman

135C. Seminar. Psychocultural Studies. Seminar, three hours. Prerequisites: course 9 or equivalent, consent of instructor. Firsthand exposure to current research in psychocultural studies. Various universiy scholars are brought in to discuss their on-going research. These using presentations as models, students develop proposals for future research. P/NP or letter grading.

Mr. Duranti, Mr. Kroskely

135S. Anthropology of Deviance and Abnormality. Lecture, three hours. Prerequisites: course 9 or equivalent, consent of instructor. Relationship between culture and recognition of, responses towards, and forms of deviation and abnormal behavior.

Mr. Edgerton

13ST. Psychoanalysis and Anthropology. (Formerly numbered 167P) Lecture, three hours. Exploration of mutual relations between anthropology and psychoanalysis. History of and current developments in psychoanalysis; anthropological critiques of psychoanalytic theory and method, toward a cross-cultural psychoanalytic approach.

Mr. Raleigh

136G. Laboratory for Naturalistic Observations Developing Skills and Techniques. (Same as Psychiatry M112.) Prerequisite: consent of instructor. Skills of observing and recording behavior in natural settings, with emphasis on field training and practice in observing behavior. Group and individual projects. Discussion of some of the uses of observations and their implications for research in social sciences.

138. Methods and Techniques of Ethnobiology. Introduction to problems and procedures of extracting cultural data from documentary sources and their interpretation and analysis. Relevant documentary sources of value are those which are available as case histories to illustrate more concretely problems and challenges in this major area of anthropological concern.

139. Field Methods in Cultural Anthropology. Lecture, three hours. Prerequisites: consent of instructor. Survey of field methods. Corequisite: course 139L. Supervised practicum of field methods in cultural anthropology. Field methods and techniques presented in course 139 practiced and applied in simulated field situations. Discussion of styles of presenting ethnographic information.

Linguistic Anthropology

M140. Language in Culture. (Same as Linguistics M146.) Prerequisite: upper division standing or consent of instructor. Course has worldwide scope. Attention to relationship of habitual thought and behavior to language and the classification of experience. Holistic approach to study of language, with emphasis on relationship of linguistic anthropology to fields of biological, cultural, and social anthropology, as well as archaeology. (Core course for linguistics field.)

Mr. Kroskely

141. Ethnography of Everyday Speech. Lecture, three hours. Prerequisites: course 33, Mr. Weisner or consent of instructor. Course has two interrelated objectives: (1) to introduce students to ethnography of communication — description and analysis of cultural aspects of speech and language — and to highlight the sociocultural knowledge which it reflects and (2) to train students to recognize, describe, and analyze relevant linguistic, proxemic, and kinesic aspects of face-to-face interaction. (Alternates yearly with courses 142A-142B and 150.)

Mr. Duranti, Mr. Kroskely

142A-142B. Microethnography of Communication. Lecture, three hours. Course 142A or Sociology CM142 required. Consent of instructor is prerequisite to 142B. Students make primary 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. (Alternates yearly with courses 141 and 143.)
143. Field Methods in Linguistic Anthropology. Lecture, three hours. Prerequisite: Linguistics 20 or prior experience in linguistics. Practice in eliciting linguistic data from informants. Initial focus on phonetic transcription and phonological structures; introduction to skills and strategies pertinent to morphological, syntactic, and textual analysis. Practice with native speakers of non-Indo-European languages is normally an important aspect of student participation. P/NP or letter grading. (Alternates yearly with courses 141 and 142A-142B.) Mr. Duranti, Mr. Kroskrity

144. American Indian Ethnolinguistics and Sociolinguistics. Prerequisite: prior coursework in either anthropology, linguistics, or American Indian studies. Introduction and comparative analysis of sociocultural aspects of language use in Native North American Indian speech communities. Specific focus include both micro- and macro-sociolinguistic topics. Microsociolinguistic topics are comprised of such issues as multilingualism, cultural differences regarding appropriate communicative behavior and variation within speech communities (e.g., male and female speech, baby talk, ceremonial speech, etc.). Macro-sociolinguistic topics include linguistic analysis and its relationship to language change and language in American Indian education. Mr. Kroskrity

M145. Afro-American Sociolinguistics: Black English. (Formerly numbered 145.) (Same as Afro-American Studies M145.) 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.

Ms. Morgan

146. Language and Culture of Polynesia: Past, Present, and Future. Lecture, three hours. Introduction to Polynesian cultures and languages, with particular emphasis on past and present sociocultural patterns, systems 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. Mr. Duranti

Social Anthropology

150. Study of Social Systems. Lecture, three hours. Prerequisite: 9 or consent of instructor. Introduction to more specialized social anthropology courses. Evaluation of variation in sociocultural systems and their societal and political relations maintained. Basic frameworks of anthropological analysis; historical context and development of social anthropology discipline.

Ms. Levine, Ms. Simons


Ms. Levine

152. Politics: Tribe, State, Nation. Lecture, three hours. Cross-cultural examination of politics and political organization. Law and the maintenance of order: corporate groups; ideology. Relations of political institutions to other institutions of society and to issues of identity and representation.

Ms. Simons


Mr. Earle, Mr. Johnson

M154. Women in Culture and Society. (Formerly numbered M153.) (Same as Women’s Studies M154.) Lecture, three hours. Open to upper division students only. Examination of the role of women’s lives globally and locally from an anthropological perspective. Critical review of relevant theoretical and practical issues using ethnography, case studies, and student research and presentation. P/NP or letter grading. Ms. Sacks

155. Women’s Voices: Their Critique of Anthropology. Lecture, three hours. Prerequisite: introductory sociocultural anthropology course. The anthropology of Japan has long viewed Japan as a homogeneous whole. Restoration of diversity and contradiction in it by listening to voices of Japanese women in various historical contexts. P/NP or letter grading. Ms. Tam安抚

M155Q. Women and Social Movements. (Formerly numbered M155Q.) (Same as Women’s Studies M160.) Lecture/discussion, three hours. Recommended (but not prerequisite): prior women’s studies or anthropology courses. Comparative studies of social movements (e.g., nationalist, socialists, liberal/realist), beginning with Russia and China and including Cuba, Algeria, Guinea-Bissau, Mozambique, Nicaragua, and Argentina. Analysis of participation in social transformations and the centrality of gender interests. P/NP or letter grading. Ms. Hale

156. Comparative Religion. Survey of various methodologies in comparative study of religious ideology. Analysis of religious beliefs without tying specific religions through descriptive and structural approaches, and identification of social and psychological factors which may account for variation in religious systems cross-culturally.

Mr. Read

158P. Pastoral Nomads. Lecture, three hours. Prerequisite: course 9 or 150 or consent of instructor. Survey of pastoral nomad societies. Consideration of environmental and social consequences of livestock overpopulation, pastoral nomad cultural features, cultural practices, and social organization, with special attention to historical interactions between pastoral nomads and settled peoples.

Ms. Simons

159. Warfare and Conflict. 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, thefts, and warfare. Consideration of application of anthropology to study of military, modern warfare, and large-scale ethnic conflict.

Ms. Simons

Applied Anthropology

161. Development Anthropology. Lecture, three hours. Prerequisites: course 9 and upper division standing, or consent of instructor. Comparative study of planned and unplanned development, in particular as it affects rural societies. Emphasis on impact of capital, technological change, and gender differences, economic differentiation and class, urban/rural relations, and migration. Discussion of theoretical issues in light of case studies.

Ms. Sacks

162. Contemporary American Indian Problems. Lecture, three hours. Prerequisites: course 9 and upper division standing or consent of instructor. Clarification of concepts and forms of destruction and survival; analysis directed to different processes threatening the institutions of a group and its survival. Exploration of current theories of ethnocide and genocide for their relevance and validity. P/NP or letter grading.

M164. The Afro-American Experience in the U.S. (Same as Afro-American Studies M164.) Prerequisites: understanding of the organizational and cultural forces among African-Americans in the U.S. by presenting a comparative and diachronic perspective on the Afro-American experience in the New World. Emphasis on utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among black Americans.

Ms. Morgan

165. Demographic Problems in Nonindustrial Societies. Lecture, three hours. Prerequisite: course 9. Dynamic interaction between environment, cultural belief, social structure, and population in hunting and gathering, pastoral, horticultural, and agricultural societies. Emphasis on ecological analysis and current issues in population policy considered in light of the anthropological evidence.

Ms. Levine

167. Urban Anthropology. Open to upper division majors in social sciences, and others with consent of instructor. Survey of urban adaptation of rural migrants. Special focus on problems of urban/rural migration of ethnic minority groups and subsequent adaptation of them within the U.S. explored in terms of methods and perspectives of anthropology.

M168. Health in Culture and Society. (Same as Nursing M158.) Prerequisite: upper division standing. Examination of theories and methods of medical anthropology in relation to cross-cultural health systems, role networks, attitude and belief systems of the participants. Examination of interaction networks in health care systems.

Regional Cultures

Africa

171. Sub-Saharan Africa. Lecture, three hours. Prerequisite: upper division standing or consent of instructor. Issues of ecology and political economy and continuing impacts of colonialism, nationalism, and current challenges for development; changes in social relations. Examination of Africa’s significance to development of contemporary cultural background for understanding events in contemporary Africa provided.

Mr. Hammond, Ms. Simons

North America

172R. Cultures of the Pueblo Southwest. Lecture, three hours. Prerequisite: course 8 or 9 or upper division standing or consent of instructor. Survey of ethnographic and ethnohistorical research of Pueblo Indians (Hopi, Zuni, Tanoan, and Keresan) and their immediate neighbors. Basic information on history, languages, social organization, and traditional cultural systems. (Formerly numbered M172T.) Lecture, three hours. Prerequisite: course 9 or consent of instructor. Ethnicity of social and cultural adaptation of Hispanic peoples in the U.S. Southwest: their respective social organization, economic and political institutions, sacred and secular belief systems, and expressive cultures. P/NP (undergraduates), S/U (graduates), or letter grading.

Middle America

173Q. Latin American Communities. Overview of social and cultural anthropology of small communities in Latin America. Similarities and contrasts in social organization and interpersonal relations described in context of economic, political, and cultural environments.

Mr. Johnson
History, Theory, and Method

180. Quantitative Methods in Anthropology. (Formerly numbered 168A.) Lecture, three hours. Prerequisites: course 9 or equivalent. Methods of quantitative data analysis. Topics to be selected from linear regression analysis (univariate and multivariate), principal component analysis, discriminant analysis, cluster analysis, nonparametric tests, and log-linear models. Emphasis on computer-based applications of data analysis techniques. Lecture, three hours.

182. History of Anthropology. 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 social science and its influence on such notables as Durkheim, Freud, Hall, Lombrase, Marx, Piaget, Terman, and others. Consideration of how these influences either centralize or de-centralize modern conflict, perception of deviance, and our view of culture in general.

183. History of Archaeology. Prerequisite: at least one upper division archaeology course or consent of instructor. Development of influential archaeologists and archaeology as a discipline from the Renaissance to the present, stressing how each of the major branches of archaeology has evolved a special character determined by peculiarities of its own data, methods, and intellectual affiliation. Lecture, three hours. Mr. Sackett.

184. History of Human Evolutionary Theory. The men, women, and spirit of the time which mark man's attempts to understand his origins and diversity. Lecture, three hours. Ms. Tamanoi.

185. Civilizations of East Asia. Lecture, three hours. General anthropological introduction to the closely linked civilizations of China, Korea, and Japan, providing a comparative analysis of fundamental institutions such as family, state, and religion and assessing effects of urbanization and industrialization. Lecture, three hours. Ms. Tomakomi.

175T. Civilizations of South America. Lecture, three hours. General introduction to the cultures of the Americas from the standpoint of cultural ecological analysis, with a focus on the cultural achievements of each historical period. Lecture, three hours. Ms. Park.

175U. History of Anthropology. Lecture, three hours. Historical survey of the development and direction of anthropology, with a focus on the development of anthropological theory and methodology. Lecture, three hours. Ms. Park.

175V. History of Archaeology. Lecture, three hours. Historical survey of the development and direction of archaeological theory and methodology, with a focus on the development of archaeological theory and methodology. Lecture, three hours. Ms. Park.

176. Culture Area of the Middle East. Lecture, three hours. History and culture of the Middle East, including the development of civilizations, the rise of Islam, and the development of modern states. Lecture, three hours. Mr. Boyd.

177. Cultures of the Pacific. Four major culture areas of Australia, Melanesia, Polynesia, and Micronesia. Historical, linguistic, and cultural features of each culture area presented in context of their adaptive significance. Lecture, three hours. Mr. Boyd.

180. Quantitative Methods in Anthropology. (Formerly numbered 168A.) Lecture, three hours. Prerequisites: course 9 or equivalent. Methods of quantitative data analysis. Topics to be selected from linear regression analysis (univariate and multivariate), principal component analysis, discriminant analysis, cluster analysis, nonparametric tests, and log-linear models. Emphasis on computer-based applications of data analysis techniques. Lecture, three hours.

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177. Cultures of the Pacific. Four major culture areas of Australia, Melanesia, Polynesia, and Micronesia. Historical, linguistic, and cultural features of each culture area presented in context of their adaptive significance. Lecture, three hours. Mr. Boyd.
203. Core Seminar: Sociocultural Anthropology. Seminar, three hours. Prerequisites: two courses from 130, 135A, 150, or equivalent, or consent of instructor. Introduction to sociocultural anthropology, the methodological and theoretical approaches of sociocultural anthropology. Reading of and critical discussion on a body of significant literature.

204. Core Seminar: Linguistic Anthropology. Seminar, three hours. Prerequisite: consent of instructor. Theoretical and methodological perspectives on the study of language structure and language use from a sociocultural perspective. Discussion of linguistic, philosophical, psychological, and anthropological contributions to understanding of verbal communication as a social activity embedded in culture.

Mr. Duranti, Mr. Kroskrity

Archaeology

210. Analytical Methods in Archaeological Studies. Prerequisites: one term of statistics, consent of instructor. Data analysis procedures in archaeology. Emphasis on conceptual framework for analysis of archaeological data, beginning at the level of the individual and ending at the level of the region.

Mr. Read

211. Regional Analysis in Archaeology. Prerequisite: consent of instructor. Course 210 and basic knowledge of archaeological principles and practices are prerequisites to 211. Survey of analytical methods used in archaeology to study prehistoric settlement systems. Specific issues include settlement distribution with respect to natural resources, settlement hierarchy, and patterns of exchange.

Mr. Earle

212P. Selected Topics in Hunter/Gatherer Archaeology. Seminar, three hours. Prerequisite: consent of instructor. Prehistory and ethnohistory 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.

C215R. Strategy of Archaeology. Seminar, three hours; outside study, nine hours. Prerequisite: consent of instructor. Introduction to problem formulation, theory, and method in archaeology. Emphasis on development of research designs. Focus on how archaeological research is conceived and planned, with consideration of differing viewpoints and their use in practice. Consideration of research requirements for course C215R. Complete research proposal required of graduate students.

Mr. Hill

216. Dating Techniques in Environmental Sciences and Archaeology. (Same as Geography M229B.) Prerequisite: consent of instructor. Colloquium devoted to topics in dating techniques in environmental sciences, archaeology, and biological anthropology, as well as laboratory instruction and experimental work. May be repeated for credit.

Mr. Berger

217. Explanation of Societal Change. Prerequisite: consent of instructor. Examination of processes of societal evolution, emphasizing the 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.

Mr. Hill

218. Style and Ethnicity. Seminar, three hours. Prerequisite: consent of instructor. Examination of ethnohistorical 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 specifically interested in material culture in style as such.

Mr. Sackett

219. Complex Hunters/Gatherers in Theoretical Perspective. Seminar, three hours. Prerequisite: consent of instructor. 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. Role of craft specialization in cultural evolution. S/U or letter grading.

Ms. Arnold

Biological Anthropology

220. Current Problems in Biological Anthropology. Seminar, three hours. Prerequisite: consent of instructor. Survey of recent 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.

Ms. Kennedy

221A-221B. Fossil Evidence for Human Evolution. Prerequisite: consent of instructor. Examination and analysis of fossil evidence for man's evolution.

Mr. Bailey, Ms. Peacock

222P. Biology and Ecology of Foraging Peoples. Prerequisite: consent of instructor. Detailed discussion of topics in foraging studies, including perspectives of cultural ecology and ethnography of foraging peoples. Primary emphasis on theoretical and practical topics in human ecology and biology, including health and nutrition, growth and development, life history variables, foraging, and sex differences.

Mr. Bailey

225P. Introduction to Field Methods in Human Ecology. Lecture, three hours. Prerequisite: upper division or graduate standing. Survey of methods used in anthropological investigations emphasizing human biology and human ecology. Study design, personal assessment of nutritional status, growth and nutrition, demography, ethnoanthropology, systematic observation of behavior, energy expenditure, subsistence ecology, data analysis. Demonstrations and labs. Course 216 required. Concurrently scheduled with course 126P.

Mr. Bailey, Ms. Peacock

229P. Ecology of Human Reproduction. Seminar, three hours. Prerequisite: consent of instructor. Critical examination of current research concerning the responsiveness of the human reproductive system to a variety of biophysical and ecological influences, including stress, exercise, nutrition, and disease. Influence of reproductive hormones on human behavior. Evolutionary and cross-cultural perspectives.

Ms. Peacock

C229A. Seminar: Human Behavioral Ecology. (Same as Education M281A and Psychiatry M279A.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Examination of predictive models from animal behavioral ecology used to study human diet and subsistence; settlement patterns and territoriality; sharing and help; reproduction and mortality. Comparison with other economic and ecological approaches in anthropology.

Mr. Burton Jones

C229B. Seminar: Reproduction, Families, and Parenting. (Same as Education M281B and Psychiatry M279C.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Consideration of appropriateness and contributions of using animal behavior methodology in study of human behavior. Analysis: describing and recording behavior; causation, description, and analysis of longitudinal studies; adaptation; evolutionary origins.

Mr. Burton Jones

Cultural Anthropology

230P. Ethnology. Prerequisite: consent of instructor. Seminar on ethnological method and theory concentrating on idealized systems. May be repeated for credit.

230Q. Theories of Culture. Lecture, three hours. Prerequisite: consent of instructor. Exploration of aspects within culture theory: emergence of culture with modes of production, discovery of culture, and "cultural capital" and cultural change. Investigation of production of culture and transformations of meaning within cultural domains of politics, economy, and religion. S/U or letter grading. Ms. Park

231. Asian Americans: Personality and Identity. Prerequisite: graduate standing. Effect of class, caste, and race on the Asian American personality within the framework of anthropological theories.

232Q. Myth and Ritual. Prerequisite: consent of instructor. Examination of ritual and myth in industrialized and nonindustrialized societies. Associated value systems and philosophies examined as infrastructure of culture rather than as phenomena proposed by structuralist rationalism and cultural materialism. May be repeated for credit.

M232R. South American Folklore and Mythology Studies. (Same as Folklore M257.) Prerequisite: course 174P or consent of instructor. Examination of oral traditions and related ethological data from various South American Indian societies against the background of the religious systems of these people.

M232S. Ethnography of Humor. (Same as Folklore M214.) Lecture, three hours. Prerequisite: graduate standing in anthropology or folklore and mythology. Examination and analysis of selected humorous expressions and events in cross-cultural perspective, with emphasis on major psychological and sociocultural interrelationships involving humor and interpretation. Concurrently scheduled with course 125T.

Ms. Park

232T. Person, Self, and Identity in Contemporary Anthropology. Seminar, three hours. Prerequisite: graduate standing or consent of instructor. Survey of anthropological literature on person, self, and identity. Conceptual and theoretical relationships among these terms and their use in contemporary ethnography. S/U or letter grading.

Mr. Hollan

232V. Current Issues in Ethnography. Seminar, three hours. Prerequisite: graduate standing or consent of instructor. S/U or letter grading.
233P. Symbolic Anthropology. Prerequisite: course 133R or consent of instructor. Nature of symbolic relations (as distinguished from other referential ones), significance of symbolic systems (in terms of action, cognition, affectivity, contemplation), symbolic and isomorphic logic (as opposed to the causal one) are among questions to be selected for analysis and discussion. May be repeated for credit. S/U or letter grading.

233Q. Aesthetic Anthropology. Prerequisite: course 133R or consent of instructor. Questions concerning visual aesthetic phenomena in their relationships with the sociocultural context examined in depth. May be repeated for credit. S/U or letter grading.

234A. Seminar: Psychosocial Studies. (Same as Psychiatry M210.) Seminar, three hours. Devoted to present state of research in psychosocial studies. Survey of work in child development and socialization, personality, psychotherapy, trans-cultural psychiatry, deviance, learning, perception, cognition, and psychosocial perspectives on change.

Mr. Edgerton

234P. Transcultural Psychiatry. (Same as Psychiatry M214.) Lecture, three hours. Prerequisite: consent of instructor. Consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, "culture specific" syndromes, non-Western psychologies, and articulations of "sick" societies. May be repeated for credit.

Mr. Edgerton

234T. Anthropology of Human Body. (Same as Psychiatry M282.) 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.

Ms. Browner

235A-M235B. The Individual in Culture. (Same as Psychiatry M213A-M213B.) Lecture, three hours. Course M235A is prerequisite to M235B. In Progress orders, "culture specific" syndromes, non-Western psychiatric concepts, and definitions of "sick" societies. May be repeated for credit.

Mr. Edgerton

235S. Culture, Adaptation, and Intervention. (Same as Psychiatry M215.) Prerequisite: consent of instructor. Role of ecological, social, and cultural influences on family adaptation, child competence, and interventions, including theory, empirical research, and applied/policy topics. Review and critique of current research in this field.

Mr. Gaillmore, Mr. Weisner

236P. Cross-Cultural Studies of Socialization and Children. (Same as Psychiatry M214.) Seminar, three hours. Selected topics in cross-cultural study of socialization and child training. Methods, ethnographic data, and theoretical orientations. Emphasis on current research.

Mr. Weisner

236Q. Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Education M222A, Psychiatry M235, and Psychology M285.) Skill of observing and recording behavior in natural settings, with emphasis on field training and practice in observing behavior. Discussion of some uses of observations and their implications for research in social sciences. Students expected to integrate technique and observation into current research interests.

Mr. Levine, Mr. Weisner (W)

239P. Selected Topics in Field Ethnography (4 to 8 units). Seminar, three hours. Prerequisite: consent of instructor. Discussion and practice in various techniques for collecting and analyzing ethnographic field data. S/U or letter grading.

Mr. Duranti, Mr. Kroskry

Linguistic Anthropology

M241. Topics in Linguistic Anthropology. (Same as Linguistics M246C.) Prerequisite: consent of instructor. Problems in relations of language, culture, and society. May be repeated for credit.

M242. Ethnography of Communication. Prerequisite: graduate standing or consent of instructor. Seminar devoted to examining representational scholarship from fields of sociolinguistics and ethnomusicology of communication. Particular attention to theoretical developments including research of ethnography of communication in sociolinguistics, anthropology of language, and sociology. Topical foci include style and strategy, speech variation, varieties of noncasual speech genres, languages and ethnicity, and nonverbal communication behavior.

Mr. Duranti, Mr. Kroskry

243P. American Indian Ethnolinguistics and Sociolinguistics. Prerequisites: prior coursework in either anthropology, linguistics, or American Indian studies, consent of instructor. Social and cultural aspects of language use in Native North American speech communities. Specific foci include both micro-sociolinguistic topics (such as multilingualism, cultural differences regarding appropriate communicative behavior, or pronouns in speech communities) and macro-sociolinguistic topics (such as language contact, language change, and language in American Indian education). Graduate students conduct independent research and participate in group discussion.

Mr. Kroskry

243Q. Cross-Cultural Studies of Socialization and Children. (Same as Linguistics M215.) Seminar, three hours. Examination of events and institutions associated with the development of modern and postcolonial society and culture. Topics vary from term to term. May be repeated for credit.

Mr. Edgerton

244. Field Methods in Linguistic Anthropology. Seminar, three hours; work with informant, one hour. Prerequisite: Linguistics 20 or prior experience in linguistic analysis. Practice in eliciting and transcribing linguistic data from native informants. Initial focus on phonetic transcription and phonological structures; introduction to skills and strategies pertinent to morphological, syntactic, and pragmatic analysis. Prac- tice in grammar transcriptions of Black American English. Examination of the urban setting as a human environment. Emphasis on hands-on activities 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.

Mr. Kroskry

245. Linguistic and Intracultural Variation. Prereq.- prerequisite: consent of instructor. 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 linguistics research, to critically assess a broad and representative sample of modern scholarship devoted to study of intra-individual and inter- individual variation, and to evaluate utility and potential applicability of recent linguistic models to anthropological linguistics and anthropological theory.

Mr. Kroskry

246. Research Design and Field Training in Linguistic Anthropology. Prerequisite: consent of instructor. Supervised collection of linguistic information in the field for most of term. May be repeated for credit. S/U or letter grading.

Mr. Duranti, Mr. Kroskry

247. Analysis of Linguistic Field Data. Seminar, three hours. Prerequisite: course 232 or 242 or 246 or consent of instructor. Supervised analysis of selected field data by students who have participated in a related field training course. Students work with their own as well as general project data in preparation of articles for professional journals. May be repeated for credit. S/U or letter grading.

Mr. Duranti, Mr. Kroskry

248. Practicum in a Field Language (4 to 8 units). Prerequisite: consent of instructor. Intensive training in an indigenous language as preparation for work in the field.

Mr. Duranti, Mr. Kroskry

M249A-M249B. Ethnographic Methods in Applied Linguistics A, B. (Same as Teaching English as a Second Language M270A-J270B.) Course M249A is prerequisite to M249B. Two-term sequence on ethnographic approaches to recording and analyzing communicative events and practices in their sociocultural context, involving student-initiated fieldwork in a community setting. Emphasis on hands-on activities within theoretical framework that considers language as a social and cultural practice. First term devoted to skills related to collecting, socially and culturally meaningful data; second term 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.

Mr. Duranti, Ms. Ochs

Social Anthropology

250. Selected Topics in Social Anthropology. Seminar, three hours. Prerequisite: consent of instructor. Intensive examination of current theoretical views and literature. S/U or letter grading.

Ms. Levine

251P. Cultural Ecology. Prerequisite: consent of instructor. May be repeated for credit. Mr. Earle

252P. Comparative Systems of Social Inequality. Seminar, three hours. Examination of historical and contemporary perspective of particular systems of structured social inequality based on rank, caste, ethnicity, gender, age, sexual preference, disability, etc., to develop a unified theory of social inequality. Examples from Asian, Pacific, European, African, and American cultures. S/U or letter grading.

Mr. Hammond

252Q. Anthropology of Resistance. Lecture, one hour; discussion, two hours. Prerequisite: at least one upper division sociocultural anthropology course. Exploration of recent works in anthropology and other disciplines which address practice and resistance, as part of an effort to understand processes that have shaped modern and postcolonial society and culture. Ms. Tamanoi

253. Economic Anthropology. Prerequisite: consent of instructor. May be repeated for credit.

253P. Technology and Economy. Seminar, three hours. Prerequisite: consent of instructor. Analysis of technological systems and patterns of technological evolution in context of corresponding social and economic change (e.g., in labor organization, kinship, property rights), using examples mainly from Asian peasant societies, past and present. S/U or letter grading.

254. Kinship. Prerequisite: consent of instructor. May be repeated for credit.

255. Comparative Political Institutions. Prerequisite: consent of instructor. May be repeated for credit.

256. Anthropology of Conflict. Seminar, three hours. Open to undergraduates with consent of instructor. Examination of events and institutions associated with large-scale or ongoing conflict in a variety of settings. Particular consideration of roots of contemporary conflict, violence, violent manifestations and cross-cultural misunderstandings, and nature and content of armed confrontation. S/U or letter grading.

Ms. Simons

Applied Anthropology

260. Urban Anthropology. Prerequisite: course 167 or consent of instructor. Advanced anthropological examination of the urban setting as a human environment. S/U or letter grading. Ms. Park, Ms. Sacks

2610. Issues in Applied Anthropology. Seminar, three hours. Use of seminar format to explore selected issues and problems from an anthropological perspective. Consideration of history of applied anthropology, ethics, and careers strategies.

Mr. Hammond
M282P. Culture and Human Reproduction. (Same as Community Health Sciences M240.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Exploration of human behavior related to reproduction. Cross-cultural exploration of biological and behavioral factors, with particular reference to human adaptation. Ms. Sacks.

25SP. Gender Systems. Discussion, three hours. Prerequisite: consent of instructor. Current theoretical developments in understanding gender systems cross-culturally, with emphasis on relationship between systems of gender, ideological systems, and social inequality. Selection of ethnographic cases from recent literature. S/U or letter grading. Ms. Levine, Ms. Sacks.

M230Q. Advanced Seminar: Medical Anthropology. (Same as Community Health Sciences M244, Nutting M273, and Psychiatry M273.) Seminar, three hours. Prerequisite: consent of instructor. Limited to 15 students. Examination of intersections between society, culture, ecology, health, and illness. Cases for written critical analysis and class discussion provided through key theoretical works. Ms. Browner, Ms. Scrimshaw (Sp).

25SP. Medicine in Chinese Culture. Seminar, three hours. Prerequisite: consent of instructor. Use of the rich historical material and anthropological studies of Chinese medicine to analyze social and symbolic complementarity of different therapeutic systems and current attempts at syncretization with Western biomedicine. S/U or letter grading.

25SP. Public Archaeology. Prerequisite: consent of instructor. Archaeology as part of the national heritage, both in the U.S. and other countries. Legal, ethical, cultural, and scholarly aspects of salvage and contact archaeology. Designed for researchers and managers of cultural resources.

M265. Medical Anthropology in Public Health. (Same as Community Health Sciences M232, Nursing M250, and Psychiatry M250.) Seminar, three hours. Cross-cultural aspects of human behavior as they relate to perception, treatment, incidence, and prevalence of disease and illness. Ms. Browner, Ms. Scrimshaw.

M269. Contemporary Issues of the American Indian. (Same as American Indian Studies M200C and Sociology M275.) Introduction to most important issues facing American Indians as individuals, communities, tribes, and organizations in the contemporary world. Analysis of historical and contemporary factors presented in American Indian Studies M200A and cultural and expressive experience of American Indians presented in American Indian Studies M200B.

268P. Feminist Perspectives on Women, Reproduction, and Health. (Same as Nursing M280 and Psychiatry M280.) Seminar, three hours. Analysis of sociocultural and political economic factors that affect reproduction and women’s health. Topics include relationships between women’s domestic and extra-domestic roles and their health, policies of reproduction, and impact of new reproductive technologies. May be repeated for credit. Ms. Browner.

Regional Cultures

M272. Indians of South America. (Same as Latin American Studies M250A.) Lecture, three hours. Prerequisite: consent of instructor. Survey of literature and research topics related to Indian cultures of South America. May be repeated for credit.

273. Cultures of the Middle East. Seminar, three hours. Prerequisite: consent of instructor. Survey of literature and problems of various cultures of the Middle East.

274. Cultures of the Pacific Islands. Prerequisite: consent of instructor. Topics in contemporary socio-cultural anthropology and classic ethnography of Melanesia, Polynesia, and Micronesia. May be repeated for credit.

277. Aspects of Chinese Society. Seminar, three hours. Prerequisite: consent of instructor. Anthropology and sociology of contemporary China; contemporary changes in such key institutions of Chinese society as family, lineage, and associations, setting individuals and groups in the larger political, economic, and class framework of society and state. S/U or letter grading.

History, Theory, and Method

281. Selected Topics in History of Anthropology. Prerequisite: consent of instructor. Particular problems in history of anthropology as dictated by interests of students and faculty. May be repeated for credit.

281P. Contemporary Problems in Africa. Seminar, three hours. Prerequisite: consent of instructor. Problems in African in light of classical anthropological literature and recent work by anthropologists and other fieldworkers in Africa, with cases from eastern and southern Africa. S/U or letter grading.

282. Research Design in Cultural Anthropology. Prerequisite: consent of instructor. Prerequisite: consent for graduate students preparing for fieldwork. Unique position of anthropology among the sciences and resulting problems for scientific research design. Review of research designs and appropriate methods. Students prepare their own research designs and present them for class discussion. Mr. Johnson.

283. Formal Methods of Data Analysis in Anthropology. Seminar, three hours. Prerequisite: consent of instructor. Current topics and issues related to formal analysis of data and representation of cultural constructs: formal models of kinship terminologies, structural models of cognitive systems, and theoretical models of networks, models of decision making, hierarchical information systems, stability in complex adaptive systems. S/U or letter grading.

285. Schools, Domains, and Strategies in World Archaeology. Seminar, three hours. Prerequisite: consent of instructor. Comparative examination of schools, domains, research strategies, and relations to allied intellectual disciplines. Archaeologists from all departments are welcome, as are students interested in history or philosophy of science.

Mr. Sackett.

285P. Selected Topics in Anthropological/Archaeological Theory. Seminar, three hours. Prerequisites: graduate standing and/or consent of instructor. Variable topics course on important theoretical subjects in anthropology and archaeology. May be repeated for credit. S/U or letter grading.

Mr. Levinthal.

286P. Selected Topics in Computer Simulation and Modeling. Seminar, three hours. Prerequisites: course 180 or consent of instructor. Applications of computer simulations and/or models to specific problem areas of interest to anthropologists. Problem areas rotate with each offering and include cognitive ecological, demographic evolutionary, and other theoretical foci. S/U or letter grading.

Mr. Read.

287. Poststructural Theories. Seminar, three hours. Prerequisites: graduate standing, consent of instructor. Examination of development and application of poststructural theories in anthropology by exploring interdisciplinary connections, especially as they concern the concept of culture, narrative, ethnographic writing, reflexivity, politics of representation, historicity, and the study of the self, identity, and the body. S/U or letter grading.

287P. Anthropology and Colonialism. Prerequisite: graduate standing. Exploration of multifaceted nature of colonialism and its cultural manifestations in a variety of geographical areas. Reconsideration of history of anthropology for Taal Asad argues, "anthropology emerged as a distinctive discipline at the beginning of the colonial era." S/U or letter grading.

Ms. Tamanoi.

M289. Computer Methodologies in Latin American Studies and Anthropology. (Same as Latin American Studies M225.) Lecture, three hours. Prerequisite: consent of instructor. Basic principles of computer and information processing, along with potential application in Latin American research. Examination of impact that computers are having in Latin American society. Mr. Behrens.

C291. Writing for Anthropology. Lecture, three hours. Prerequisite: consent of instructor. Teaching of writing skills in various academic forms, including term papers, essay examinations, journal articles, and reports. Class projects require student writing and evaluation of professional writing. Emphasis on organization and presentation of a scholarly argument. Concurrency scheduled with course C191. Graduate students expected to prepare a higher level of the scholarly research paper. S/U or letter grading.

Mr. Earle, Ms. Levine.

292. Making Oral Presentations. Lecture/student presentations, two hours; discussion, one hour. Prerequisite: graduate standing or consent of instructor. How to organize and present seminar reports, papers at scholarly conferences, and lectures to professional audiences. Opportunity for students to develop their speaking skills through actual practice in workshop atmosphere of mutual support and constructive criticism. S/U grading.

Special Studies

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

485. Teaching Anthropology (2 to 4 units). Seminar/workshop, three hours. Prerequisite: graduate standing. Required of all new teaching assistants. Workshop and seminar in teaching techniques, including evaluation of each student's own performance. Workshop preceded by 10-week seminar during term designed to deal with problems and techniques of teaching anthropology. May be repeated for credit. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA adviser and graduate dean, and host campus instructor, department chair, and graduate dean of UCLA. May be repeated for credit. S/U grading.


599. Research for and Preparation of Ph.D. Dissertation (2 to 12 units). Prerequisite: consent of instructor (Ph.D. dissertation essay or writing. Students must have completed qualifying examinations and ordinarily take no other coursework.
Applied Linguistics (Interdepartmental)

3300A Rolfe Hall, (310) 206-1985

Professors
Roger W. Anderson, Ph.D. (Teaching English as a Second Language and Applied Linguistics)
Raimo A. Antilla, Ph.D. (Linguistics)
Lyle Bachman, Ph.D. (Teaching English as a Second Language and Applied Linguistics)
Marianne Celce-Murcia, Ph.D. (Teaching English as a Second Language and Applied Linguistics; Distinguished Teaching Award)
Susan R. Curtiss, Ph.D. (Linguistics)
Bruce F. Hayes, Ph.D. (Linguistics)
Thomas J. Hinnebusch, Ed.D. (Teaching English as a Second Language and Applied Linguistics)
Pamela L. Munro, Ph.D. (Linguistics)
Elinor Ochs, Ph.D. (Teaching English as a Second Language and Applied Linguistics)
Emanuel A. Schegloff, Ph.D. (Sociology)
Russell G. Schuh, Ph.D. (Linguistics)
John H. Schumann, Ed.D. (Teaching English as a Second Language and Applied Linguistics), Chair
Donca Steriade, Ph.D. (Linguistics)
Robert P. Stockwell, Ph.D. (Linguistics; Distinguished Teaching Award)

Professors Emeriti
George D. Bedell, Ph.D. (Linguistics)
Russell N. Campbell, Ph.D. (Teaching English as a Second Language and Applied Linguistics)
Victoria A. Fromkin, Ph.D. (Linguistics; Distinguished Teaching Award)
Evelyn R. Hatch, Ph.D. (Teaching English as a Second Language and Applied Linguistics)
Maxisi R. Kunene, Ph.D. (Linguistics)
Peter N. Ladefoged, Ph.D. (Linguistics; Distinguished Teaching Award)
Earl J. Rand, Ph.D. (Teaching English as a Second Language and Applied Linguistics)
Paul M. Schachter, Ph.D. (Linguistics; Distinguished Teaching Award)

Associate Professors
Nina M. Hyams, Ph.D. (Linguistics)
Hilda J. Kroopman, Ph.D. (Linguistics)
Dominique L. Sportiche, Ph.D. (Linguistics)
Edward P. Stabler, Ph.D. (Linguistics)
Timothy A. Stowell, Ph.D. (Linguistics)

Assistant Professors
Asil Agha, Ph.D. (Teaching English as a Second Language and Applied Linguistics)
Marcylenia H. Morgan, Ph.D. (Anthropology)

Lecturers
Donna Brinton, M.A. (Teaching English as a Second Language and Applied Linguistics)
Janet Goodwin, M.A. (Teaching English as a Second Language and Applied Linguistics; Luckman Distinguished Teaching Award)
Christine Holten, M.A. (Teaching English as a Second Language and Applied Linguistics)
Linda Jensen, M.A. (Teaching English as a Second Language and Applied Linguistics; Luckman Distinguished Teaching Award)

Adjunct Professor
Ian Maddieon, Ph.D. (Linguistics)

Scope and Objectives
Since language permeates every aspect of our social, economic, political, and academic pur-
suits, it is small wonder that we have deep abiding curiosity about its origin, its use, and its acquisition. The UCLA doctoral program in applied linguistics provides a rich and supportive environment for graduate students and faculty to define and resolve questions that satisfy that curiosity.

Faculty members of the Department of Teaching English as a Second Language and Applied Linguistics, as well as professors in Anthropology, Linguistics, Psychology, Sociology, and Education, represent a wide range of expertise and experience in language-related research. Their guidance and collaboration with students as they apply relevant elements of linguistics, psycholinguistics, and sociolinguistics result in substantial research findings in the areas of discourse/grammar analysis, language acquisition, and language assessment. Graduates of the program are well prepared to pursue academic and professional careers at the highest level of service and inquiry.

Ph.D. Degree
Admission
The basic requirement for admission is completion of the UCLA Master of Arts degree in Teaching English as a Second Language (TESL) or in Linguistics or the equivalent of one of these. Applicants with a graduate degree in TESL, linguistics, applied linguistics, psycholinguistics, or sociolinguistics from another recognized institution may be admitted provided they then make up the courses in one or the other of the two UCLA M.A. programs whose equivalents they have not yet taken. Students with graduate degrees in other related disciplines (such as a foreign language, English, education, psychology, sociology, or anthropology) are advised to complete the UCLA M.A. in Linguistics or TESL before seeking admission to the Ph.D. program.

Prospective candidates are required to submit (1) a statement of purpose describing their research background and the type of dissertation they hope to prepare, (2) three letters of recommendation from professors who are well acquainted with their academic background, (3) their M.A. thesis or related research papers, and (4) Graduate Record Examination (GRE) scores; international applicants should also submit their Test of English as a Foreign Language (TOEFL) scores. The admissions committee considers all of the above criteria, as well as undergraduate and graduate grade-point averages, in decisions on program applicants.

Applications for admission to Fall Quarter should reach UCLA Graduate Application Processing by the preceding December 15; the supporting materials should reach the Applied Linguistics Program (3300A Rolfe Hall, UCLA, Los Angeles, CA 90024-1531) no later than January 8.

Major Fields and Specializations
Three areas of specialization are available: discourse/grammar analysis, language acquisition, and language assessment. For details on each specialization, contact the program office.

Foreign Language Requirement
Before advancement to candidacy, you must demonstrate proficiency in one foreign language. If your native language is English, you may fulfill the requirement by one of the following methods: (1) a reading examination, (2) a research paper based on extensive sources in the language, (3) a conversation examination showing knowledge in depth, or (4) a score of 550 or better on the Graduate School Foreign Language Test (GSFLT). If your native language is not English, you may use English to fulfill the requirement. In consultation with the interdepartmental committee, you must select the most appropriate means of fulfilling the requirement.

Course Requirements
In addition to fulfilling the general University requirements, candidates for the Ph.D. in Applied Linguistics must meet the program requirements listed below. All courses taken to fulfill breadth and specialization requirements must be approved each term by your faculty adviser.

Basic Preparation — Any of the following courses not already taken must be completed as early as possible and before advancement to candidacy for the degree. For basic preparation in linguistics, you can select a phonetics and phonology track, a syntax and semantics track, or a discourse analysis track. For all tracks, you must take Linguistics 120A and 120B. Students selecting the phonetics and phonology track would then take Linguistics 165A or 200A, followed by Linguistics 201 or 203 or 204. Students selecting the syntax and semantics track would take Linguistics 165B and 200B or 215. Students selecting the discourse analysis track would take Teaching English as a Second Language and Applied Linguistics 283, followed by one course from Teaching English as a Second Language and Applied Linguistics 250, 252, Sociology C244A, C244B, Anthropology 204, or 242. For basic preparation in applied linguistics, you must take Teaching English as a Second Language and Applied Linguistics 241.

Units and Courses — As a breadth requirement, all candidates must take at least 32 units of graduate-level coursework (in the 200 or 500 series). These 32 units may not include courses taken while completing basic preparation courses, Linguistics 275, Teaching English as a Second Language and Applied Linguistics 400, or Applied Linguistics 597 or 599. No more than eight of the 32 units may be in 596 research. The applied linguistics program provides a rich and supportive environment for graduate students and faculty to define and resolve questions that satisfy that curiosity.

Since language permeates every aspect of our social, economic, political, and academic pur-
toward the 32-unit requirement for the Ph.D. Credit may be transferred for up to two courses taken at another institution, but only for graduate-level courses taken after completion of the M.A. and preferably taken within the framework of UCLA's Applied Linguistics 501.

Within Graduate Division limits, courses that may be taken on an S/U basis include undergraduate courses taken as prerequisites to needed graduate courses, undergraduate courses not required, reading courses in a foreign language, graduate courses taken in addition to the required 32 units, Applied Linguistics 501, 597, 598, Teaching English as a Second Language and Applied Linguistics 400, and Linguistics 275. All other courses must be taken for letter grades.

Research Papers
In lieu of a written qualifying examination, two original research papers of publishable quality in different areas of specialization are required. These may be revised or extended seminar papers but must be prepared after admission to the Ph.D. program. The topics of these papers are to be selected by the student, in consultation with appropriate faculty members and with consent of the Ph.D. program advisor. Each of the finished papers is evaluated by two faculty members.

The doctoral committee administers the University Oral Qualifying Examination before advancement to Ph.D. candidacy.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination
All candidates are required to prepare a dissertation as a demonstration of their ability to carry out original research under the guidance of their doctoral committee. As the dissertation nears completion, you must make a public report on the results of your research. This may be done, at your choice, at a meeting of the colloquium of either the Department of Teaching English as a Second Language and Applied Linguistics or the Department of Linguistics. You must, therefore, enroll in either Teaching English as a Second Language and Applied Linguistics 400 or Linguistics 275 during the appropriate term. The public report determines whether a final oral examination is required.

Graduate Courses

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA program 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. (F,W,Sp)

596. Directed Individual Study (4 to 8 units). Prerequisite: doctoral standing, independent study in an area of applied linguistics. Up to eight units may be applied toward Ph.D. course requirements. May be repeated for credit. (F,W,Sp)

597. Preparation for Ph.D. Candidacy Examination (4 to 8 units). Prerequisite: 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. (F,W,Sp)

599. Research for and Preparation of Ph.D. Dissertation (4 to 16 units). Prerequisite: 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. (F,W,Sp)

Applied Linguistics Course List

Discourse/Grammar Analysis

- English 241. Studies in Structure of the English Language
- Linguistics 201. Phono logical Theory II
- 202. Language Change
- 203. Phonetic Theory
- 204. Experimental Phonetics
- 205. Morphological Theory
- 206. Syntactic Theory II
- 207. Formal Semantics

- Q209A, Q209B. Natural Language Processing I, II
- 210A, 210B. Field Methods I, II
- 214. Survey of Current Syntactic Theories
- 215. Syntactic Typology
- 220. Linguistic Areas
- 225. Linguistic Structures
- 251. Topics in Phonetics and Phonology I: Proseminar
- 252. Topics in Syntax and Semantics I: Proseminar
- 253. Topics in Language Variation I: Proseminar
- 254. Topics in Linguistics I: Proseminar
- 256A, 256B. Topics in Phonetics and Phonology II: Proseminar
- 257A, 257B. Topics in Syntax and Semantics II: Proseminar
- 258A, 258B. Topics in Language Variation II: Proseminar
- 259A, 259B. Topics in Linguistics II: Proseminar
- 263A-263B-263C. Seminars: Language Variation (only one of these may be applied toward the 32-unit requirement)

Teaching English as a Second Language and Applied Linguistics 249. Current Issues in Language Analysis

- 250. Advanced Seminar: Cohesion Analysis of English Structure
- 252. Advanced Seminar: Contextual Analysis of English Structure
- 263. Cross-Linguistic Topics in Functional Grammar I: Typology
- 264. Cross-Linguistic Topics in Functional Grammar II: Discourse
- 283. Discourse Analysis
- 285. Language Socialization
- 288. Discourse Laboratory
- 289. Current Issues in Language Use

Additional Courses in Other Departments

Anthropology 204. Core Seminar: Linguistic Anthropology
- M234Q. Psychological Anthropology
- 242. Ethnography of Communication
- 245. Linguistic and Intracultural Variation
- 249. Social Interaction

Education 204D. Minority Education in Cross-Cultural Perspective
- German (Germanic Languages) C238. Linguistic Theory and Grammatical Description

Sociology C244A-C244B. Conversational Structures I, II

258. Talk and Social Institutions

266. Selected Problems in Analysis of Conversation

267. Selected Problems in Communication

Spanish (Spanish and Portuguese) 209. Dialectology

256A-256B. Studies in Spanish Linguistics

257. Studies in Dialectology

Language Acquisition

Linguistics 213. Psycholinguistics

225. Topics in Linguistics I: Proseminar

259A, 259B. Topics in Linguistics II: Proseminar

264A-264B-264C. Seminars: Special Topics in Linguistic Theory


251. Advanced Seminar: Interlanguage Analysis

260. Psycholinguistics and Language Teaching

261. Second Language Acquisition

269. Current Issues in Language Acquisition

271. Cross-Linguistic Topics in Second Language Acquisition

Additional Courses in Other Departments

Education 217D. Language Development and Education

227B. Research on Cognitive and Language Characterstics of Exceptional Individuals

Psychiatry 257A-257B-257C. Communication Disorders Associated with Developmental Disabilities and Psychiatric Disorders

Psychology 240A-240B. Developmental Psychology

242F. Seminar: Developmental Psychology — Development of Language and Communication

260A-260B-260C. Proseminars: Cognitive Psychology

262. Human Learning and Memory

263. Psycholinguistics

268D. Seminar: Human Information Processing — Language and Thought

Language Assessment


222. Language Testing for Teachers of English as a Second Language

225. Program Evaluation in Applied Linguistics

232. Advanced Seminar: Construction and Administration of Language Tests

258. Laboratory: Advanced Topics in Language Assessment

Additional Courses in Other Departments

Education 200B. Survey Research Methods in Education

200C. Analysis of Survey Data in Education

202. Evaluation Theory

210A. Introduction to Research Design and Statistics

210B. Statistical Inference

210C. Analysis of Variance

210D. Multivariate Analysis

210E. Factor Analysis

211A. Measurement of Educational Achievement and Attitude

211B. Measurement in Education: Underlying Theory

211C. Item Response Theory

218A. Multiple Regression Analysis

218B. Advanced Quantitative Models in Nonexperimental Research: Multilevel Analysis
The interdisciplinary program offers M.A. and Ph.D. degrees in Archaeology. It brings together interests and specialities 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.

Requirements for Graduate Degrees

Admission
Any undergraduate major may be considered for admission to the program although those applicants who have had little previous archaeology education may be admitted under probationary status and may be required to take a series of courses to make up deficiencies. A Graduate Record Examination (GRE) General Test report is required. The following application materials should be submitted directly to the chair of the program: an acceptable plan of study combining academic and field, laboratory, and computer studies. 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.).

Scope and Objectives
The interdisciplinary program offers M.A. and Ph.D. degrees in Archaeology. It brings together interests and specialities represented by those departments offering courses in archaeology, as well as others offering courses relevant to archaeology. Institutions may also be accepted. An informal report, submitted by the director of an excavation, describing work performed by the students under supervision, may be sufficient. Excluding the four courses listed above, any given formula to fulfill the requirement must be cleared in advance with the program chair.

Master of Arts Degree
The structure of the M.A. program includes the successful completion, within seven academic terms, of fieldwork (described above) plus the following requirements.

Foreign Language Requirement
The ability to read at least one modern foreign language, relevant to your field of interest and approved by your adviser, is required for the M.A. You may meet this requirement by (1) passing the Graduate School Foreign Language Test (GSFLT) with a score of 550 or better, (2) completing the third course in an introductory course, regular sequence of the selected language at UCLA with a minimum grade of A, or (3) taking a reading examination administered by the program.

The foreign language requirement must be completed by the end of your sixth term in residence, unless an earlier deadline is imposed by your adviser.

Course Requirements
A minimum of 42 units (at least nine courses, of which five must be graduate) taken for a letter grade are required, to be distributed as follows: a minimum of five courses (25 units) in the 200 and 500 series, including Archaeology 200 (six units), M201A-M201B (six units each), and two elective graduate courses*; one of which may be course 596. Course 596 (letter grade) may be taken twice for a maximum of 12 units, but only six units may be applied toward the minimum graduate course requirement. Four upper division elective courses* (a minimum of 16 units, excluding 199s) are also required.

Comprehensive Examination Plan
You are required to take a comprehensive core examination during your third term in residence. This written examination is based largely on a reading list which has been the focus of the seminar discussions in Archaeology M201A-M201B. The examination is graded high pass, pass, or no pass and may be repeated once.

M.A. Paper
A master's-level research paper, normally no longer than 35 pages and graded by the three members of the M.A. committee, is to be submitted to the program chair by the end of the third week of the seventh term.

*Of the six combined elective courses, no more than four may be offered by the same department. At least one must be outside your sphere of regional interest to be selected from a pool of eligible courses by your adviser.
The final oral examination may be waived by the admissions committee that the examination should be waived.

Applicants who do not have a UCLA M.A. in Archaeology should refer to the admissions section under "Requirements for Graduate Degrees" above. All applicants must submit Graduate Record Examination (GRE) scores. Admission to the doctoral program for students completing a UCLA M.A. in Archaeology is based on written recommendation by all three members of the M.A. committee and at least a high pass on either the M.A. core examination or the M.A. paper.

Doctoral students entering the program with an M.A. from another university are required to pass the comprehensive core examination (see "Master of Arts Degree") unless they can demonstrate to the chair and the members of the admissions committee that the examination should be waived.

The final oral examination may be waived by the admissions committee that the examination should be waived.

Foreign Language Requirement
Reading competence in two modern foreign languages relevant to your interests is normally required and may be demonstrated as outlined for the master's degree. Other languages may be required by your dissertation committee.

Course Requirements
You must be enrolled in a minimum of 12 units per term. Archaeology M201A-M201B are required, and your dissertation committee may suggest additional requirements.

Qualifying Examinations
By the end of your fourth term in the doctoral program, after the foreign language requirement has been fulfilled, you must take a written qualifying examination in the following three areas: (1) topical specialization, (2) analytical theory, method, and technique, and (3) regional culture history. If you pass this examination, you may then make arrangements to take the oral examination. If the written examination of any portion thereof is failed, you may make one further attempt if your committee deems it appropriate.

The University Oral Qualifying Examination must be taken by the end of your sixth term in the doctoral program. You are required to submit to the doctoral committee a formal dissertation proposal (of about 10 pages), including the particular research problem on which you will be examined during the oral qualifying examination.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
The final oral examination may be waived by your doctoral committee.

Upper Division Course
C110. Archaeological Materials Identification and Characterization (6 units). Lecture, three hours; laboratory, four hours. Laboratory-oriented introduction for archaeologists to identification and quantitative description of solid materials, especially metals, ceramics, and other inorganic and some organic substances. Concurrently scheduled with course C210.

Graduate Courses
200. Archaeology Colloquium (1 or 6 units). Discussion, two hours. Prerequisite: archaeology major or consent of instructor. Required of all students. Development of archaeology as a discipline. Major intellectual trends and current issues in archaeology. Scientific and humanistic viewpoints presented by archaeologists from different academic departments. May be repeated for credit but may be applied only twice toward departmental M.A. requirements. S/U grading only for students enrolled for one unit. (Sp) M201A-M201B. Graduate Core Seminars: Archaeology (6 units each). (Same as Anthropology M201A-M201B.) Seminar, three hours. Required of all M.A. students. Seminar discussions based on carefully selected list of 50 to 40 major archaeology works. These compulsory core seminars provide students with foundation in breadth of knowledge required of a professional archaeologist. Archaeological historiography, survey of world archaeology, and archaeological techniques. Emphasis on appreciation of the multidisciplinary background of modern archaeology and relevant interpretative strategies. May be repeated for credit with consent of adviser. (F, M201A; W, M201B)

M205. Special Topics in Archaeology (6 units). (Same as Anthropology M212S.) Lecture, three hours. Prerequisite: graduate standing in archaeology or in other departments. Open to undergraduates with consent of instructor. Special advanced topics in archaeology such as new strategies, methodologies, excavation projects, regional synthesis, or comparisons on a worldwide basis, including current work by core faculty of the program and special visitors.

C210. Archaeological Materials Identification and Characterization (6 units). Lecture, three hours; laboratory, four hours. Laboratory-oriented introduction for archaeologists to identification and quantitative description of solid materials, especially metals, ceramics, and other inorganic and some organic substances. Concurrently scheduled with course C110.

259. Fieldwork in Archaeology (2 to 12 units). Prerequisite: consent of instructor. Participation in archaeological field excavations or museum research under supervisiion 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.

M265. Depositional History and Stratigraphic Analysis. (Same as Ancient Near East M265.) Lecture, two hours. Theoretical understanding of depositional processes "strata" which lead to site formation and of stratigraphic procedures to be used in recovery of embedded cultural materials. Study of issues covered in literature, with specific test cases from actual excavations and site reports. Coverage of the theoretical implications of such disciplines as surveying and pedology with the help of specialists. S/U or letter grading.

501. Cooperative Program (2 to 8 units). Prerequisite: 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. Individual Studies for Graduate Students (2 to 12 units). Hours to be arranged. Prerequisite: consent of instructor. May be repeated for credit with consent of adviser.

Methodology and History
Ancient Near East (Near Eastern Languages) 261. Practical Field Archaeology
Anthropology 115P. Archaeological Field Training
C115R. Strategy of Archaeology
M115S. Historical Archaeology
M116Q. Dating Techniques in Environmental Sciences and Archaeology
117. Archaeological Materials Analysis: Laboratory Methods
117P. Intensive Laboratory Training in Archaeology
118A, 118B. Museum Studies
121A. Primate Fossil Record
121B. The Australopithcines
121C. Evolution of the Genus Homo
129P. Laboratory Methods in Biological Anthropology
132. Technology and Environment
138. Methods and Techniques of Ethnohistory
158. Hunting and Gathering Societies
180. Quantitative Methods in Anthropology
183. History of Archaeology
186. Models and Modeling in Anthropology
210. Analytical Methods in Archaeological Studies
211. Regional Analysis in Archaeology
M216. Dating Techniques in Environmental Sciences and Archaeology
217. Explanation of Societal Change
221A-221B. Fossil Evidence for Human Evolution
283. Formal Methods of Data Analysis in Anthropology
Art History 203. Museum Studies
265. Fieldwork in Archaeology

New World
Anthropology 113P. Archaeology of North America
113Q. Prehistory and Ethnography of California
113R. Southwestern Archaeology
114P. Ancient Civilizations of Western Middle America (Nahuatl Sphere)
114Q. Ancient Civilizations of Eastern Middle America (Maya Sphere)
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 72 units for graduation. Additional upper division units must be taken to reach the 72-unit total.

It is recommended that you have each term's program approved by the departmental adviser.

Master of Arts Degree

Admission

A minimum grade-point average of 3.25 overall and 3.5 in upper division art history courses is required. The Graduate Record Examination (GRE) is required, although no minimum score has been established. Three letters of recommendation (preferably from art historians) are required, as are two writing samples (two 10-page research papers). The statement of purpose submitted with the application is given weight as possible about your interests in art history. In addition, you must have completed six courses in the history of art (grades of B or better and not including studio courses), with at least two courses from Fields A and B (see below). Specific areas may not be offered in satisfaction of more than one requirement.

Field A — (1) Aegean, (2) American, (3) Greek and Roman, (4) medieval and Byzantine, (5) modern and contemporary, (6) Renaissance and baroque.


Field C — (15) Critical theory.

Applicants demonstrating exceptional promise but lacking some or all of the six required courses may, at the discretion of the graduate review committee, be admitted on condition that they make up those courses. Deficiencies must be made up during your first two terms in residence and may not be applied toward degree requirements. Instead of taking a course, you may substitute a competency examination in the deficient area.

Prospective students may contact the Counselor, Department of Art History, 3209 Dickson, UCLA, Los Angeles, CA 90024-1417, for brochures and information. The department has no special departmental application; admission is limited to Fall Quarter.

Major Areas of Subdisciplines

Fifteen major areas in three fields, as noted under “Admission” above.

Foreign Language Requirement

Reading knowledge of French and German is required of all students except those intending to major in Asian (i.e., Chinese, Japanese, South Asian, Southeast Asian), pre-Columbian, Islamic or, with consent of the adviser, Italian art history. Students majoring in Chinese or Japanese art history must substitute either Chinese or Japanese respectively for either French or German. Those majoring in South Asian, Southeast Asian, or Islamic art history must substitute, for either French or German, an appropriate classical research language of South Asia, Southeast Asia, or the Islamic Middle East. Those majoring in Italian art history may, with consent of their major adviser, substitute Italian for French. In all cases, the final decisions regarding choice must be made in consultation with, and with the consent of, the major adviser. Students majoring in pre-Columbian art history must substitute Spanish for French.

With the exception of Asian and Islamic art history majors, all students must demonstrate reading fluency in both foreign languages by any of the following methods: (1) passing the department language examination, (2) passing the Graduate School Foreign Language Test (GSDLT) with a minimum score of 800, (3) enrolling in and completing with a minimum grade of B, UCLA’s French 5, German 6, Italian 5, and/or Spanish 25. One of these language requirements must be satisfied by the end of the second term in residence and the other by the end of the sixth.

Students majoring in Asian or Islamic art history must satisfy their European language requirement by the end of the sixth term in residence and may do so by any of the three methods listed above. The Asian or Islamic language requirement, however, is normally satisfied by enrolling in an appropriate course sequence for six consecutive terms (normally beginning with the first term of graduate study) and by maintaining a grade of B or better in those courses. Details and/or exceptions must be worked out with the major adviser.

Course Requirements

The M.A. degree requires the completion of a major and two minors in art history; there are three major/minor course options available (see the department counselor for option details). For options 1 and 2, you are required to take a minimum of 10 graduate and upper division courses, of which at least eight must be in art history and of which at least six must be graduate courses (200 series and 596). For option 3, you are required to take a minimum of 13 graduate and upper division courses (but may be required to take up to 14), of which at least eight must be in art history and of which at least six must be graduate courses (200 series and 596). At least four of these courses (in all options) must be in the 200 series, and no more than two may be 596 courses (Art History 597 and 598 may not be applied toward the degree).

All students must take course 200 and either 201 or 202. Courses should be selected in consultation with your major and minor advisers.

Thesis Plan

The thesis committee is established after completion of all course requirements. At the same time, you select a thesis topic in your major field. The thesis should deal succinctly with the topic in an independent, critical, and original fashion while taking fully into account the present state of research on the problem.

Ph.D. Degree

Admission

The M.A. in Art History is usually required for admission to the Ph.D. degree program. However, students with an M.A. degree in other disciplines may apply for admission. The graduate review committee determines the equivalency of the M.A. on an individual basis. An M.A. in Art History from another institution may be accepted as equivalent to that from UCLA or the holder may be accepted into the program at a stage determined by the graduate review committee. All incoming Ph.D. students must have taken and passed with a grade of B or better at least two courses (upper division and/or graduate) in areas not related to the proposed major (as outlined in the M.A. course requirements). Deficiencies must be made up during your first two terms in residence and may not be applied toward degree requirements.

The application must include, in addition to official transcripts and Graduate Record Examination (GRE) scores, all of the following:

(1) A standard statement of purpose (approximately 400 words) which should be as specific as possible about your interests in art history.

(2) A copy of the M.A. thesis or, if no thesis was written, one major research paper written at the M.A. level in the major (or intended major) field.

(3) Three or more letters of recommendation from individuals familiar with your scholarly work, one of which must be a detailed letter of assessment and endorsement from your major adviser for the M.A.

(4) A written statement from the intended Ph.D. major adviser of willingness to supervise your Ph.D. work.

(5) Evidence, prior to admission, of reading fluency in two appropriate foreign languages.

Students applying directly to the Ph.D. program from the M.A. in Art History program at UCLA follow a slightly modified procedure. For details, see the department counselor.

Reading knowledge of French and German is requisite for admission at the Ph.D. level for those majoring in all areas except Asian, Islamic, pre-Columbian, or Italian art history. You may demonstrate this knowledge by submitting a Graduate School Foreign Language Test (GSDLT) score of 600 or better, taking and passing the relevant department language examination(s) after officially being admitted, or completing UCLA’s German 6, French 5, and/or Italian 5 with a grade of B or better.

Students intending to major in Asian or Islamic art history must demonstrate, by the methods
oulined above, reading fluency in either
French or German. In addition, they must com-
plete with a grade of B or better six consecutive
quarter courses (or equivalent) in an appropri-
ate Asian or Islamic language. Determination
of the appropriate language and acceptable
equivalencies should be worked out in ad-
vance with the intended major adviser.

Students intending to major in pre-Columbian
art history must demonstrate, by the means
defined above, reading fluency in German and
Spanish. In the latter case, UCLA’s Spanish
25, passed with a grade of B or better, fulfills
the requirement.

Students who have passed a required foreign
language at another institution must either take
and pass the relevant UCLA departmental for-
ign language examination or submit an official
recent (within two years) GSFLT score of 600
or better in that language.

Prospective students may contact the Counsel-
or, Department of Art History, 3209 Dickson,
UCLA, Los Angeles, CA 90024-1417, for bro-
dures and information. The department has no
special departmental application; admission
is limited to Fall Quarter.

Major Areas or Subdisciplines
Field A — (1) Aegean, (2) American, (3) ba-
roque, (4) Byzantine, (5) contemporary (post-
1945), (6) 18th-century, (7) Greek, (8) medi-
eval, (9) 19th-century, (10) Renaissance, (11)
Roman, (12) 20th-century.
Field B — (13) African, (14) Chinese, (15) Indi-
an, (16) Islamic, (17) Japanese, (18) Native
North American, (19) oceanic, (20) pre-Colum-
bian, (21) Southeast Asian.
Field C — (22) Critical theory.

Foreign Language Requirement
You are normally required to demonstrate, no
later than the time of your University Oral Qual-
fying Examination, reading fluency in one or
more foreign languages in addition to those
required for admission. Among those areas
requiring such reading fluency are Aegean, Greek,
Roman, medieval, Byzantine, Renaissance,
Islamic, pre-Columbian, and all Asian
areas. The applicability of this requirement, the
language(s) required, and the exact methods
of satisfying the requirement are determined in
consultation with the major adviser.

Course Requirements
There are three major/minor course options
available (see the department counselor for
option details). For options 1 and 2, a minimum
of eight graduate and upper division courses is
required, of which at least four must be art history
graduate courses (200 series and 596). For option 3, a minimum of 11 graduate
and upper division courses is required, of which
at least four must be art history graduate courses
(200 series and 596). Of these totals (eight or
11), you must take at least two, and may take
up to five, extra-departmental upper division
and/or graduate courses, which must be ap-
proved by your major or minor adviser (where
applicable).

If you enter the Ph.D. program deficient in Art
History 200 or its equivalent, you must add it to
your total requirements. In some cases, course
201 may also be required (if recommended by
your faculty adviser).

Qualifying Examinations
After completion of coursework and language
requirements, you must take the Ph.D. written
comprehensive examination to test your breadth
and depth of knowledge in the major and
minor fields of study. If you fail the exami-
nation, or any part thereof, that portion may be
repeated during the subsequent term in resi-
dence. No further repetition is allowed.

A dissertation topic is selected after you pass
the written comprehensive examination; the
members of your doctoral committee are then
nominated, and the committee is appointed by
the dean of the Graduate Division.

After having submitted a dissertation proposal,
you then take the University Oral Qualifying
Examination, given by your doctoral commit-
tee. Assuming there is no more than one no
pass vote, you may initiate the procedure to
advance to candidacy.

Final Oral Examination
The doctoral committee may decide, by unani-
mous agreement, to waive the final oral exami-
nation (not normally required). If a final oral
examination is required, it is held after the final
draft of the dissertation has been circulated
among the committee members. In case of fail-
ure, the doctoral committee decides, by unani-
mous agreement, whether or not you may be
reexamined.

Lower Division Courses
50. Ancient Art. Lecture, three hours; quiz, one hour.
Prehistoric, Egyptian, Mesopotamian, Aegean, Greek,
Hellenistic, and Roman art and architecture.
Ms. Downey, Mr. Preziosi
51. Medieval Art. Lecture, three hours; quiz, one hour.
Early Christian, Byzantine, Islamic, Carolingian,
Ottoman, Romanesque, and Gothic art and architec-
ture.
Ms. Zelizer
54. Modern Art. Lecture, three hours; quiz, one hour.
Art and architecture from 1800 to the present in Eu-
rope and the U.S.
Mr. Boime, Mr. Kunze
55A. Africa, Oceanica, and Native America. Lecture,
three hours; discussion, one hour. Comparative
approach, emphasizing economic, cultural, and
historical aspects of selected artistic traditions which
developed outside the spheres of influence of major
European and Asian civilizations.
Mr. Klein
55B. Arts of Pre-Columbian America. Lecture,
three hours; discussion, one hour. Survey of an-
cient and modern art of the Americas, includ-
ing Mexico and Peru from ca. 1000
556. Introduction to Chinese Art. Lecture, three
hours; discussion, one hour. Introduction to discipline
of Chinese art history. Fundamentals of formats,
methods, and materials of Chinese art, visual
and textual sources, peculiarities of patterns, tradi-
tional art history and criticism, and approaches to
representation in premodern China.
Mr. von Falkenhausen
57. Renaissance and Baroque Art. Lecture, three
hours; discussion, one hour. History of art and archi-
ecture in Western Europe from 1400 to 1750.
Ms. Woods-Mansden
88A-88Z. Lower Division Seminars. Lecture, 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. 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.
Mr. Brown (F)

Upper Division Courses
101A. Egyptian Art and Archaeology. Lecture,
three hours. Study of architecture, sculpture, painting,
and minor arts during the Predynastic period and Old
Kingdom. Mr. Preziosi
101B. Egyptian Art and Archaeology of the Me-
dieval and New Kingdoms. Lecture, three hours.
Prerequisite: course 50. Study of architecture, sculptu-
painting, and minor arts during the Middle and New
Kingdoms.
Mr. Preziosi
M102A. Minoan Art and Archaeology. (Formerly
numbered 102A.) (Same as Classics M135A.) Lec-
ture, three hours. Prerequisite: course 50. Study of
development of art and architecture in Minoan Crete
from ca. 3000 to 1000 B.C. P/NP or letter grading.
Mr. Preziosi
M102B. Mycenaean Art and Architecture. (Form-
erly numbered 102B.) (Same as Classics M135B.) Lec-
ture, three hours. Prerequisite: course 50. Study of
development of art and architecture in Mycenaean
Greece and Mycenae from ca. 2000 to 1000 B.C. P/NP or
letter grading.
Mr. Preziosi
M102C. Archaic Greek Art and Archaeology. (Same
as Classics M135C.) Lecture, three hours.
Prerequisites: course 50, Classics 10 or equivalent.
Study of development of art and architecture of Greek
world from approximately 800 through 490 B.C. P/NP
or letter grading.
Ms. Downey, Mr. Preziosi
M102D. Classical Greek Art and Archaeology. (Same
as Classics M135D.) Lecture, three hours.
Prerequisites: course 50, Classics 10 or equivalent.
Recommended: upper division classics or Greek
Studies. Study of development of art and architecture
of Greek world from approximately 490 through 350
B.C. P/NP or letter grading.
Ms. Downey, Mr. Preziosi
M102E. Hellenistic Greek Art and Archaeology. (Formerly
numbered 103B.) (Same as Classics M135E.) Lecture,
three hours. Prerequisites: course 50, Classics 10 or equivalent.
Study of development of art and architecture of Greek
world from middle of the 4th century B.C., including transmi-
tant of Greek art forms to the Romans. P/NP or
letter grading.
Ms. Downey, Mr. Preziosi
M102F. Etruscan Art. (Formerly numbered 103D.) (Same
as Classics M135F.) Lecture, three hours.
Prerequisite: course 50. Arts of italic peninsula from ca.
900 B.C. to end of the Roman Republic. P/NP or
letter grading.
Ms. Downey, Mr. Preziosi
M102G. Roman Art. (Formerly numbered 103C.) (Same
as Classics M135G.) Lecture, three hours.
Prerequisite: course 50. Art and architecture of Rome
and Italy from ca. 300 B.C. to A.D. 300. P/NP or
letter grading.
Ms. Downey, Mr. Preziosi
M102H. Late Roman Art. (Formerly numbered 103E.) (Same
as Classics M135H.) Lecture, three hours.
Prerequisites: courses 50, M102G. Art of Ro-
man Empire from the 2nd through 4th century (A.D.).
P/NP or letter grading.
Ms. Downey, Mr. Preziosi


C115D. Art of Early China, Neolithic to 210 B.C. Lecture, three hours. Geneses of Chinese civilization in light of new archaeological finds, including sites and works of art (e.g., ceramics, bronzes, jades). Concurrently scheduled with course C261A. P/NP or letter grading.

C115E. Art and Material Culture of Early Imperial China, Han to T'ang (210 B.C. to A.D. 600). Lecture, three hours. Palaces and tombs of early imperial dynasties, impact of Buddhist art (cave temples), rise of new media and technologies. Concurrently scheduled with course C261B. P/NP or letter grading.

Mr. von Falckenhausen

C117. Chinese Art from Ming Dynasty to the People's Republic, 908 to the Present. Lecture, three hours. Prerequisite: course 117B or consent of instructor. Study of selected cultures of southern Mesoamerica from ca. 1200 B.C. to the Conquest, with particular emphasis on history and iconography. Concurrently scheduled with course C218B. P/NP or letter grading.

Ms. Klein

C117B. Pre-Columbian Art of the Maya. Lecture, three hours. Prerequisite: course 117A or consent of instructor. Study of art of selected cultures of northern Mesoamerica from ca. 1200 B.C. to the Conquest, with emphasis on historical and iconographic problems. Concurrently scheduled with course C218A.

Ms. Klein

C117C. Pre-Columbian Art of the Andes. Lecture, three hours. Prerequisite: course 55B or consent of instructor. Study of art of selected cultures of southern Mesoamerica from ca. 1200 B.C. to the Conquest, with particular emphasis on history and iconography of art of Peru. Concurrently scheduled with course C218C. P/NP or letter grading.

Ms. Klein

C118A. Arts of Oceania. Lecture, three hours. Prerequisite: course 55A or consent of instructor. Survey of arts of the major island groups of the Pacific, emphasizing style-regions and broad historical relationships.

Ms. Klein

C118C. Arts of Sub-Saharan Africa. Lecture, three hours. Survey, with emphasis on sculpture, of selected traditions within a style-region framework.

C118D. Arts of Native North America. Lecture, three hours. Prerequisite: course 55A or consent of instructor. Survey of painting, sculpture, and other arts from the Eskimo to peoples of the Caribbean and Southwestern U.S.

Ms. Klein

C118E. Advanced Studies in Non-Western Art. Lecture, three hours. Prerequisite: course 118A or 118C or 118D or consent of instructor. Selected topics in arts of non-Western peoples which reflect interests of new media and technologies. Concurrently scheduled with course C216A.

C119A. Advanced Studies in African Art: Western Africa. Lecture, three hours. Selected topics in arts of peoples living west and north of Cameroon, with emphasis on special problems of theory and method. Concurrently scheduled with course C216B.
127. Undergraduate Seminar. Lecture, three hours. Prerequisite: junior standing or consent of instructor. Selected aspects of art history explored through readings, discussions, research papers, and oral presentations. May be repeated twice.

197. Honors Course. Hours to be arranged. Prerequisites: 3.0 GPA overall, 3.5 in major, junior or senior standing, consent of instructor. Individual studies for majors. May be repeated once for credit.

198. Special Studies in Art (2 to 8 units). Hours to be arranged. Prerequisites: 3.0 GPA in major, senior standing, and consent of instructor. Individual studies for majors. Eight units may be applied toward the major. P/NP or letter grading.

Graduate Courses

All courses may be repeated for credit (unless otherwise noted) on recommendation of the adviser; they are not open to undergraduate students.

200. Art Historical Theories and Methodologies. Discussion, three hours. Critical examination of historiography of art history, with studies of various theoretical, critical, and methodological approaches to visual arts from antiquity to the present.

201. Topics in Historiography of Art History. Discussion, three hours. Focused studies of various theoretical and critical traditions within art history, concentrating on particular time periods, geographical areas, artistic traditions, or the work of one or more authors.

202. Topics in Theory and Criticism in Art History. Discussion, three hours. Focuses on selected topics in arts and architectural traditions of specific 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.

203. Museum Studies. Seminar, two hours. Various aspects of museum activities: concepts and historical evolution of art museums and collecting; methodology of exhibitions; problems involved in acquisition and evaluation of works of art.

204. Restoration, Preservation, and Conservation. Seminar, two hours. May not be repeated.

205. Studies in Prints. Seminar, two hours. Critical studies in history and connoisseurship of graphic arts in the Western world, or individual studies often culminate in professionally directed exhibitions produced by Grunwald Center for the Graphic Arts.

206. Studies in Drawings. 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.

210. Egyptian Art. Seminar, two hours. Prerequisites: course 101A, 101B, 101C, or consent of instructor. Art and architecture of the Late period and Greco-Roman period. Students should be ready to prepare for every meeting a brief selection from an archaeological memoir, not to exceed 10 minutes. Seminar.

211. Topics in Aegean Art. Seminar, two hours. Prerequisites: courses 101A, 101B, or 101C. Art and architecture of ancient Greece, and of the Cyclades, or Western Anatolia. Mr. Preziosi.

212A. American Art before the Civil War. Lecture, three hours. Painting and sculpture in the U.S. from 1800 to 1860. Concurrently scheduled with course C112A. Ms. Whitting

212B. American Art in the Gilded Age, 1860-1900. Lecture, three hours. Painting, sculpture, and architecture in the U.S. from the Civil War to turn of the century. Concurrently scheduled with course C112B. Ms. Whitting

212C. 20th-Century American Art. Lecture, three hours. Painting and sculpture in the U.S. from 1900 to the present. Concurrently scheduled with course C112C. Ms. Whitting

213. Advanced Studies in Islamic Art. Seminar, two hours. Art and architecture of Islamic art (Spain to Iran) from the 7th to 17th century. Monumental and theoretical problems related to Islamic culture and artistic production. Ms. Biermann


215A. Advanced Studies in African Art: Western Africa. Lecture, three hours. Selected topics in arts of peoples living west and north of Cameroon, with emphasis on special problems of theory and method. Concurrently scheduled with course C119A.

215B. Advanced Studies in African Art: Central Africa. Lecture, three hours. Prerequisite: course 55B or consent of instructor. Study of art of selected cultures of central Africa, with emphasis on special problems of theory and method. Concurrently scheduled with course C119B.

216A. Pre-Columbian Art of Mexico. Lecture, three hours. Prerequisite: course 55B or consent of instructor. Study of art of selected cultures of Mexico from ca. 1400 B.C. to the Conquest, with emphasis on historical and iconographic problems. Concurrently scheduled with course C117B.

217. Pre-Columbian Art of the Maya. Lecture, three hours. Prerequisite: course 55B or consent of instructor. Study of art of selected Maya-speaking cultures of southern Mesoamerica from ca. 2000 B.C. to the Conquest, with particular emphasis on history and iconography. Concurrently scheduled with course C117B. Ms. Klein

218C. Pre-Columbian Art of the Andes. Lecture, three hours. Prerequisite: course 55B or consent of instructor. Study of art of selected cultures of Columbia, Ecuador, Peru, and Bolivia from ca. 4000 B.C. to the Conquest, with particular emphasis on history and iconography of art of Peru. Concurrently scheduled with course C117B. Ms. Klein.

219A. Oceanic Art. Discussion, two hours. Prerequisite: consent of instructor. Studies in selected topics in the art of Pacific islands. Ms. Klein.

219B. Pre-Columbian Art of the Andes. Discussion, two hours. Prerequisite: consent of instructor. Studies in selected topics in the art of pre-Hispanic Latin America. Ms. Klein.

219C. African Art. Discussion, two hours. Prerequisite: consent of instructor. Studies in selected topics in the art of sub-Saharan Africa. Ms. Klein.


228. Renaissance and Baroque Paleography. Seminar. Prerequisites: knowledge of Latin, working knowledge of Latin. Workshop approach to documents containing Latin or Arabic manuscripts. Concurrently scheduled with course C115D. Mr. Pedretti.

230. Italian Renaissance Art. Seminar, two hours. Prerequisite: knowledge of Italian. Study of a variety of aspects of Leonardo's approach to art in terms of sources and impact on followers. Mr. Pedretti, Ms. Woods-Marsden.

231. Leonardo and Renaissance Theory of Art. Seminar, two hours. Prerequisite: knowledge of Italian. Study of various aspects of Leonardo's theoretical approach to art in terms of sources and impact on followers. Mr. Pedretti.

235. Northern Renaissance Art. Seminar, two hours. Prerequisite: knowledge of German. Emphasis on selected topic (e.g., particular artist, trend, or problem). Research papers and oral reports required.

240. Baroque Art. 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.

244. Topics in European Art from 1700 to 1900. Seminar, two to three hours.

245. European Art from 1700 to 1900. Seminar, two to three hours.


253. Modern Art. Seminar, two hours. Changing tots in modern art (including illustration and other popular forms) which reflect interests of particular faculty members. Political and economic factors affecting arts of France and Germany at various times.

255. American Art. Seminar, two hours. Prerequisite: course C112A or C112B or C112C or consent of instructor, depending on topic. Topics in American art from Colonial period to the present. Discussion of weekly readings, student oral presentations, and papers.

257. Advanced Indian Art. Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Concurrently scheduled with course C115A. Mr. Brown.


260A. Indian Art. Formerly numbered 260L. Lecture, two hours. Advanced studies in secular and religious artistic traditions of India. S/U or letter grading.


Asian American Studies (Interdepartmental)

3230 Campbell Hall, (310) 825-2974

Professors
Edna Bonacich, Ph.D. (Sociology, UC Riverside)
Lucie C. Cheng, Ph.D. (Sociology)
John N. Hawkins, Ph.D. (Economics)
Snehendu B. Kar, Dr.P.H., M.Sc. (Community Health Sciences), Chair
Geraldine V. Padilla, Ph.D. (Nursing)
Stanley Sue, Ph.D. (Psychology)
Harry H.L. Kitano, Ph.D., Emeritus (Social Welfare)

Associate Professors
King-Kok Cheung, Ph.D. (English)
James E. Lubber, D.S.W. (Social Welfare)
Valerie J. Matsunoto, Ph.D. (History)
Robert A. Nakamura, M.F.A. (Film and Television)
Don T. Nakaniishi, Ph.D. (Education)
Paul Ong, Ph.D. (Urban Planning)

Assistant Professors
Pauline Agbayani-Siewert, Ph.D. (Social Welfare)
Chu-Fun Cindy Fan, Ph.D. (Geography)
Wei-Yin Hu, M.A. (Acting (Economics)
Marjoree Kagawa-Singer, Ph.D. (Community Health Sciences)
Jenny Kang, J.D. (Law)
Jing Ling, Ph.D. (English)
David Wong Louie, M.F.A. (English)
Ailee Moon, Ph.D. (Social Welfare)
Kye Young Park, Ph.D. (Anthropology)
Michael Salman, Ph.D. (History)
Shu-mei Shih, Ph.D. (East Asian Languages and Cultures)
Cindy Yee-Bradbury, Ph.D. (Psychology)
Henry Yu, Ph.D. (History)
Min Zhou, Ph.D. (Sociology)

Adjunct Associate Professor
Yu Ichikawa, Ph.D. (History)

Visiting Assistant Professor
David T. Takeuchi, Ph.D. (Psychiatry and Biobehavioral Sciences)

Scope and Objectives
The Asian American Studies Program, an interdepartmental program supported by the Asian American Studies Center, promotes the study of Asian and Pacific peoples in the U.S. from several disciplines. The undergraduate program provides a general introduction to Asian American studies for those who anticipate advanced work at the graduate level or careers in research and community work related to the Asian American. An undergraduate major in Asian American studies is pending final approval. Students currently can pursue the undergraduate specialization. The graduate program leads to the M.A. degree.

A major goal of the program is to communicate the experiences of Asians as an American ethnic group. Courses examine the important issues and concerns of Asian Americans, including their history, mental health, social organization, and culture.

Special Undergraduate Program
Preparation for the Specialization
Required: Asian American Studies 100A-100B.

Upper Division
Since this is not a degree-granting program, students participating in it must complete an organized major.

For further information on the undergraduate specialization, contact the Curriculum Coordinator, Asian American Studies Center, at the above address.

Master of Arts Degree
Admission
In addition to the University's minimum requirements, applicants are expected to present evidence of their previous interest in Asian American studies through courses taken at the undergraduate level, by research papers written independently or for related classes, or by work experience in an Asian American community. In any case, applicants are required to submit a paper or article, preferably on Asian Americans, directly to the Asian American Studies Program (3230 Campbell Hall, UCLA, Los Angeles, CA 90024-1546) as part of their application. Three letters of recommendation are also required.

Major Fields
Since the program is interdepartmental, its major fields are determined by the participating faculty members from various departments.

Research Tool or Language Requirement
Prior to advancement to candidacy, you must fulfill one of the following requirements:

1. Foreign Language — Two years of university coursework or equivalent in an Asian language. This requirement may be fulfilled before entering the program, but you must pass a proficiency examination administered by the interdepartmental committee.

2. Research Methods — Three upper division or graduate courses in research methods with grades of B or better (e.g., statistics, computer science, field and observational techniques, or archival methods). Courses should be selected from the interdepartmental committee's approved list.

You must justify your requirement choice in a written statement. The rationale must specify the courses selected and how they directly relate to research and career goals.

Course Requirements
A total of 11 upper division and graduate courses is required for the degree. Of that number, seven must be graduate courses, including the required Asian American Studies
Thesis Plan

In partial fulfillment of the requirements for the M.A. degree, you are required to complete either one of two thesis plans or a comprehensive examination.

Plan A (Thesis) — The thesis is intended to provide the opportunity for independent scholarly research on the historical and contemporary experiences of the Asian American population. It should be an original contribution to the field and the length and quality of a publishable journal article. You are expected to submit a research plan to your thesis committee for approval at the beginning of Fall Quarter of your second year in residence. After your thesis is approved and completed, the committee conducts an oral examination on its subject, usually in Spring Quarter of your second year. Academic credit for thesis research and preparation is given through Asian American Studies 598.

Plan B (Field Research Thesis) — A field research thesis is recommended for students who are interested in the practical application of what they have learned in their graduate coursework or who are intending to pursue careers with Asian American community organizations and agencies. Your field research thesis committee meets with you to approve your project plan at the beginning of Fall Quarter of your second year in residence. After your thesis is completed, the committee conducts an oral examination on the written report of the project, usually in Spring Quarter of your second year. Academic credit for field research is given through course 596 or 598.

Comprehensive Examination Plan

You may elect to complete the M.A. degree by taking a written comprehensive examination based on an annually updated "Approved List of Core Works in Asian American Studies," a collection of approximately 200 of the most significant scholarly and creative books, novels, articles, and reports in the field of Asian American studies. The examination is normally offered during the break between Winter and Spring Quarters. You must notify the program chair of your intent to take the examination at least one academic term before it is administered. If you fail the examination, you may repeat it once. Academic credit for examination preparation is given through Asian American Studies 596.

Lower Division Course

21. Asians and Pacific Islanders in American Society. Lecture, three hours; discussion, one hour. Prerequisite: sophomore standing. Survey of Asian and Pacific Islanders in the U.S. Topics include origins and history of migration to the U.S., social movements, ethnic images in literature and art, communities in the U.S. and California, and current issues. P/NP or letter grading. Mr. Ling

Upper Division Courses

100A-100B. Introduction to Asian American Studies. Introductory course on Asian American studies. 100A. History of Asians in America; 100B. Contemporary Asian American Communities. 101A. Field Studies Methods in Asian Pacific Communities. Lecture, three hours. Prerequisite: one course from Asian American Studies 100A through 197Z. Development of community profiles on Asian Pacific American communities of students' choice using various field studies techniques of data collection. P/NP or letter grading. 101B. Internships in Asian Pacific Communities. Discussion, 90 minutes; fieldwork, eight hours minimum. Prerequisite: course 101A or another Asian American studies course (except 199) or consent of instructor. Integrates academic and empirical work by providing students the challenge of performing public service and community work in Asian Pacific or other multicultural communities, and of bringing their ongoing internship experiences back to classroom. P/NP or letter grading. 102. Asian American Literature. (Same as English M102). Prerequisite: satisfaction of Subject A requirement. Prose and poetry by Americans of Chinese, Japanese, Filipino, and Korean origins. Study of interaction of autobiography and fiction, nourishing and limiting influences of mainstream American and Asian literary traditions, and conflict between ideological and literary criteria. Ms. Cheung, Mr. Ling

103. Asian Americans and the Law. Survey of major laws directed specifically toward Asian Americans from 1850 to World War II and relocation. Major subject areas include Japanese relocation orders, anti-Asian labor regulation, immigration, internment, and against Asians' right to testify, case law on Asian women, and legal education of Asian women. P/NP grading. 104. Asian American Women. Lecture, three hours. Condition of Asian women in America. Topics include racial and cultural stereotypes, women in Asian American history, and contemporary issues and concerns of Asian American women. Current approaches to Asian American women presented and evaluated. P/NP grading. 105. Asian American Personality and Mental Health. (Same as Psychology M107) Lecture, three hours. Prerequisite: Psychology 10. Foundations of personality development and mental health among Asian Americans. Topics include culture, family patterns, achievements, stress, resources, and immigrant and minority group status. Mr. Sue, Ms. Yee-Bradbury

119. Asian American Aesthetics. (Same as World Arts and Cultures M152.) Lecture, four hours; outside study, four hours. Limited to junior and senior students. Exploration of shared and distinctive aspects of aesthetics found among groups of Asian Americans through lectures, readings, and field study. Formal and informal expressions of the culture, with focus on origins, artists, activists, and reinterpretations of culture through the arts. Individual project required, P/NP or letter grading.

M132A. Korean American Literature. (Same as Humanities M168) Seminar, three hours. Comprehensive introduction to Korean American literature, with emphasis on Korean American experience, problems of gender, race, and class, nationalism, gender and sexual relationships, and impact of traditional Korean culture on Korean American literature. P/NP or letter grading. Ms. Shih (F)

M132B. Chinese Immigrant Literature in America. (Same as Humanities M171) Seminar, three hours. Lecture, two hours; outside study, nine hours. Examination of works of Chinese literature in diaspora — literature written in Chinese by first-generation Chinese Americans. All works read in English translation; films shown with English subtitles. P/NP or letter grading. Ms. Shih


M196A-196E. Critical Issues in U.S.-Asian Relations. (Formerly numbered 196A-196E.) Prerequisite: sophomore standing. Critical examination of U.S. involvement in specific Asian countries, including study of historical, political, and socioeconomic factors that shape relations between Asia and the U.S. Exploration of impact of relationships in the Pacific Rim, as well as on Asian Americans and the Asian American experience. Consult Asian American Studies Center for topics to be offered in a specific term. P/NP or letter grading. 196A. The U.S. and the Philippines. (Same as History M153) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Recommended (but not prerequisite) knowledge of Southeast Asian or U.S. history, or both. Examination of interrelationships of immigration and of colonialism and independence between the U.S. and the Philippines, focused mainly within the time period from 1898 to the present. 196B. U.S.-Korean Relations. Lecture, three or four hours. Exploration of U.S.-Korean relations from independence (1945) to the present. 196D. U.S.-Japan Relations; 196E. U.S.-China Relations. (F,W,Sp)

M197A-197Z. Topics in Asian American Studies. (Formerly numbered 197.) Lecture, three to four hours; discussion, one hour. Prerequisite: junior/senior standing. Variable topics in Asian American studies on selected issues in education, literature, social process, public policy, and economic development. P/NP or letter grading.

M197A. Introduction to Indo-American Studies. (Same as Community Health Sciences M197A) Lecture, three hours. Prerequisite: junior/senior standing in Asian American studies or at least one course in Southeast Asian or Indian history or consent of instructor. Introductory study of Indian American immigration experiences in the U.S., including historical background, demographics, immigration policies and effects, and adaptation experiences. Class projects include sample survey of quality of life, annotated bibliography, and review of creative works. Mr. Kar (Sp)

M197B. Investigative Journalism and Communities of Color. (Same as Afro-American Studies M197B) Lecture, three hours. Prerequisite: instructor consent. Exploration of dimensions of power and oppression as these relate to communities of color. Coursework stresses learning by doing, with students required to apply their knowledge through writing for campus and community media. Mr. Omatu
M197H. Culture, Media, and Los Angeles (6 units). (Same as African-American Studies M102 and Honors Collegium M102.) Lecture, four hours; screenings, two hours. Role of media in society and its influence on contemporary cultural environment, specifically in Los Angeles; issues of representation as they pertain to race, ethnicity, gender, and sexuality. Mr. Gabriel (Sp)

199. Special Topics in Asian American Studies (2 to 4 units). Prerequisites: course 100A or 100B or comparable knowledge in Asian American studies, junior or senior standing, consent of instructor. Special individual studies on topics such as ethnic literature, public policies, social development, immigrant education, and/or social policies related to Asian American studies. May be repeated for a maximum of eight units.

Graduate Courses

200A. Critical Issues in Asian American Studies. Prerequisites: graduate standing, consent of instructor. 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/social/psychological issues.

Ms. Matsumoto (F)

200B. Critical Issues in Asian American Communities. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Evaluation of traditional and contemporary theories and models of community for their appropriateness to understanding Asian Pacific American communities. Consideration of specific topics which elucidate development, structure, and dynamics of Asian Pacific American communities in studying community issues and concerns.

Ms. Park (W)

200C. Critical Issues in Asian American Studies. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Critical review of research methods, strategies, and philosophies in Asian American studies.

Mr. Nakanishi (Sp)

M251. Issues in Third World Literatures and Cultures. (Same as Comparative Literature M274.) Seminar, three hours; outside study, nine hours. Prerequisite: consent of instructor. Investigation of power, gender, and race in the complex relationships between the so-called First World and Third World, using both theoretical and textual approaches. S/U or letter grading.

M257A-257Z. Topics in Asian American Studies. (Formerly numbered 257.) Prerequisite: graduate standing or consent of instructor. Selected topics in Asian American studies.

M257A. Topics in Asian American Literature. (Same as English M260A.) Lecture, three hours. Graduate seminar that examines and critically evaluates writings of Asian Americans.

Ms. Cheung

M257B. Asian Migration to the U.S. (Same as Urban Planning M242A.) Emphasis on Asia as major 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, and policy issues. S/U or letter grading.

M257C. Urbanization in Asia — Policy Issues and Problems. (Same as Urban Planning M242B.) Urbanization in less-developed countries in Asia with special emphasis on its peculiar features and characteristics, and relationship of urbanization to the development process. Topics include urbanization development, structural and policy determinants of urbanization, urban policy and strategies, and country case studies. S/U or letter grading.

M257D. Asian Americans and Legal Ideology. (Same as Law M315.) Exploration of Asian American experience as it relates to American legal system, considering both dominant and oppositional conceptions of law. Consideration of primary historical documents to examine ways Asian Americans have been victims of the legal system, as well as astute manipulators of the legal system.

490. Writing Workshop for Graduate Students (2 units). Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Practice in writing reports, 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.

Ms. Cheung

596. Directed Individual Study or Research (2 to 8 units). Hours to be arranged. Prerequisite: consent of instructor.


Related Courses in Other Departments

Anthropology M154. Women in Culture and Society

167. Urban Anthropology

177. Cultures of the Pacific

231. Asian Americans: Personality and Identity

274. Cultures of the Pacific Islands

Architecture and Urban Design 258. Urban Morphology

Education 204D. Minority Education in Cross-Cultural Perspective

253G. Seminar: The American and Education

English M102. American Literature

M260A. Topics in Asian American Literature

Film and Television 126. Media and Ethnicity

Geography 142. Population Geography

144. Ethnicity in the American City

History M153. The U.S. and the Philippines

154A-154B. U.S. Urban History

155A-155B. American Working Class Movements

160. The Immigrant in America

161. Asians in American History

163. History of California

184. 20th-Century China

187C. Japanese History: Modern, 1868 to the Present

200H. Advanced Historiography: U.S.

201H. Topics in History: U.S.

245. Colloquium: U.S. History

252A-252B. Seminars: Recent U.S. History to 1930

254A-254B. Seminars: U.S. Social and/or Intellectual History

256A-256B. Seminars: American Diplomatic History

257A-257B. Seminars: U.S. Urban History

258A-258B. Seminars: Working Class History

259A-259B. Seminars: Social History of Women in the U.S.

263A-263B. Seminars: History of the American West

264. History of American Education

282A-282B. Seminars: Chinese History

285A-285B. Seminars: Modern Japanese History

Library and Information Science 111D. Ethnic Groups and their Bibliographies: Asian American History and Culture

Political Science 135. International Relations of China

136. International Relations of Japan

144A. Ethnic Politics: Chicano/Latino Politics

144B. Ethnic Politics: African American Politics

159. Chinese Government and Politics

160. Japanese Government and Politics

242. Chinese and East Asian Studies

243. Japanese and Western Pacific Studies

Psychology 175. Community Psychology

225. Seminar: Critical Problems in Social Psychology

M229A. Proseminar: Political Psychology

M228B. Seminar: Political Psychology

297. Issues in Social Development of the Minority Child

Sociology 156. Ethnic and Status Groups

158. Urban Sociology

160. Intergroup Conflict and Prejudice

188. Comparative Social Institutions of East Asia

234. Sociology of Community Organization

259. Social Structure and Economic Change: Historical and Comparative Perspectives

260. Economy and Society

261. Ethnic Minorities

M262. Selected Problems in Urban Sociology

276. Selected Topics in Sociology of East Asia

291. Moral Solidarity in Communities

Theater 102E. Theater of Non-European World

202R. Seminar: East Asian Theater

202S. Seminar: South Asian Theater

202T. Seminar: Southeast Asian Theater

Urban Planning 197. Planning for Minority Communities

251. Planning for Multiple Publics

256. Social Impact Analysis

Astronomy* 8979 Math Sciences, (310) 825-4434

Professors Eric C. Becklin, Ph.D.

David B. Clune, Ph.D.

Ferdinand Coroniti, Ph.D.

Michael A. Jura, Ph.D.

Matthew Malkani, Ph.D.

Ian McLean, Ph.D.

Mark Morris, Ph.D., Chair

William I. Newman, Ph.D.

Roger K. Ulrich, Ph.D.

Edward L. Wright, Ph.D.

Benjamin Zuckermandel, Ph.D.

Lawrence H. Aker, Ph.D., Emeritus

Mirek Pavec, Ph.D., Emeritus

Daniel M. Popper, Ph.D., Emeritus

Associate Professor Jean L. Turner, Ph.D.

Assistant Professor Andrea Ghez, Ph.D.

Scope and Objectives Astronomy, the oldest science, has now become a meeting place of nearly all physical sciences. It is difficult for any educated person to escape the awe and wonder of such things as the nature of the other planets, the likelihood of black holes in space, the origin and future of the universe, and the possibility of life elsewhere.

*The faculties of the Departments of Astronomy and Physics have proposed a merger of the two units into a new Department of Physics and Astronomy. If adopted, the proposal would be effective as of July 1, 1994. All degrees associated with current programs would continue to be offered.
The Astronomy Department, therefore, has several educational missions: to develop skills in graduate students which will enable them to make contributions at the frontier of astronomical research, to prepare undergraduate majors for entry into a graduate program, and to provide insight and understanding for nonmajors and nonscience students.

Graduate training of future astronomers, up to the Ph.D. level, is the department's first responsibility. Applicants must have solid backgrounds in physics and mathematics. The program provides training in both theoretical and observational astronomy. Its strengths, at present, are in solar physics, stellar structure and evolution, magnetohydrodynamics, gaseous nebulae and interstellar medium, infrared instrumentation, galaxies, quasars, and observational and theoretical cosmology.

The department's second responsibility is to the undergraduate astrophysics major who hopes for a career in astrophysics. Some Bachelor of Science degree recipients go on to graduate work; some opt for teaching careers, for which their training in physics, astrophysics, and mathematics is most useful; still others find excellent jobs in industry, where their broad background in physical science with a specialty in astrophysics makes them particularly valuable (especially in computer science, space, and aeronautical fields).

Classes for Nonmajors
The department offers general courses to all University students, including those who are not science oriented.

The Astronomy 2A-2B two-term sequence covers the material in courses 3, 4, and 6. You may take one sequence or the other, but not both.

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. If you have an astronomical introductory course in high school, you should take either courses 2A-2B, or 3H.

Astronomy 4, 5, and 6 develop the topics covered in course 3 to somewhat greater depths. They use more mathematics but are still aimed at nonscience majors. Course 4 details the stars and stellar systems; course 5 concentrates on the problem of life in the universe; course 6 discusses endpoints of stellar evolution and the structure and evolution of the universe. These three courses may be taken in any order by students with a grade of C or better in course 3, or whose astronomical knowledge is on a similar level.

Students who have had at least two courses in high school algebra and one course in trigonometry are advised to take, instead of Astronomy 3, the parallel honors course, Astronomy 3H. Declared or potential majors in astrophysics or in physical sciences should take course 3H if they need an elementary introductory course in astronomy.

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 8 series and two terms of the Mathematics 31/32 series).

Students of junior and senior standing in physics or related sciences are invited to select any of these courses: 115, 117, 127, 140, 180.

Bachelor of Science in Astrophysics
Preparation for the Major
Required: Astronomy 81, 82, Physics 8A/BAL, 8B/8BL, 8C/8CL, 8D/8DL, 8E, Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 3 or 10A. Recommended: Astronomy 3H, Chemistry and Biochemistry 11A. Systematic study of astrophysics should begin with Astronomy 81 and 82, taken in the second year.

The Major

Honors Program
Senior majors in astrophysics with a 3.4 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, you must complete two terms of Astronomy 199. To receive honors and highest honors at graduation, your grade-point average must remain at 3.4 or better, and your work in course 199 must reflect original research and be accepted by the departmental honors committee.

Graduate Study
Admission
The basic requirement for admission is a bachelor's degree in physics or astronomy. Students in closely related fields (e.g., mathematics or chemistry) may be admitted at the discretion of the department. All students who apply should submit at least three letters of recommendation and take the Graduate Record Examination (GRE) General Test and Subject Test in Physics. For further information, contact the Graduate Adviser, Department of Astronomy, 5-164 Knudsen Hall, UCLA, Los Angeles, CA 90024-1547.

New students and those who have not been admitted to candidacy for the Ph.D. should consult with the graduate adviser at the beginning of Fall Quarter to determine a program for the year.

Master of Science Degree
Course Requirements
Nine courses are required for the master's degree, of which at least five must be at the graduate level in astronomy (excluding Astronomy 200). The B segments of the graduate multiple-term courses (Astronomy 204B, 208B, 217B, 219B, 227B, 230B) count as 1.5 courses each for the purpose of receiving degree credit. Courses taken in the 300 or 500 series may not be applied toward the total course requirement or the graduate course requirement.

Comprehensive Examination Plan
To receive the master's degree, you must obtain at least a B average in all the departmental written comprehensive examinations taken. The examinations are divided into sections, with one section for each course in the A or B series that you may apply toward the M.S., M.A.T., or Ph.D. requirements. The examination is scheduled at the time the final examination for the course would normally be scheduled and is letter graded. You may repeat failed courses for credit but may not repeat the departmental examinations for departmental credit.

Master of Arts in Teaching
The department is not admitting students to the program at this time.

Course Requirements
Nine courses are required for the academic portion of the M.A.T. program. They must include at least five graduate courses in astronomy (excluding Astronomy 200), mathematics, or physics, or 100- or 200-series courses in education required for the instructional credential. The B segments of the graduate multiple-term courses (Astronomy 204B, 208B, 217B, 219B, 227B, 230B) count as 1.5 courses each for the purpose of receiving degree credit. Although it does not count toward degree credit, Physics 370 is also required. Courses taken in the 300 or 500 series may not be applied toward the total course requirement or the graduate course requirement.

In order to obtain a secondary credential with the M.A.T. in Astronomy, additional courses in education, including supervised teaching, should be taken.

Comprehensive Examination Plan
This plan is the same as for the M.S. degree.

Ph.D. Degree
Course Requirements
Required for the degree are Astronomy 200, 204A, 208A, 217A, 219A, 227A, 230A; at least four courses from 204B, 208B, 217B, 219B, 227B, 230B; and at least two courses (projects) from 204C, 208C, 217C, 219C, 227C, 230C. You are required to take course 250 each term in residence.
Teaching Experience
Before receiving a Ph.D., you are required to spend at least three terms as a teaching assistant at UCLA or have equivalent experience elsewhere.

Comprehensive Examinations
The departmental written comprehensive examinations are the same as described under the M.S. degree. To be qualified to go on to the Ph.D., you must receive a minimum score on these examinations.

After the written comprehensive examinations are completed, you must then fulfill the normal University requirements for a dissertation and pass the University Oral Qualifying Examination.

Projects
During the Fall Quarters of your second and third years, you are expected to complete a research project. You should work closely with one of the staff both when the project subject is selected and throughout the course of the work. The project may be a continuation of work begun during the preceding Spring Quarter; the goals of the project should be selected to reflect the amount of work completed in the Spring Quarter.

Evaluation of the project is based as much on the quality of the written report as on the quality of the research itself. The project report should include statements of the project goals, the relationship of the project to broader issues in astronomy, the techniques selected to attack the project problem, and the reasons for this choice. If the project is original and interesting, but incomplete, you are encouraged to complete it later, but the grade assigned is based on the portion completed by the end of the Fall Quarter.

Final Oral Examination
You must pass a final examination after completing your dissertation.

Lower Division Courses
2A-2B. Introduction to the Physical Universe. Lecture, three hours; discussion, one hour. Thorough introductory survey of astronomy for students not planning to major in physical sciences. Same topics as course 3 but in greater depth, with emphasis on physical reasoning. 2A. Planets and Stars; 2B. Galaxies and Cosmology. Enforced requisite: course 2A (C or better).

3. Astronomy: Nature of the Universe. Lecture, three hours; discussion, one hour. Not open to students with credit for or currently enrolled in course 3H or 81 or 82. No special mathematical preparation required beyond that necessary for admission to the University in freshman standing. Course for general University students, normally not intending to major in physical sciences, on development of ideas in astronomy and what has been learned of the nature of the universe, including recent discoveries and developments.

3H. Introductory Astronomy and Astrophysics. Lecture, three hours; discussion, one hour. Not open to students with credit for or currently enrolled in course 3. Introduction to astronomy and astrophysics for students who are seriously interested in science. Requires ability to understand mathematical and physical concepts, but high school algebra and trigonometry classes provide sufficient qualification. Particularly recommended for declared or potential majors in astrophysics or in physical and mathematical sciences.

4. Universe of Stars and Stellar Systems. Lecture, three hours; discussion, one hour. Enforced requisite: course 3 or 3H. Essentially nonmathematical course for general University students with previous introduction to astronomy; sequel to course 3, dealing in greater detail with stars and stellar systems. Various observed types of stars in relation to their internal structure and evolutionary state. Interacting binary stars, pulsating stars, explosive stars (novae and supernovae). Mass loss from stars, stellar wind, Galactic and planetary nebulae and their relation to stars. Interstellar medium. Initial stages of stellar evolution (protostars, T Tauri stars) and final stages (degenerate and collapsed stars). Stellar systems from our galaxy to clusters of galaxies.

5. Life in the Universe. 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 the complex. Course material provides background in astronomy, biology but includes some chemistry, geology, and physics. Selected topics treated in some depth, but with little or no formal mathematics.


7. Stars and Nebulae. Lecture, three hours; laboratory, one hour. Enforced requisite: Mathematics 31A, 31B, Physics 8A. Open to qualified sophomores and upper division students. Survey of our knowledge about stars: their distances, masses, luminosities, temperatures, and interrelations between these parameters. Methods and importance of astrophysical variables. Stellar statistics. Planetary and gaseous nebulae.


88A-88Z. Lower Division Seminars (2 units each). Discussion, two hours; outside study, four hours. Limited to freshmen. Variable topics; consult Schedule of Classes for topics to be offered in a specific term. P/NP or letter grading.

88A. Cosmic Evolution. Varied astronomical and physical processes of evolution; discussion of how, over billions of years, basic mechanisms of cosmic evolution have transformed universe from early Big Bang into abode for intelligent life.

Upper Division Courses

117. Radiation and Fluids in Astrophysics. Lecture, three hours. Prerequisites: course 115 or equivalent and junior standing in astrophysics or physics, or consent of instructor. Emission and absorption of radiation by matter, spectroscopy, spectral lines, and radiative transfer. Hydrodynamics and shock waves. Applications to stars, to interstellar and intergalactic media, and to the early universe.

127. Stellar Atmospheres, Interiors, and Evolution. Lecture, three hours. Prerequisite: senior standing in astrophysics or physics or consent of instructor. Recommended: courses 115, 117. Physical conditions in stellar interiors. Energy production in stars. Stellar evolution from star formation through normally observed stages to white dwarfs, neutron stars, and black holes. Novae, supernovae, other variable stars, chromospheres and coronae of sun and stars. Evolution of binary stars. Analytic stellar atmospheres.

140. Stellar Systems and Cosmology. Lecture, three hours. Prerequisite: senior standing in astrophysics or physics or consent of instructor. Properties of star clusters and galaxies, with particular emphasis on Milky Way galaxy. Clusters and superclusters of galaxies. Extragalactic distance scale. Quasars and active galaxies. Topics in cosmology, including expansion of the universe, microwave background, galaxy formation from primordial fluctuations, and observational constraints on the Big Bang.

180. Astrophysics Laboratory. Lecture, two hours; laboratory, four hours. Prerequisites: junior or senior standing in astrophysics, physics, or a related field, consent of instructor. 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 of two-dimensional astronomical images.

199. Special Studies (2 or 4 units). Prerequisites: senior standing in astrophysics or physics (with an outstanding record), consent of instructor. Special studies with an individual faculty member.

Graduate Courses
Prerequisite to all graduate courses is consent of instructor. Courses 204A through 230C are offered in alternate years and consist of three terms according to the following scheme: level A (Winter Quarter, four units) — a basic survey course presenting the minimum knowledge in the field expected of all students who wish to obtain the Ph.D., but who do not necessarily plan to specialize in the field covered by the course; level B (Spring Quarter, six units) — advanced level for those considering the possibility of taking up a research project in the field; level C (Fall Quarter, following academic year, 10 units) — individual research projects supervised by the instructor in the form of a laboratory. Course 240 is equivalent to the B courses.
Atmospheric Sciences

7127 Math Sciences, (310) 825-1217, Fax (310) 206-5219

Professors
Michael Ghil, Ph.D. (Climate Dynamics)
James McWilliams, Ph.D. (Geophysical Fluid Dynamics)
Carlos R. Mechoso, Ph.D. (Atmospheric Dynamics)
Richard M. Thorne, Ph.D. (Atmospheric Physics)
Richard Turco, Ph.D. (Atmospheric Chemistry, Chair)
Roger M. Wakimoto, Ph.D. (Atmospheric Dynamics)
Michio Yanai, D.Sc. (Atmospheric Dynamics)
Aiko Arakawa, D.Sc., Emeritus
James G. Edinger, Ph.D., Emeritus
George L. Siscoe, Ph.D., Emeritus
Sethuraman V. Venkateswaran, Ph.D., Emeritus
Morton G. Wurtele, Ph.D., Emeritus

Associate Professor
J. David Neelin, Ph.D. (Atmospheric Dynamics)

Assistant Professors
Warren Bler, Ph.D. (Atmospheric Dynamics)
Robert Fovell, Ph.D. (Atmospheric Dynamics)
Suzanne Paulson, Ph.D. (Atmospheric Chemistry)

Adjunct Professors
David Halpern, Ph.D. (Physical Oceanography)
Lawrence Lyons, Ph.D. (Atmospheric Physics)

Scope and Objectives

The atmospheric 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 and climate change, 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.
Graduate Study
The Department of Atmospheric Sciences offers the M.S., C.Phil., and Ph.D. degrees.

Admission
There are no admission requirements in addition to University minimum requirements and no application form in addition to the one used by UCLA Graduate Application Processing. Three letters of recommendation are required. For departmental brochures and information, write to Department of Atmospheric Sciences, 7127 Math Sciences, UCLA, Los Angeles, CA 90024-1565. In addition to students holding bachelor's degrees in meteorology or atmospheric sciences, graduates with degrees in related disciplines — astronomy, chemistry, engineering, geophysics, mathematics, oceanography, and physics — are encouraged to apply for graduate standing in the department. Programs are arranged by consultation between the student and the department's graduate advisers, and considerable flexibility is maintained so that maximum advantage may be taken of the candidate's previous education.

Major Fields or Subdisciplines
Dynamic and synoptic meteorology; atmospheric physics and chemistry; upper atmosphere and space physics.

Master of Science Degree
Course Requirements
A total of nine courses must be completed, five of which must be in the 200 or 500 series. You must also attain a grade of B (3.0) or better in one course in each of two fields other than your field of specialization. Atmospheric Sciences C200A is required of all students without formal background in fluid dynamics, while course C200B is required of all students without formal background in atmospheric sciences. Major field requirements are as follows: atmospheric physics and chemistry — courses M203A, C203B, 203C; dynamic and synoptic meteorology — courses C201A, 201B, 201C; upper atmosphere and space physics — courses C205A, 205B, 205C.

Only one 500-series course (four units) may be applied toward the minimum graduate course requirement for the M.S. degree.

Comprehensive Examination Plan
The comprehensive examination is based on selected coursework and is conducted at the end of Fall and Spring Quarters. It is composed of two parts — one written, one oral. Grading of the examination is based on a 4.0 scale, with a 3.0 required for a pass at the M.S. level, and a 3.5 or better to continue toward the Ph.D. You are permitted two attempts to obtain the requisite grade either for termination at the M.S. level or for continuation toward a Ph.D. You are encouraged to take the examination as soon as possible. You must, however, attempt the examination by the end of your first two years of study and, if necessary, retake the examination at the earliest available time. Contact the department for the specific examination requirements of the three major fields.

The special oral examination, conducted by a three-member departmental guidance committee, is based on an individual list of topics which you select in consultation with the guidance committee members. The list should represent the equivalent of three advanced courses (one of which may be 596) in your area of research specialization.

Thesis Plan
If you have a grade-point average of 3.5 or better, you may petition the department to obtain the M.S. by writing an original thesis. The petition must be received by the graduate advisers at least one year before you complete the degree (at the end of your first year of study). Provided you maintain a high academic standard in coursework, the accepted thesis may be used instead of the comprehensive examination for continuation toward the Ph.D. program.

Ph.D. Degree
Course Requirements
Students entering the department with an M.S. degree have no specific course requirements other than Atmospheric Sciences 270 in which you must present a formal seminar attended and graded by all faculty members. The graduate advisers may, at their discretion, prescribe courses in areas in which they deem students to have insufficient background to help them in preparing to pass the comprehensive examination.

Teaching Experience
There is no formal requirement for teaching experience, but it is strongly encouraged, and approximately 65 percent of our graduate students serve as teaching assistants for one or more terms.

Qualifying Examinations
If you selected the M.S. comprehensive examination plan, you must also take an in-depth oral examination in your area of research specialization. A doctoral committee is appointed to conduct the University Oral Qualifying Examination on your selected dissertation topic and related areas, and the final oral examination which is required of all students. Each of these examinations must be passed in no more than two attempts.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
This examination is required of all students.

Lower Division Courses
1. Introduction to Weather Maps and Weather Forecasting. Lecture, three hours. Introduction to weather maps and satellite imagery and their use in making a weather forecast. Discussions also include the structure of the National Weather Service and services it provides to the general public. Course allows students to make weather forecasts for Los Angeles and surrounding counties.
   Mr. Fassamass (Sp), Mr. Turco (W)

2. Air Pollution. Lecture, three hours; discussion, one hour. Causes and effects of high concentrations of pollution in the atmosphere. Topics include sources of gaseous and particulate pollutants, their transport, dispersion, modification, and removal, with emphasis on atmospheric processes on scales ranging from individual sources to global effects; interaction with biosphere and oceans; stratospheric pollution.
   Mr. Cassmass (Sp), Mr. Turco (W)

3A. Air Pollution (5 units). Lecture, three hours; discussion, three hours. Preparation: major in physical sciences, life sciences, or engineering, or other majors who have completed Physics 6B and Mathematics 3A. Course for majors parallel to course 2; discussion section includes use of calculus. Discussion topics include composition of the atmosphere, air pollution, depletion of stratospheric ozone layer, global geochmical cycles, global greenhouse warming, polar ozone hole, nuclear winter.
   Mr. Turco (W)

3E. Introduction to the Atmospheric Environment. Lecture, three hours; discussion, one hour. Nature and causes of weather phenomena, including winds, clouds, rain, lightning, tornadoes and hurricanes, solar and terrestrial radiation; phenomena of the higher atmosphere; ionosphere and auroras; causes of air pollution; proposed methods and status of weather modification.
   Mr. Fowell (W), Mr. Lew (F,Sp)

4A. Introduction to the Atmospheric Environment (5 units). Lecture, three hours; discussion, three hours. Enforced requisite: Physics 6B. Course for majors parallel to course 3; discussion section includes use of calculus. Discussion topics include atmospheric thermodynamics, extratropical synoptic-scale disturbances, atmospheric aerosol and microphysical processes, clouds and storms, radiative processes, atmospheric chemistry.
   Mr. Law (F)

5E. Introduction to the Atmospheric Environment (5 units). Lecture, three hours; discussion, three hours. Course for students with interests in environmental studies parallel to course 3; discussion section emphasizes environmental aspects of atmospheric phenomena, with focus on scientific issues of severe weather and climate change and particular attention to those topics that are relevant to policy issues. Letter (majors) or P/NP or letter (nonmajors) grading.
   Mr. Law (Sp)

4. California Weather and Climate. Lecture, three hours; discussion, one hour. Enforced requisite: course 3 or 3A. Sequel to course 3 dealing in greater detail with atmospheric phenomena relevant to the weather of California, and nature of weather and climate of various regions of the state. Topics include extratropical cyclones and fronts, thunderstorms, severe weather, sea and land breezes, Santa Ana winds, low-level temperature inversions, air pollution, climate change, and discussion of present weather.
5. Climates of Other Worlds. Lecture, three hours; discussion, one hour. Introduction to atmospheres of planets and their satellites in the solar system using the recent reconnaissance exploration program. Elementary description of origin and evolution of atmospheres on the planets. Climates on the planets, conditions for evolution of life, and its resulting effect on planetary environment. Mr. Thorne (W)

6. Climate and Climatic Change. Lecture, three hours; discussion, one hour. Introduction to physical causes of climate, classification of climate, and global distribution of climate types. Description of climate changes over time scales ranging from lifetime of Earth to eon events. Discussion of causes of climatic change (e.g., long-term steady increase in solar luminosity, short-term fluctuations in solar luminosity, changes in Earth's orbit, changes in atmospheric composition, volcanoes, anthropogenic changes such as increased CO2 and nuclear war). State of the art in modeling and predicting climate. Mr. Bier (F)

6A. Climate and Climatic Change (5 units). Lecture, three hours; discussion, three hours. Enforced prerequisite: Physics 8D. Course for majors parallel to course 6; discussion section includes use of calculus. Discussion topics include atmospheric circulation, oceanic circulation, greenhouse effect, ice ages, ocean/atmosphere interactions, ozone hole, past climates, climate prediction. Mr. Mechosso (Sp)

6E. Climate and Climatic Change (5 units). Lecture, three hours; discussion, three hours. Course for students with interests in environmental studies parallel to course 6; discussion section places scientific and technological aspects of climate and climate change in context of societal impacts of climate variations. Discussion of modern methods used to predict climate change and their impact. Letter (majors) or P/NP or letter (nonmajors) grading. Mr. Mechosso (Sp)

8. Clouds, Rain, and Storms. Lecture, three hours; discussion, one hour. The raindrop and the ice crystal. Relation of meteorological conditions to cloud types. Precipitation mechanisms from clouds. Different scales of atmospheric cloud organization. Description and dynamics of spectacular weather systems, ranging from tornadoes to hurricanes. Severe weather forecasting. Mr. Bier (F)

88. Lower Division Seminar. Seminar, three hours. Variable topics. May include Schedule of Classes or department for topics to be offered in a specific term. P/NP or letter grading.

94. Survey of Atmospheric Sciences (2 units). Preparation: undergraduate physical sciences major. General introductory seminar on current research topics in atmospheric sciences. Students are directed in a library research project and prepare a brief class presentation/term paper under supervision of participating faculty member. P/NP or letter grading. Mr. Bier (F)

Upper Division Courses

104A. Atmospheric Thermodynamics. Lecture, three hours; discussion, two hours. Prerequisites: Mathematics 32B, Physics 8B. Basic thermodynamics, including first, second, and third laws. Atmospheric statics. Dry adiabatic processes. Phase changes of water and moist adiabatic processes. Introduction to cloud microphysics. Gravitational stability. Mr. Wakhimoto (F)


104C. Introduction to Synoptic Meteorology. Laboratory, six hours. Prerequisite: course 104B. Weather map analysis. Thermodynamic diagrams. Satellite identification. Severe weather forecast analysis. Synoptic and mesoscale weather analysis. Mr. Blier (Sp)


C142. Introduction to Atmospheric Science. Lecture, three hours; discussion, one hour. Introductory course for physical sciences, life sciences, or engineering majors interested in environmental issues. Introduction to atmospheric science, with emphasis on structure, thermodynamics, and dynamics of extratropical atmosphere. Concurrently scheduled with course C200B. Mr. Bier (W)


144. Air Pollution Meteorology. Lecture, three hours; discussion, one hour. Prerequisite: course C142 or consent of instructor. Structure of surface layer of the atmosphere, including its temperature, humidity, and winds; properties of regional weather systems and implications for air pollution transport and dispersion; turbulence and diffusion in lower atmosphere; advection transport and deposition processes for air pollutants; air pollutant source/receptor relationships in urban and regional air-sheds. Mr. Halpern (W)

145. Physics and Chemistry of Atmospheric Environ- ment. Lecture, three hours; discussion, one hour. Prerequisite: Physics 6C or 8D or consent of instructor. Introductory course for physical sciences, life sciences, or engineering majors interested in environmental issues. Structure and composition of the atmosphere; atmospheric evolution; condensation and photochemical processes; aerosol and cloud microphysical processes; radiation transfer in clear, cloudy, and polluted air; human influences on atmospheric composition and chemistry; effects on global climate. Mr. Thorne (Sp)

146. Remote Sensing of the Environment. Lecture, three hours. Prerequisite: Physics 6B or 8D or consent of instructor. Introductory course for physical sciences, life sciences, or engineering majors interested in environmental issues. Introduction to properties of radiation in the atmosphere and principles of active and passive remote sensing of atmospheres and surfaces and its application to monitoring of Earth's environment and global change. Mr. Venkateswaran (W)

151. Environmental Chemistry Laboratory. Lecture, two hours; laboratory, three hours. Laboratory experience for students who may wish to pursue a 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. Ms. Paulson (W)

C152. Physics of Clouds and Precipitation. Lecture, three hours. Recommended (but not prerequisite): Physics 110A. Thermodynamics of moist air, phase changes of water substances, latent heats, moist adiabatic processes; elementary cloud dynam- ics; cloud microstructure; microphysics of cloud droplets, nucleation phenomena, droplet hydrodynamics, coalescence processes, cloud water budgets, collection and separation mechanisms; macrostructure of clouds and storms. Concurrently scheduled with course C205B.

C153. Introduction to Solar System Plasmas. Lecture, three hours; discussion, one hour. Prerequisite: Mathematics 33A and Physics 8D, or consent of instructor. Introduction to basic plasma physical processes occurring in the sun, solar wind, magnetosphere, and ionospheres of planets, using simple fluid (magnetohydrodynamic) models as well as individual particle (radiation belt dynamics) approach. Solar-planetary coupling processes, geomagnetic phenomena, aurora. Concurrently scheduled with course C205A. Mr. Thorne (F)

161. Numerical Methods in Atmospheric Sciences. Lecture, two hours; laboratory, three hours. Prerequisites: Mathematics 33B and Program in Computing 3, or consent of instructor. Numerical solutions of problems selected from atmospheric sciences. Matrix inversion. Solution of oscillation, damped, and advection equations. Mr. Fowell (Sp)

C162. Statistics in Atmospheric Sciences. Lecture, three hours; discussion, one hour. Prerequisite: Mathematics M150A or Statistics M152A or equivalent. Survey of methods used for data analysis in atmospheric sciences, with emphasis on practical applications. Methods include linear regression, factor analysis, and cluster analysis. Concurrently scheduled with course C213. Mr. Fowell (F)

195. Senior Paper. Prerequisite: senior standing in atmospheric sciences. Supervised through individual consultation with an appropriate faculty member. Students write a research paper on a topic of their own choosing within their area of concentration in the major. May be used for writing honors thesis. (F,W,Sp)

196. Operational Meteorology (2 units). Laboratory, six hours. Prerequisites: course 104C, junior or senior standing in atmospheric sciences. 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. Mr. Bier, Mr. Wakhimoto (F, W, Sp)

199. Special Studies in Meteorology (2 or 4 units). Prerequisite: consent of instructor. Special individual studies.
Graduate Courses

C205A. Introduction to Solar System Plasmas, Lecture, three hours; discussion, one hour. Corequisite: Physics 131. Elementary processes and physical processes occurring in the Sun, solar wind, magnetospheres, and interplanetary medium. Similar to models for plasma turbulence, plasma instability, memory effects, solar-terrestrial relations, and reconnection. 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. Mr. Venkateswaran (Sp)

C212C. Numerical Modeling of the Atmosphere II, Lecture, three hours. Prerequisites: courses 201B and 212A, or consent of instructor. Numerical modeling of atmospheric processes and weather, climate, and oceanic circulations. Focus on numerical methods and algorithm development for atmospheric modeling. 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.

C213. Statistics in Atmospheric Sciences, Lecture, three hours. Prerequisites: Math 120A or Statistics 134A. Statistical methods and data analysis in atmospheric sciences. Students are expected to bring a statistics course like M150A or Statistics 152A or equivalent. Mr. Thorne (F)

C214. Thermodynamic Climate Dynamics, Lecture, three hours. Prerequisites: Math 131A or 115A, Math 131B, or Statistics 152A. Applications of thermodynamic principles to Earth's atmosphere and climate system. Emphasis on visualizing and interpreting atmospheric circulation patterns and variability. 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.

216A. Tropical Waves with Moist Processes, Lecture, three hours. Prerequisites: course 201C. Advanced theory of tropical waves and their role in weather and climate. Focus on numerical methods and algorithm development for modeling tropical waves. 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.

216B. Wave Motions in the Tropical Atmosphere, Lecture, three hours. Prerequisites: course 201B. Advanced theory of tropical waves and their role in weather and climate. Focus on numerical methods and algorithm development for modeling tropical waves. 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.

218. Dynamics of the Ocean/Atmosphere System, Lecture, three hours. Transfer of properties between the atmosphere and ocean; wind-driven ocean currents; coastal upwelling, air-sea interactions. Effects of oceans on climate. 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.

220. Dynamics of the Middle Atmosphere, Lecture, three hours. Prerequisites: courses 220B, 220A. Structure and composition of the middle atmosphere. Vertical gradients of temperature, pressure, and composition; solar and terrestrial radiation; photochemistry; gravity waves in the middle atmosphere; and planetary waves, and gravity waves. 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.

224A. Atmospheric Turbulence, Lecture, three hours. Kinematics of homogeneous and shear flow turbulence. Surface and planetary boundary layers, including heat transfer and turbulent convection. Flow past convection elements and their interpretation by theory. 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.
Atmospheric Chemistry and Physics

230A-230B. Atmospheric Chemistry I, II. Lecture, three hours. Prerequisite: course 203A or consent of instructor. Characteristics of major gases in the atmosphere, including their chemical and physical properties; pollution dispersion in urban complexes; meteorological factors influencing air pollution; potential health effects of air pollution; structural aspects of air pollution. 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.

234A. Cloud and Precipitation Physics I, II. Lecture, three hours. 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.

234A-234B. Cloud and Precipitation Physics I, II. Lecture, three hours. 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.

240A. Radar Meteorology. Lecture, three hours. Radar detection of spherical and nonspherical particles; use of radar in studying size distributions of cloud and precipitation particles; interaction intensities of atmospheric particles with upward velocities, horizontal wind speed, and turbulence; radar observations of convective clouds, thunderstorms, tornadoes, hurricanes, squall lines, and fronts; clear air echoes. 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.

240B. Remote Sensing. Lecture, three hours. Prerequisites: courses 203C and 240A, or consent of instructor. Theory and techniques of remote sensing; atmospheric spectroscopy; methods based on scattering, absorption, and extinction; passive and active techniques; advanced methods: remote sensing of terrestrial meteorological parameters and trace constituents; remote sensing of surfaces and biosphere; remote sensing of planetary atmospheres. 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.

244. Methods of Radiative Transfer. Lecture, three hours. Prerequisites: courses 203C and 240A, or consent of instructor. Analytical and numerical methods of radiative transfer, pure scattering atmospheres, and Chandrasekhar’s solution; discrete ordinates, n-stream representations, multiple scattering, and exponential sums; Monte Carlo techniques and three-dimensional problems; computational laboratory. 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.

Upper Atmosphere and Space Physics

250A. Solar System Magneto-hydrodynamics. Lecture, three hours. Prerequisite: course C205A or consent of instructor. Derivation of MHD equations and two fluid aspects, generalized Ohm’s law, small amplitude waves, discontinuities, shock waves, and instabilities. Applications to statics and dynamics of solar wind and planetary magnetosphere. Introduction to spherical magnetosphere/ionosphere coupling. 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.

250B. Solar System Microscopic Plasma Processes. Lecture, three hours. Prerequisite: course C205A or consent of instructor. Adiabatic charged particle dynamics; incoherent plasma processes; coherent plasma; propagation characteristics of electrostatic and electromagnetic waves; introduction to resonant interaction between charged particles and plasma waves. 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.

256. Ionospheric Electrodynamics. Lecture, three hours. Ionospheric structure, currents, and electric fields; equatorial and high-latitude ionospheres; ionospheric control of magnetospheric phenomena. 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.

257. Radiation Belt Plasma Physics. Lecture, three hours. Prerequisite: course 250B or consent of instructor. 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 grading for majors with consent of instructor after successful completion of written and oral comprehensive examination and for nonmajors at discretion of major department.

Special Studies

270. Seminar: Atmospheric Sciences (2 units). Lecture, one hour. May be repeated for credit. S/U or letter grading.

271. Seminar: Atmospheric Dynamics (2 units). Lecture, one hour. May be repeated for credit. S/U or letter grading.

272A-272B-272C. Seminars: Climate Dynamics (2 to 4 units each). (Same as Earth and Space Sciences M270A-M270B-M270C and Geography M270A-M270B-M270C.) Lecture, two hours. Prerequisite: upper division course in instructor. Atmospheric, geophysical, micropaleontological, and stratigraphic evidence for climate change throughout the geological past; global climate systems; the earth’s climate system and the greenhouse effect; and environmental and biological aspects of climate change. S/U grading. {Mr. Ghil (F,W,Sp)}

273. Seminar: Atmospheric Sciences (2 units). Lecture, one hour. May be repeated for credit. S/U or letter grading.

274. Seminar: Atmospheric Chemistry (2 units). Lecture, one hour. May be repeated for credit. S/U or letter grading. {Mr. Tuyn (F,W,Sp)}


276. Seminar: Mesoscale Processes (2 units). Seminar, one hour. Selected topics of current interest in convection, extratropical cyclones, and fronts. May be repeated for credit. S/U or letter grading. {Mr. Wakimoto (F,W,Sp)}

281. Special Topics in Dynamic Meteorology (2 to 4 units). Individual meetings with instructor to be arranged. Content varies from year to year. S/U grading.

283. Special Topics in Atmospheric Physics (2 units). Individual meetings with instructor to be arranged. May be repeated for credit. S/U or letter grading.

284. Special Topics in Atmospheric Chemistry (2 units). Individual meetings with instructor to be arranged. May be repeated for credit. S/U or letter grading.


286-289K. Advanced Topics in Atmospheric Sciences (2 units each). Prerequisite: consent of instructor. Advanced study and analysis of current topics in atmospheric sciences. Discussion of current research and literature in the research specialty of faculty member teaching course. May be repeated for credit. S/U grading.
Scope and Objectives

Studies in biology touch every aspect of life, and seeking answers to the problems of living organisms is a major challenge to modern biology. To meet this challenge, the Biology Department offers a wide spectrum of undergraduate and graduate instruction in population, organismic, developmental, cell, and molecular biology. All of these subject areas relate in some way to practical problems facing contemporary society, and all influence individual and collective decisions on matters ranging from environmental degradation to viruses and cancer.

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.

Bachelor of Science in Biology

The Bachelor of Science degree is divided into four areas of concentration which build on similar lower division introductory courses and differ primarily in the upper division requirements. The first area of concentration — general biology — is designed for students who desire exposure to a wide range of biological subjects and for most students who will later seek admission to health sciences-related professional schools. The remaining three areas of concentration — ecology, behavior, and evolution (EBE), marine biology (MB), and plant biology (PB) — provide more specialized instruction and strong preparation for employment or subsequent graduate study in the respective disciplines.

Prebiology Major

Students who have not completed all the courses required for preparation for the major are considered prebiology majors. After completing those courses with a grade of C- or better in each, you must petition to enter the biology major in the Undergraduate Advising Office, 2312 Life Sciences.

Repeation of more than two preparation courses in which a grade of D or F was received or of any preparation course more than once results in automatic denial of admission to the major (effective Fall Quarter 1994 for all entering freshmen and transfer students).

In order to be admitted as prebiology majors, transfer students who have 80 or more units must have completed one year of general chemistry with laboratory, Biology 5, SL, and 9,
or equivalent, and at least one of the following: (1) one year of calculus, (2) one year of calculus-based physics, or (3) two organic chemistry courses with laboratory.

**General Biology Concentration**
This concentration 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. The concentration emphasis is breadth of training to expose students to all levels of modern biology.

**Preparation for the Major:** Biology 5, 5L, 6, 9 or equivalent; Chemistry and Biochemistry 11A, 11B/11BL, 11CL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 6A, 6B, and 6C, or 8A/8AL, 8B/8BL, 8C/8CL, and 8D/8DL.

The **Major:** Biology 108 or equivalent; one morphology and systematic courses (Biology 101A, 101B, 103, 105, 110, 153/153L, or Microbiology and Molecular Genetics 101); one developmental and molecular biology course (Biology 121, 138, C141, or 146); one physiology course (Biology 158, 162, 166, or 167); two additional upper division biology courses; Chemistry and Biochemistry 132A, 132B/132BL, 153A, 153L; four additional upper division courses in biology, chemistry, mathematics (except Mathematics 104, 106), microbiology, physics, physiological science, or from Bioinformatics 110, Biostatistics 100B, 100C, Earth and Space Sciences 116, Geography 112.

**Ecology, Behavior, and Evolution (EBE) Concentration**
This concentration is appropriate for students preparing for graduate study in ecology, behavior, and evolution. 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. This provides suitable background for such fields as environmental biology, animal behavior, conservation, forestry, teaching, museum work, and governmental positions dealing with environmental issues of wide importance and impact.

**Preparation for the Major:** Biology 5, 5L, 6, 9 or equivalent; Chemistry and Biochemistry 11A, 11B/11BL, 11CL, 15; Mathematics 31A, 31B, 32A, 32B, 33A; Physics 6A, 6B, and 6C, or 8A/8AL, 8B/8BL, 8C/8CL, and 8D/8DL.

The **Major:** Biology 108 or equivalent; one morphology and systematic courses (Biology 101A, 101B, 103, 105, 110, or 152); one physiology course (Biology 162, 166, or 167); three ecology, behavior, and evolution courses (Biology 111, 120, 122, 129, 135); one field quarter consisting of two to four courses from the Field Biology Quarter (FBQ), Marine Biology Quarter (MBO), or equivalent; additional upper division courses in biology, chemistry, mathematics (except Mathematics 104, 106), microbiology, or physics (recommended: Biology C119, M127, 146, 168 in ecological and behavioral processes and Biology 103, 107, 112, 113A, 114, 115 in taxon-oriented biology; Chemistry and Biochemistry 132A, 132B/132BL, 153A, 153L may be substituted for Chemistry and Biochemistry 15, Mathematics 32B, 33A).

**Marine Biology (MB) Concentration**
This concentration is designed for students who wish to specialize in the area of marine sciences. Completion of this concentration 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 concentration provides valuable field experience with concomitant individual research opportunities in marine biology.

**Preparation for the Major:** Biology 5, 5L, 6, 9 or equivalent; Chemistry and Biochemistry 11A, 11B/11BL, 11CL, 132A, 132B/132BL, 153A; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 6A, 6B, and 6C, or 8A/8AL, 8B/8BL, 8C/8CL, and 8D/8DL.

The **Major:** Biology 108 or equivalent, C109; one marine organismic biology course (Biology 101A, 105, or 112); one physiology course (Biology 128, 162, 166, or 167); one ecology, behavior, or evolution course (Biology 120, 122, 129, or 135); one field quarter consisting of four courses from the Marine Biology Quarter (MBQ) or equivalent field courses given elsewhere (for a 16-unit equivalent — see undergraduate adviser); two physical, chemical, or geological oceanography courses from Anthropology 177, Atmospheric Sciences CM140, 143, Chemistry and Biochemistry 103, Earth and Space Sciences C107, C109, 153, Geography 100, 101, 103, 190, Mechanical, Aerospace, and Nuclear Engineering 103 (strongly recommended), 150A.

**Molecular, Cellular, and Developmental Biology (MCD) Concentration**
This concentration is closed to new students effective Fall Quarter 1993. Students currently enrolled may petition to transfer to the cell and molecular biology major in the Undergraduate Advising Office, 2312 Life Sciences.

**Plant Biology (PB) Concentration**
This concentration prepares students for postgraduate programs in plant biology, including environmental biology, ecology, agricultural sciences, and plant molecular, developmental, 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:** Biology 5L, 6, 9 or equivalent; Chemistry and Biochemistry 11A, 11B/11BL, 11CL, 132A, 132B/132BL, 153A; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 6A, 6B, and 6C, or 8A/8AL, 8B/8BL, 8C/8CL, and 8D/8DL.

The **Major:** Biology 108 or equivalent, 146 or 162; one plant morphology or anatomy course (Biology 101A, 101B, or 152); two molecular or cellular plant biology courses (Biology 121, C141); one ecology or evolution course (Biology 103, 120, or 122); one field quarter course involving research in plant biology (Biology 118, 124, or 148) or a laboratory internship (Biology 190 series or 199) which requires a written paper on some aspect of plant research; additional upper division courses in biology, chemistry, computer science, geography, or microbiology.

**Additional Requirements**
(1) A six-unit course counts as only one course toward requirements for the major.
(2) A maximum of eight units of Biology 190 or four units of Biology 199 may be applied toward the major. Credit for 199 courses from other departments may not be applied.
(3) Courses applied toward requirements for preparation for the major and the major must be taken for a letter grade. 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.

**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 Biology 190A-190B.

**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 occurs during Spring Quarter and involves some combination of Biology 103, 107, 113B, 114, 115, 118, 124, C125, C126, C131, 132, and 134B. The Marine Biology Quarter occurs during Fall Quarter and includes some combination of Biology 102, C104, 123, 147, 148, 163, 164, and 165. To participate, you must enroll in all courses in the respective pro-
gram. It is strongly recommended that you complete Biology C109 or C215 prior to applying for MBQ. Participants in both programs are selected by personal interview during Winter Quarter. Although most participants are upper division biology majors, both programs are available to any upper division student with adequate biological background. Information and applications are available in the Undergraduate Advising Office.

**Bachelor of Science in Cell and Molecular Biology**

The Bachelor of Science degree in Cell and Molecular Biology (CMB) 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 in both animals and plants. Areas of emphasis include cell biology, immunology, molecular biology, plant biology, developmental biology, and neurobiology, among others.

Students currently enrolled in the molecular, cellular, and developmental biology (MCD) concentration may petition to transfer into this major in the Undergraduate Advising Office, 2123 Life Sciences.

**Preparation for the Major**

**Required:** Biology 5, 5L, 9; Chemistry and Biochemistry 11A, 11B/11BL, 11C; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 6A, 6B, and 6C, or 8A/8AL, 8B/8BL, 8C/8CL, and 8D/8DL.

**The Major**

**Required:** Twenty units of core courses (Biology 100A, 100B, 108, either 138 or 141, and four units from C174A through C174F; Chemistry and Biochemistry 110A, 132A, 132B/132BL, 153A, 153B, 153L, 156; a minimum of three elective core courses from Biology CM156, 157, 171, M175A, M185A, CM185B; 12 additional units selected from the following: any biology course listed above not used to satisfy the core requirement, Biology 110, 121, 142, 146, 150, 162, 166, M175B, M175C, Chemistry and Biochemistry 153C, Microbiology and Molecular Genetics 101, 102, C104A, C104B, C104C, C119; eight units of upper division laboratory experience selected from Biology 155, 158, 162, 166, 190A through 190D, 199.

**Additional Requirements**

(1) A five- or six-unit course counts as only one course toward requirements for the major.

(2) A maximum of eight units of Biology 190 or 199 may be applied toward the major. Credit for 199 courses from other departments may not be applied. All 190 research must be performed in CMB faculty laboratories.

(3) Courses applied toward requirements for preparation for the major and the major must be taken for a letter grade. CMB majors must earn a C- or better in each course, and at least a 2.0 (C) overall average in all courses applied toward the major.

**Graduate Study**

The department offers M.A. and Ph.D. degrees in Biology, with specialization in a wide spectrum of fields. Students who plan to enter graduate school are urged to seek the advice of staff members in their field of interest. Division I (molecular, cell, and developmental biology) does not accept students whose sole objective is a master's degree.

**Admission**

The department encourages applications from students in all areas of science, but expects successful applicants to have or to acquire a background comparable to the requirements for the bachelor's degree in biology at UCLA. A background in chemistry, physics, and mathematics is desirable. Deficiencies in these or other subjects must be made up at the earliest opportunity. Undergraduates who are prospective applicants should remedy their deficiencies by preparatory study at an appropriate institution. The Graduate Division or the department may initially restrict applicants with less distinguished accomplishments.

The department is organized for administrative purposes into two divisions based on mutual interest. Applications should be directed to either Division I (molecular, cell, and developmental biology) or Division II (integrative biology: cells, organisms, and populations). The major fields and subdisciplines are listed under faculty interests in the departmental brochure.

All applicants must take the General Test (verbal, quantitative, and analytical) of the Graduate Record Examination (GRE). The Subject Test in Biology is also required.

Three letters of recommendation are required. These should be from professors, supervisors, or others who may provide an evaluation of motivation, accomplishments or potential in research, scholarly activities, teaching, and related academic functions.

Applications, departmental brochures, and additional information may be obtained from the Graduate Affairs Office, Department of Biology, 2316 Life Sciences, UCLA, Los Angeles, CA 90024-1606.

**Program of Study**

Study consists of coursework and research within the department and within related programs in biochemistry, geology, microbiology, and molecular biology on campus. Opportunities are also available off campus for intensive study of marine biology at a marine science center in Fall Quarter (MBQ), field biology in Spring Quarter (FBQ), and tropical biology within the FBQ program and through courses offered by the Organization for Tropical Studies.

You also are required to complete the departmental written qualifying examination at an early point in your graduate career.

**Foreign Language Requirement**

No foreign language is prerequisite to admission to the M.A. or Ph.D. program, and there is no uniform language requirement for obtaining the Ph.D. However, in the pursuit of certain subspecialties of biology, you may be required to gain proficiency in one or more foreign languages.

**Master of Arts Degree**

**Admission**

Applications are evaluated by the appropriate divisional admissions committee.

**Course Requirements**

The program consists of at least nine courses completed in graduate standing, of which at least five must be graduate (200 series) courses. The remainder may be courses in the 100, 200, or 500 series as noted below. No more than two 596 courses (eight units) may be applied toward the nine courses required for the degree; only one 596 course (four units) may be applied toward the minimum graduate course requirement. Courses graded S/U may not be applied toward the minimum requirement, except that an S/U-graded course outside the major and applicable to the degree may be applied, provided that no more than one such course is taken per term.

Specific course requirements are established for you by your guidance committee.

**Thesis Plan**

A thesis reporting the results of an original investigation, written to conform to the requirements of the Graduate Division, is presented to and approved by the master's thesis committee of three faculty members. Before beginning work on the thesis, you must obtain approval of the subject and general plan from the faculty members concerned and from the thesis committee.

**Comprehensive Examination Plan**

If you select this plan, you must take a three-hour examination prepared and graded by your committee or committee chair and approved by the graduate adviser. The examination is graded pass or fail. If you fail, recommendation for or against a second examination must be made by the graduate adviser.

**Ph.D. Degree**

**Admission**

Each division determines admission of students to the Ph.D. program separately. Ph.D. students in Division I (molecular, cell, and developmental biology) are admitted in Fall Quarter only, through UCLA ACCESS to Pro-
grams in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280. Under special circumstances, Division I may admit new Ph.D. students directly. Applications to Division II (integrative biology: cells, organisms, and populations) are reviewed by the division's admissions committee following a January 1 deadline.

Course Requirements

There are no formal course requirements for the Ph.D. in Division II, although specific requirements may be established individually by your guidance committee. Division I students are required to take a minimum of four graduate-level courses, preferably in the first year (contact the Graduate Affairs Office for a course list). You must enroll for full-time study, as defined by the Graduate Division.

You are strongly encouraged to rotate laboratory and/or course experience with several faculty members during your first year of study as an aid to selecting a permanent adviser.

Teaching Experience

Each student is required to serve a minimum of three terms as a teaching assistant.

Qualifying Examinations

You must pass the departmental written qualifying examination at the Ph.D. level before you are eligible to take the University Oral Qualifying Examination, which is conducted by your doctoral committee as prescribed by the Graduate Division. It includes your preparation, presentation, and defense of an original written research proposal. The examination is graded pass, fail, or repeat. A failure requires dismissal. The second attempt at the examination is graded pass/fail. The examination must be completed by the end of the third year following first registration. You are advanced to candidacy following successful completion of this examination.

Candidate In Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination

The final oral examination is administered by your doctoral committee after you complete your dissertation. This examination is highly recommended but may be waived by your doctoral committee.

Lower Division Courses

If you have not completed the prerequisites indicated in the following course descriptions, you may be dropped from any of the courses at the discretion of the instructor.

2. Principles of Modern Biology. Lecture, three hours; laboratory, two hours. Designed for nonmajors. Not open to students with credit for course 5 or 9 or equivalent. Major themes in biology, including evolution, behavior, ecology, cell biology, photosynthesis, genetics, organismal diversity, and energetics as they relate to events occurring on our Earth today. P/NP or letter grading.

5. Biology of Organisms. Lecture, four hours; discussion, one hour. Comparative morphology and embryology of major plant and animal phyla; function of organ systems, including gas exchange, transport, regulation of internal environment, hormones, coordination, and nervous system. P/NP or letter grading.

50. Desert Life. 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. Mr. A. Gibson (F)

50. Desert Life. 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. Mr. A. Gibson (F)

70. Genetic Engineering and Society. Lecture, three hours; discussion, two hours. Designed for nonmajors. Not open to students with credit for course 5 or 106. Basic principles of genetic engineering. Overview of genetic engineering techniques and relationship of genetic engineering to medicine, agriculture, and society. Emphasis on specific genetic engineering applications to generate discussion on its use in society. Mr. Goldberg

88A. Lower Division Seminar: Conservation of Biodiversity. Discussion, three hours; one weekend field trip. Introduction to patterns of biological diversity; selection, management, and use of natural resources. Interpretation of data; assessment of environmental and governmental and nongovernmental actions on biological conservation. P/NP or letter grading. Ms. Mathias

88B. Lower Division Seminar: Origins of Life. Seminar, five hours. Training in science not required. Biological evolution as a central element in Earth history; theories of the origin of life based on observations, experimental simulations, and speculations. Students are guided in making class presentations and in writing papers. P/NP or letter grading.

88C. Lower Division Seminar: Frontiers of Molecular Biology - Historical Perspective. Seminar, three hours. Limited to freshmen who have not completed the major requirements for the major in molecular biology. Study of the history of molecular biology at molecular level has unlocked secrets of the gene, started the biotechnology revolution, and promises a new scientific age that will use gene therapy to cure human disease, produce superplants that grow in the desert, and uncover the mysteries of the mind. Exploration of origins and history of molecular biology by analyzing papers written by Mendel, Watson, Crick, and others who played a major role in changing society. Lecture, three hours; outside study, nine hours. Recent advances in genetics have opened up new possibilities in fields of forensics, medicine, agriculture, and industry, with corresponding legal, social, and economic ramifications. Examination of scientific/genetic basis underlying genetic engineering, genetic screening, therapy, eugenics, DNA fingerprinting, cloning, etc., and discussion of current and future applications. P/NP or letter grading. Mr. Goldberg

88D. First-Year Seminar: Genetics and Society - Current Status and Future Applications. Seminar, three hours; outside study, nine hours. Recent advances in genetics have opened up new possibilities in fields of forensics, medicine, agriculture, and industry, with corresponding legal, social, and economic ramifications. Examination of scientific/genetic basis underlying genetic engineering, genetic screening, therapy, eugenics, DNA fingerprinting, cloning, etc., and discussion of current and future applications. P/NP or letter grading. Mr. Goldberg

88E. First-Year Seminar: Genetics and Society - Civil Liberties and Reelities (2 units). Examination of change from when science was done by individuals as an avocation without societal goals to contemporary science which is done by professionals and is driven by societal needs and pressures. P/NP or letter grading. Mr. Bohman

Upper Division Courses

Course 5L is prerequisite to all upper division laboratory courses. Course 108 is prerequisite to all upper division courses in cell, molecular, and developmental biology. If you do not complete the prerequisites, you may be dropped from those courses.
106. Experimental Marine Invertebrate Biology (4 or 6 units). Lecture, two hours; laboratory, 12 hours. Prerequisites: courses 105, and 166 or 167 (either may be taken concurrently). Recommended: course 108 (may be taken concurrently). Not open for credit to students with credit for former course 104. Introduction to biology of algae, fungi, and bryophytes, with emphasis on form, function, and development, and role of lower plants in the environment. Students are strongly encouraged to take both courses 101A and 101B since these represent a course sequence surveying the entire plant world as appropriate background for upper division courses in plant biology.

107. Ecology of Marine Communities. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisites: courses 5, 5L, 6, and 101A or 101B; consent of instructor. Ecology and evolution of marine communities, emphasis on population ecology, the role of biotic and abiotic factors in the marine environment, and methods of data analysis. Concurrently scheduled with course C225. Mr. Buth, Mr. Cody, Mr. Hespenheide

108. Evolution of Vertebrates. Lecture, three hours; laboratory, three hours. Prerequisite: course 110. Recommended: one general geology course. Fossil record of the evolution of vertebrates, with emphasis on paleobiology and morphology of tetrapods. Ms. Van Valkenburgh

117. Evolution of Vertebrates. Lecture, three hours; laboratory, three hours. Prerequisite: course 110. Recommended: one general geology course. Fossil record of the evolution of vertebrates, with emphasis on paleobiology and morphology of tetrapods. Ms. Van Valkenburgh

118. Plant Adaptations (6 units). Lecture, one hour; field trip, 10 hours. Prerequisites: completion of preparation for major course, consent of instructor. Five-week course offered only as part of Field Biology Quarter. Field-oriented introduction to mechanisms by which vascular plants adapt themselves to their biotic and abiotic environments using community, population, and ecophysiological levels of integration. Mr. Rundel (Sp)

119. Mathematical Ecology. Lecture, three hours. Prerequisites: Mathematics 31A, 31B, 32A. Differential equation models of population growth, the theory of evolutionary ecology to determine why natural environments of the world support the kinds of living organisms they do and why organisms of the world possess the adaptations they do. Concurrently scheduled with course C219. Mr. Vance

120. Evolution. Lecture, three hours; discussion, two hours. Prerequisites: courses 5, 5L, 6, Mathematics 3A and 3B, or 31A. Recommended: course 108 or equivalent.買い直し、Conservation of biodiversity, with emphasis on conservation and management of plant and animal species in environmental and population biology. Introduction to mechanisms and processes of evolution, with emphasis on natural selection, population genetics, speciation, evolution, adaptation, and patterns of adaptation. P/NP or letter grading. Mr. Bunk (W)

121. Molecular Biology and Evolution. Lecture, three hours; discussion, one hour. Prerequisites: courses 106 and 108 or equivalent. Not open for credit to students with credit for former course 144. Molecular biology, with emphasis on evolutionary aspects. DNA replication, RNA transcription, protein synthesis, gene expression, and molecular evolution. Ms. Van Valkenburgh

122. Ecology. Lecture, three hours; laboratory, three hours. Prerequisites: courses 5, 5L, 6, and Mathematics 3A and 3B, or 31A, or consent of instructor. Highly recommended: Mathematics 31B, 32A. Recommended for biology majors specializing in environmental and population biology. Introduction to population and community ecology, with emphasis on growth and distributions of populations, interactions between populations and their habitats, and the dynamics and functions of communities and ecosystems. Mr. Cody

123. Ecology of Marine Communities. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisites: courses 5, 5L, 6, and 101A or 101B; consent of instructor. Field study of natural history and ecology of marine organisms and communities, involving independent research project. Given off campus at a marine science center. Mr. Vance

124. Field Ecology (4 or 5 units). Lecture, two hours; laboratory, 10 hours. Prerequisites: courses 5, 6, and 101A or 101B; consent of instructor. Field-oriented introduction to mechanisms by which vertebrate organisms adapt themselves to their biotic and abiotic environments using community, population, and ecophysiological levels of integration. Mr. Cody

C125. Tropical Animal Communication (4 or 8 units). (Formerly numbered 125.) Prerequisites: courses 106 and 107. Offered either as a four-unit quarter-long course or as an eight-unit Field Biology Quarter course. Four-unit course has lecture, three hours; discussion, two hours. Animal communication behavior, trophic interactions, communication and evolution of information processing systems. Eight-unit course covers same basic lecture material in five or six intensive weeks, followed by extended field trips where students do independent projects in animal communication. Concurrently scheduled with course C225. Mr. Narins
C125. Behavioral Ecology (4 or 8 units). Prerequisites: course 6, Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A, or consent of instructor. Not open for credit to students with credit for course 129. Offered either as a semester-long course or as an eight-unit Field Biology Quarter course. Four-unit course has lecture, three hours; discussion, three hours; laboratory, one hour. Eight-unit course has lecture, four hours; discussion, four hours; laboratory, one hour. Prerequisites: Chemistry 11A, 11B, and 11C, or equivalent. General treatment of soil development and morphology and physical and chemical properties of soils as they relate to plant growth and distribution; soil resources, management, conservation, and cultural aspects. Use of soil profiles examined on field trip to explain developmental phenomena.

C126. Plant Physiological Ecology. Lecture, three hours; laboratory, 10 hours. Prerequisites: courses 5, 6, 108, or equivalent. Offered in the third quarter of the academic year. Emphasis on transpiration and photosynthesis, leaf temperatures, and water movement in soil/plant/atmosphere continuum. Individual student projects.

M127. Soils, Plants, and Society. (Same as Geography M127.) Lecture, three hours; field trip. Prerequisites: Chemistry 11A, 11B, and 11C, or equivalent, or consent of instructor. General treatment of soil development and morphology and physical and chemical properties of soils as they relate to plant growth and distribution; soil resources, management, conservation, and cultural aspects. Use of soil profiles examined on field trip to explain developmental phenomena.

C128. Plant Physiological Ecology. Lecture, three hours; laboratory, 10 hours. Prerequisites: courses 5, 6, 108, or equivalent. Offered in the third quarter of the academic year. Emphasis on transpiration and photosynthesis, leaf temperatures, and water movement in soil/plant/atmosphere continuum. Individual student projects.

M129. Molecular Biology of Invertebrates. Prerequisites: course 5 or equivalent, or consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C130. Principles of Systematic Biology. (Formerly numbered Z025.) Lecture, three hours; discussion, two hours. Prerequisites: courses 5, 6, 108, or equivalent. 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.

M131. Animal Behavior. Lecture, three hours; discussion, two hours. Prerequisites: courses 5, 6, 108, or equivalent. 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.

M132. Field Behavioral Ecology (8 units). Lecture, two hours; laboratory, 10 hours. Prerequisites: courses 5, 6, 108, or equivalent. 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.

C133. Vegetation and Ecosystem Dynamics. Lecture, three hours. Prerequisite: course 6 or equivalent. Introduction to functional and structural relationships of major world vegetation types in relation to their physical environments.

M134. Physiological Ecology of Desert Animals. (Formerly numbered C134.) Lecture, three hours; laboratory, one hour; field trips, four hours. Prerequisites: courses 5, 6, 108, or equivalent. Considers how 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 seminar fashion.

M135. Population Genetics. Lecture, three hours; discussion, one hour. Prerequisites: course 108 or equivalent, or consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C136. Behavioral Ecology. Lecture, three hours; discussion, one hour. Prerequisites: courses 100A, 108. Strongly recommended course 100B. Cellular and molecular basis of animal embryology.

C137. Cytology. (6 units). Prerequisites: course 100A, Chemistry 153A, consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C138. Developmental Biology. Lecture, three hours; discussion, one hour. Prerequisites: courses 100A, 108. Strongly recommended course 100B. Cellular and molecular basis of animal embryology.

M139. Molecular Cytology (6 units). Prerequisites: course 100A, Chemistry 153A, consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C140. Plant Physiological Ecology. Lecture, four hours; laboratory, four hours. Prerequisites: courses 5, 6, 108, or equivalent. 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 in research in this field. Concurrently scheduled with course C239.

C141. Molecular Basis of Plant Differentiation and Development. (Formerly numbered 141.) Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 9 and 108 or equivalent, 100A. 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 in research in this field. Concurrently scheduled with course C239.

C142. Seminar: Topics in Developmental Biology (2 units). Prerequisites: courses 138, consent of instructor. Seminar provides a forum for students to discuss current research. P/NP or letter grading.

C143. Physiological Ecology of Desert Animals. (Formerly numbered C143.) Lecture, three hours; laboratory, one hour; field trips, four hours. Prerequisites: courses 5, 6, 108, or equivalent. Introduction to general biology of marine algae, including foraging strategies, social competition, sexual selection, mating systems, cooperation, and social organization.

C144. Field Physiological Ecology of Desert Animals (8 units). (Formerly numbered C144.) Prerequisites: courses 5, 6, 108, or equivalent. 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 in research in this field. Concurrently scheduled with course C239.

C145. Genetic Engineering. Lecture, two hours; laboratory, six hours. Prerequisites: courses 5, 6, 108, or equivalent. Genes and gene variants by means of inheritance patterns. Highly recommended: course 100B. Survey of methods and applications of recombinant DNA research as applied to both basic scientific research and the biotechnology industry.

C146. Cell Biology (8 units). Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 9 and 108 or equivalent, Chemistry 11A, 11B/11BL, 11C/11CL, or consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C147. Biological Oceanography. Five-week intensive course. Lecture, five hours; laboratory, 10 hours. Prerequisites: courses 5, 6, 9 or equivalent, Chemistry 11A, 11B/11BL, and 11C/11CL, or consent of instructor. Immunochemistry, and biological and ecological factors affecting abundance and distribution of organisms in marine environment. Laboratory includes experimental studies of local marine organisms, with emphasis on primary and secondary production and nutrient flux.

C148. Biological Marine Plants. Five-week intensive course. Lecture, five hours; laboratory, 10 hours. Prerequisites: courses 5, 6, 9 or equivalent, Chemistry 11A, 11B/11BL, and 11C/11CL, or consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C149. Biological Catalysis. (6 units). Lecture, four hours; laboratory, four hours. Prerequisites: courses 5, 6, 9 or equivalent, Chemistry 153A, 153B, or equivalent. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C150. Plant Chemical and Molecular Communication. Lecture, three hours; discussion, two hours. Prerequisites: completion of preparation for the major courses. Introduction to course 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. Synthesis of principles of plant defense mechanisms and responses to microbial infections.

C151. Functional Plant Anatomy. Lecture, three hours; laboratory, six hours. Prerequisites: course 5 or equivalent, consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

C152. Cellular Physiology: Functional Histology. Prerequisites: courses 5, 6, or equivalent, Chemistry 11A, 11B/11BL, 11C/11CL, Mathematics 3A, 3B, 3C, Physics 6A, 6B, 6C. Emphasis on how cellular organelles (nucleus, mitochondria, smooth and rough endoplasmic reticulum, golgi apparatus, lysosomes, cytoskeleton, plasma membrane, extracellular matrix) contribute to function of tissues and organs in vertebrates.

C153. Laboratory for Cellular and Molecular Physiology. Prerequisites: courses 5, 6, or equivalent, Chemistry 11A, 11B/11BL, 11C/11CL. Both hours. Gene mapping and detection and analysis of gene variants by means of inheritance patterns.

C154. Cellular Pathology. Lecture, two hours; laboratory, eight hours. Gene mapping and detection and analysis of gene variants by means of inheritance patterns.

C155. Human Genetics. (Same as Microbiology CM155.) Lecture, three hours; discussion, one hour. Prerequisites: courses 100A, 108 or equivalent. Application of genetic principles in human populations, with emphasis on cytogenetics, bacterial 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 CM265.

C156. Invertebrate Anatomy. Lecture, three hours; discussion, two hours. Prerequisites: courses 5, 6, or equivalent, Chemistry 11A, 11B/11BL, 11C/11CL. Both hours. Gene mapping and detection and analysis of gene variants by means of inheritance patterns.

C157. Genetic Manipulation: Genetic Engineering. Lecture, three hours; discussion, two hours. Prerequisites: courses 100A, 108, 138, or equivalent, consent of instructor. Structure and function of a variety of cell and tissue types in higher plants, plus patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

163. Biology of Marine Tetrapods. Five-week intensive course. Lecture, five hours; laboratory and fieldwork, 15 hours. Prerequisites: courses 5, 5L, 6, or equivalent. Highly recommended: courses 11B and 11C. Highly recommended: Consensus grade of "B" or better in courses 5, 5L, 6, or equivalent. Highly recommended: laboratory work emphasizes observational and experimental approaches to study of morphology, systematics, ecology, and behavior of the diverse assemblage of local marine fishes. Fieldwork strongly emphasized. Given off campus at a marine science center.

164. Field Biology of Marine Flukes. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisites: courses 5, 5L, and 6, or consent of instructor. Recommended: Mathematics 3A, 3B, 3C, 3A, 3B, or equivalent. Not open for credit to students with credit for course 164 or former course 170. Introduction to physiological principles, with emphasis on organ systems and intact organisms.

165. Physiological Science and Predators. Five-week intensive course. Lecture, five hours; laboratory, five hours. Prerequisites: courses 5, 5L, 6, or equivalent. Recommended: Chemistry 11A, 11B/11BL, and 11C/11CL, or consent of instructor. Recommended: Mathematics 3A, 3B, or 3C, or 31A, 31B, and 32A, Physics 8A, 8B, and 8C, and Env 9, or consent of instructor. Recommended: Environ behavior of the diverse assemblage of local marine habitats, including estuarine amphibians, marine reptiles, seabirds, and marine mammals. Laboratory emphasizes observational and experimental approaches to study of morphology, systematics, ecology, and behavior of the diverse assemblage of local marine fishes. Fieldwork strongly emphasized. Given off campus at a marine science center.

166. Biological Science and Marine Vertebrates. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisites: courses 5, 5L, 6, or equivalent. Recommended: Mathematics 3A, 3B, 3C, or 31A, 31B, and 32A, Physics 8A, 8B, and 8C, and Env 9, or consent of instructor. Recommended: Environ behavior of the diverse assemblage of local marine habitats, including estuarine amphibians, marine reptiles, seabirds, and marine mammals. Laboratory emphasizes observational and experimental approaches to study of morphology, systematics, ecology, and behavior of the diverse assemblage of local marine fishes. Fieldwork strongly emphasized. Given off campus at a marine science center.

167. Ecological Physiology of Marine Vertebrates. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisites: courses 5, 5L, 6, or equivalent. Recommended: Mathematics 3A, 3B, 3C, or 31A, 31B, and 32A, Physics 8A, 8B, and 8C, and Env 9, or consent of instructor. Recommended: Environ behavior of the diverse assemblage of local marine habitats, including estuarine amphibians, marine reptiles, seabirds, and marine mammals. Laboratory emphasizes observational and experimental approaches to study of morphology, systematics, ecology, and behavior of the diverse assemblage of local marine fishes. Fieldwork strongly emphasized. Given off campus at a marine science center.

168. Animal Physiology (6 units). Lecture, three hours; laboratory, three hours. Prerequisites: courses 5, 5L, 6, or equivalent. Recommended: Chemistry 11A, 11B/11BL, 11C/11CL. Not open for credit to students with credit for course 167 or former course 170. Introduction to physiological principles, with emphasis on organ systems and intact organisms.

169. Regulatory Physiology (6 units). Lecture, three hours; laboratory, five hours. Prerequisites: courses 5, 5L, 6, or equivalent. Recommended: Chemistry 11A, 11B/11BL, 11C/11CL. Not open for credit to students with credit for course 167 or former course 170. Introduction to whole animal and organ physiology. Primary considerations to neuronal and endocrine regulations of body functions and integration of organ systems.

170. Insect Physiology. Lecture, two hours; laboratory, six hours. Prerequisites: course 158 or 166 or 167 or equivalent. Survey of physiology of insects, with emphasis on functional adaptations.

171. Principles of Neurobiology. Lecture, three hours; discussion, one hour. Prerequisites: courses 9, 100A, and 166, or consent of instructor. Strongly recommended: course 100B. Introduction to basic principles of neurobiology, including description of structure of neurons and nervous systems; ionic mechanisms responsible for generation of action potentials, and synaptic transmission; information transmission and coding in sensory pathways, and neural control of behavior; development of synaptic interactions between cells of nervous system.

172. Physiology of Sensory Organs. (Formerly numbered 173.) (Same as Physiological Science M173.) Lecture, three hours; discussion, one hour. Prerequisites: courses 171 (or Physiology Science 111A) or M175A-M175B (or Physiological Science M180A-M180B) or equivalent. Structure and function of sensory organs. Adoption of quantitative and comparative approach to provide insight into evolution of sensory organs in both invertebrates and vertebrates.

173. Anatomy and Physiology of Sense Organs. (Formerly numbered 173.) (Same as Physiological Science M173.) Lecture, three hours; discussion, one hour. Prerequisites: courses 171 (or Physiology Science 111A) or M175A-M175B (or Physiological Science M180A-M180B) or equivalent. Structure and function of sensory organs. Adoption of quantitative and comparative approach to provide insight into evolution of sensory organs in both invertebrates and vertebrates.

174A. Advanced Topics in Cell and Molecular Biology (2 units each). (Formerly numbered 174A-B.) Lecture, four hours; laboratory, five hours. Series of five-week two-unit courses on recent developments in fields of cell and molecular biology. Two courses to be presented in succession in same term as well as other courses. May be repeated once for credit. Concurrently scheduled with courses C222A-C222F.

174A. Molecular Evolution. Prerequisites: courses 100B, 108, Chemistry 153B. Current developments in the field of molecular evolution. Constructing evolutionary trees at molecular level; formal testing of evolutionary hypotheses using sequencing data.


174C. Eukaryotic DNA Replication and Cell Cycle Control. Prerequisites: courses 100B, 108, Chemistry 153B. Enzymatic mechanisms of DNA replication, protein kinases and cell cycle control, regulation of genes encoding DNA replication proteins.


174F. Molecular Parasitology. 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 parasitic vacuoles.

175A. Neuroanatomy. Prerequisites: courses 5, 9, Chemistry 132A, Physics 6B or 8C or equivalent. Recommended: Chemistry 153A, 153B, 153C, consent of instructor. Recommended: Chemistry CM153G. Cell cycle; DNA replication and repair; structure and properties of cellular organelles; regulation of cell division; cell transformation; normal and aberrant expression of oncogenes; molecular aspects of development. Concurrently scheduled with course CM223.


175D. Neuroanatomy. Prerequisites: courses 5, 9, Chemistry 132A, Physics 6B or 8C or equivalent. Recommended: Chemistry 153A, 153B, 153C, consent of instructor. Recommended: Chemistry CM153G. Cell cycle; DNA replication and repair; structure and properties of cellular organelles; regulation of cell division; cell transformation; normal and aberrant expression of oncogenes; molecular aspects of development.

175E. Molecular Parasitology. 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 parasitic vacuoles.

175F. Molecular Parasitology. 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 parasitic vacuoles.

176. Advanced Topics in Animal Virus/Host Interaction (2 units). Five-week intensive course. Lecture, three hours; discussion, one hour. Prerequisites: courses 171 (or Physiology Science 111A or Psychology 115) or M175B (or Neuroscience M101B or Physiology Science M103B or Psychology M117B). Neuronal mechanisms underlying memory, learning, and cognition.

177. Invertebrate Endocrinology. Lecture, three hours; discussion, one hour. Prerequisite: course 158 or 166 or 167 or consent of instructor. Comprehensive treatment of invertebrate endocrinology.
M191. Biological Bases of Psychiatric Disorders. (Same as Physiological Science M181 and Psychiatry M191.) Lecture, three hours; discussion, two hours; laboratory, two hours. Consent of instructor. Consideration of current research in experimental psychology, basic, clinical science, and genetic factors. 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. Mr. Chapman.

204. Advanced Biology of Algae. Lecture, four hours; discussion, one hour. Prerequisite: consent of instructor. Consideration of current research in experimental biology, basic, clinical science, and genetic factors. 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. Mr. Chapman.

205. Marine Invertebrate Biology. Lecture, four hours; laboratory, eight hours. Prerequisite: consent of instructor. Functional morphology, life histories, and systematics of marine invertebrates of all major and minor taxa; emphasis on the living animal and its habitat. Off campus at a marine science center.

206. Advanced Ichthyology. Lecture, three hours; laboratory, three hours. Prerequisite: course 111 or 112. Advanced study of various aspects of fish biology. Theme varies from year to year. May be repeated for credit.

208. Advanced Vertebrate Morphology. Lecture, two hours; laboratory, eight hours. Prerequisites: course 110 or equivalent, consent of instructor. Emphasis on a functional approach to evolution of vertebrate locomotor, feeding, and circulatory systems. Laboratory includes comparative and experimental analyses of morphological adaptations. Independent project required. May be repeated once for credit.

Ms. Van Valkenburgh

210. Advanced Ornithology. Lecture, two hours; laboratory, two hours; fieldwork, two hours. Prerequisites: course 114 or equivalent, consent of instructor. Advanced study of topics in modern avian biology. Emphasis on experimental approaches to investigation of physiology (energetics, nutrition, osmoregulation), ecology (population and community organization), and behavior (foraging, breeding, sociality).

211. Physiology and Ecology of Digestion. Lecture, three hours; laboratory, two hours; field trip, two hours. Prerequisite: course 146 or equivalent. Introduction to function of digestive systems and intestinal adaptations to diet, stage of development, and natural selection. Digestion and membrane transport emphasized in lecture and discussion sections; modern techniques taught in laboratory. Students conduct individual projects in lab and field.

212. Experimental Invertebrate Zoology (8 units). Lecture, two hours; laboratory, 12 hours. Prerequisites: courses 5, 5L, 6, consent of instructor. Advanced treatment of physiology, behavior, and ecology of invertebrates, with emphasis on independent laboratory and field investigations. Concurrently scheduled with course C104. Mr. Hamner, Mr. Morin

214. Physiological Ecology of Desert Animals. Lecture, three hours; laboratory, one hour; field trips, four hours. Prerequisites: courses 5, 6. Consideration of physiological, behavioral, morphological, and ecological mechanisms desert animals use to enhance their survival in an arid and habitat. Concurrently scheduled with course C134A. Mr. Nagy

215. Introduction to Marine Science. Lecture, three hours; laboratory, three hours; weekend field trips. Prerequisites: courses 5, 5L, and 6, or consent of instructor. Strongly recommended for prospective MBQ students. Introduction to physical, chemical, and biological processes in marine science. Emphasis on biological systems and natural communities. Concurrently scheduled with course C130.

216. Quantitative Methods in Behavior and Ecology. Lecture, two hours; laboratory, six hours. Prerequisites: courses 122 or 129 or equivalent, consent of instructor. Quantitative methods for data collection and analysis in behavioral and ecological research. Lectures review general nature of quantitative problems that arise in behavior and ecology and statistical methods used to solve them. Laboratory exercises emphasize modern techniques, using comprehensive statistical packages and software routines on personal microcomputers, of the kinds of data that frequently arise in field biological research.

Mr. R. Gibson

219. Marine Ecology. Lecture, four hours; discussion, one hour. Prerequisite: graduate standing, consent of instructor. Structure, diversity, and energetics of marine communities; behavior, population dynamics, and biogeography of component species; associated oceanography and geography. Off campus at a marine science center.

Mr. Vance

220. Oceanology. Lecture, four hours; discussion, one hour. Prerequisite: graduate standing, consent of instructor. Ecology and dynamics of pelagic and benthic associates, physicochemical properties of seawater and marine substrates and their biological significance; qualitative and quantitative methods of oceanography. Given off campus at a marine science center.


Mr. Vance

CM220. Molecular Cell Biology (6 units). (Not the same as course C220 prior to Fall Quarter 1984.) (Same as Anatomy M209A and Physiology M209A.) Prerequisite: consent of instructor. Introduction to cell biology for graduate students in basic medical sciences and selected undergraduates. Topics include the genetic code, membrane structures, assembly, and function, heterodispersity of organisms, intracellular and intercellular signaling, immunity and gene function, structure and replication. Concurrently scheduled with course CM139.

Mr. Bok, Mr. Homsher (W)

C222A-C222F. Advanced Topics in Cell and Molecular Biology (2 units each). Lecture, three hours; discussion, one hour. Series of five-week two-credit courses designed to develop in fields of cell and molecular biology. Two courses to be presented in succession in same term whenever offered; student may take either or both. Concurrently scheduled with course C171.

C222A. Molecular Evolution. Prerequisites: courses 100B, 108, Chemistry 153B. 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. S/U or letter grading.

Mr. Lake


C222C. Eugenetic DNA Replication and Cell Cycle Control. Prerequisites: courses 100B, 108, Chemistry 153B. Enzymatic mechanisms of DNA replication, protein kinases and cell cycle control, regulation of genes encoding DNA replication proteins. Original research proposal required. Mr. R. Fessler

222F. Molecular Parasitology. Examination of recent advances in molecular biology of parasites and host-parasite relationship. Specific topics include parasitic infections, parasitic development, RNA editing, prospects for parasitic vaccines. Original research proposal required. Mr. Grunstein

C223. Macromolecular Metabolism and Subcellular Organization (6 units). (Same as Biological Chemistry CM230C and Chemistry M230C.) Lecture, five hours. Prerequisites: Chemistry 153A, 153B, 153C, consent of instructor. Recommended: Chemistry CM153S. Cell cycle; DNA replication and repair; structure and properties of cellular organelles; regulation of cell division; cell transformation; normal and aberrant expression of oncogenes; molecular aspects of development. Concurrently scheduled with course M169.

224. Marine Molecular Biology (8 units). Lecture, three hours; laboratory, eight hours. Prerequisites: background in marine sciences, basic cell biology and biochemistry, consent of instructor. Ten-week intensive course utilizing single crystal X-ray diffraction, low angle X-ray diffraction, electron diffraction, optical diffraction, utilizing single crystal X-ray diffraction, low angle X-ray diffraction, electron diffraction, optical diffraction, and electron microscopy to study of DNA replication, organization of cell division; cell transformation; normal and aberrant expression of oncogenes; molecular aspects of development. Given off campus at a marine science center.

C225. Tropical Animal Communication (4 or 8 units). Prerequisite: four units of biology, or as a four-unit quarter-long course or as an eight-unit Field Biology Quarter course. Four-unit course has lecture, three hours; discussion, two hours. Animal communication behavior, tropical vertebrate behavior, and evolution of information processing systems. Eight-unit 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. Concurrently scheduled with course C125. S/U or letter grading. Mr. Narins

M226A-M226B. Principles of Microbial Pathogenesis. (Same as Microbiology M226A-M226B and Microbiology and Immunology M226A-M226B.) Lecture, one hour; discussion, three hours. Prerequisites: Microbiology and Immunology 202A, 202B, 202C, and 202D, or equivalent, or consent of instructor. Lecture/discussion format designed to analyze basic pathways of microbial pathogenesis and how these pathways interact on molecular and cellular approaches to understand host-microbial interaction. M226A: Bacterial and Mycotic Infections; M226B: Parasitic and Viral Infections. Mr. Ahmed

C227. Behavioral Ecology (4 or 8 units). Prerequisites: course 6 and Mathematics 3 or 31 series, or consent of instructor. Offered either as a four-unit quarter-long course or as an eight-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. Eight-unit 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. Concurrently scheduled with course C126. S/U or letter grading. Mr. Narins

228. Prokaryotic and Eukaryotic Gene Systems (2 units). Presentations concerning current experimental approaches in study of DNA replication, organization, transcription, and translation. Mr. Grunstein, Mr. Ray

M230B. Structural Molecular Biology. (Same as Chemistry M230B.) Lecture: three hours, discussion, one hour. Prerequisites: Physics 6C, Mathematics 3C, consent of instructor. Selected topics from principles of biology, biochemistry, genetics, molecular biology, proteomics and RNAs; structures of fibrous proteins, nucleic acids, and polysaccharides; geographic analysis and Fourier transforms; principles of electron, neutron, and X-ray diffraction; optical and computer imaging; three-dimensional reconstruction. S/U or letter grading. Mr. Eisenberg

M230D. Structural Molecular Biology Laboratory (2 units). (Same as Chemistry M230D.) Laboratory, 10 hours. Corequisites: course M230B. Methods in structural molecular biology, including experiments utilizing small and large scale X-ray crystallography, low angle X-ray diffraction, electron diffraction, optical diffraction, optical filtering, three-dimensional reconstruction from electron micrographs, and model building. Mr. Eiserling, Mr. Lake

M231A-M231B-M231C. Advanced Evolutionary Biology. (Formerly numbered 231A-231B-231C.) (Same as Earth and Space Sciences M243A-M243B-M243C.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Second advanced course in advanced studies of concepts and methods in evolutionary biology. Topics may include speciation, extinction, coevolution, fossil record, rates of evolution, contributions of molecular biology in evolutionary studies, and development of evolutionary thought. Students encouraged to take each course in sequence. Themes vary from year to year. May be repeated for credit. S/U or letter grading. M231A. Mechanisms of Evolution. S/U or letter grading. M231B. Patterns of Evolution. M231C. Molecular Evolution.

232. Advanced Ecology. Lecture, five hours; discussion, five hours; field trips, five hours. Prerequisite: course 122 or equivalent. Concepts and topics in ecology, evolutionary or behavioral ecology, or theoretical ecology. Topics vary from year to year and may include advanced concepts from theoretical biology, community ecology, modeling in ecology, habitat selection, community structure and organization, and ecology and evolution of reproductive rates. May be repeated for credit. S/U or letter grading. Mr. Fox, Ms. Morrison

M233. Principles, Practices, and Policies in Biotechnology (2 units). (Same as Biological Chemistry M233, Chemical Engineering M233, Chemistry M233, Microbiology M233, Microbiology and Immunology M233, and Radiological Science M233.) Lecture: graduate standing or consent of instructor. Presentation of technologies, regulatory practices, and policies required for product development and review of current opportunities and developments in biotechnology. Topics include fermentation processes, plant and large-scale bioprocess technologies, scaleup strategies, industrial recombinant DNA processes, hybridomas, protein engineering, peptide mimetics and rational drug design, medical and microscopic imaging, and intellectual property issues. S/U or letter grading. Mr. Fox, Ms. Morrison

234. Genetic Control of Development. (Formerly numbered 244A.) Advanced laboratory approach to current advances in molecular and cellular biology, including problems in oogenesis and early embryogenesis, pattern formation, axis determination, nervous system development, cellular morphogenesis, and cell-cell and cell-matrix interactions. S/U or letter grading.

235. Current Topics in Escherichia coli Genetics (2 units). Prerequisite: course 596. Seminar on topics from current literature in Escherichia coli molecular genetics, with emphasis on understanding the potential consequences of future events in molecular biology. S/U or letter grading. Mr. Narins

236. Seminar in Neurobiology. Discussion, 10 hours. Prerequisites: course 224, consent of instructor. Seminar discussion is on current issues and works in neurobiology. Concurrently scheduled with course C141. Preparation and presentation of term paper, in addition to other course requirements. May be repeated for credit. Mr. O'Lague

237. Marine Invertebrates. Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 3C, Physics 6C, consent of instructor. Open to qualified undergraduates with consent of instructor. Physical properties of animal signals and physiological mechanisms underlying their generation and reception. Lectures treat signal transmission, signal transmission, and receptor design in light of constraints placed on each of the sensory modalities. Examples of communication systems using visual, auditory, chemical, electrical, and magnetic cues, with emphasis on biological adaptations for efficiently signaling species-specific information. Mr. Narins

238. Structure, Function, and Biogenesis of the Mitochondrion. Lecture, three hours. Prerequisites: course 158, consent of instructor. Origin, maintenance, and function of the mitochondrion as example of a highly compartmentalized subcellular organelle. Mr. Simpson

MC239. Molecular Basis of Plant Differentiation and Development. Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 9 and 108 or equivalent. Selected advanced problems in molecular and cellular biology concerning differentiation and development in plants and molecular mechanisms underlying these processes. Discussion of a variety of plant systems, with focus on developmental critical concepts of current experimental basis of research in this field. Concurrently scheduled with course C141. Preparation and presentation of term paper, in addition to other course work, required of graduate students. Ms. Erickson, Ms. Tobin

240. Physiology of Marine Animals. Lecture, four hours; discussion, one hour. Prerequisite: graduate standing or consent of instructor. Lecture and laboratory studies on cellular, tissue, organ, and animal physiology: regulatory physiology; metabolic characteristics of cells, energy transformations. Given off campus at a marine science center.

241. Topics in Neurobiology. Lecture, three hours. Prerequisites: course 171 or equivalent. Selected advanced problems in neurobiology discussed in depth, with emphasis on analysis of original papers. May be repeated for credit. Mr. O'Lague

243. Animal Communication. Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 3C, Physics 6C, consent of instructor. Open to qualified undergraduates with consent of instructor. Physical properties of animal signals and physiological mechanisms underlying their generation and reception. Lectures treat signal transmission, signal transmission, and receptor design in light of constraints placed on each of the sensory modalities. Examples of communication systems using visual, auditory, chemical, biological, and magnetic cues, with emphasis on biological adaptations for efficiently signaling species-specific information. Mr. Narins

244. Advanced Insect Physiology. Lecture, two hours; laboratory, five hours. Prerequisite: course 168 or consent of instructor. Detailed discussion of current problems in insect physiology, with advanced laboratory experiments. Mr. Engelmann

245. Advanced Topics in Cell Biology (2 units). Seminar, one hour; discussion, ten hours. Prerequisite: course 138 or 158 or equivalent. Includes seminar section on a current topic in cell biology and discussion section on seminar topic. Students prepare one seminar each term, using references supplied as background, and select a topic with aid of current literature and consent of instructor. May be repeated for credit. S/U grading.

M246. Computer Analysis of Genetic Organization. (Same as Microbiology M246.) Lecture, two hours, two weeks; laboratory, six hours. Prerequisite: course 108 or Microbiology C119 or equivalent. Lectures and laboratory instruction in contemporary procedures for analyzing and interpreting biology data with the computer. No prior computer experience necessary; students gain both general and specialized facility with IBM PC and Digital VAX computers.

Mr. Nierich, Mr. Simpson (alternate years)

247. Advanced Plant Biology. Lecture, three hours; discussion, two hours. Prerequisite: course C141 or 162 or equivalent. Open to undergraduates with consent of instructor. Designed to expose first-year graduate students to topics of current interest in plant biology. Subtopics include photosynthesis, growth and development, organelle structure, development and function, and plant-specific metabolic processes (photosynthesis, nitrogen fixation, metabolism of nitrogenous compounds, or other related processes).
M248. Molecular Genetics. (Same as Biological Chemistry M248 and Microbiology M248.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Basic concepts in modern genetics, with examples from both eukaryotic and prokaryotic systems. Emphasis on use of genetic techniques in addressing fundamental questions in biochemistry and molecular biology. Topics include mutagenesis, mutant selection, recombination, genetic mapping, complementation, transposable elements, gene regulation, genetic regulation, and molecular evolution.

251. Seminar: Systems (2 units). Discussion, two to four hours. Prerequisite: consent of instructor. Current topics in systems biology, including methods for understanding living systems at the whole organism level, the systems level, and the population level. Topics vary from year to year. May be repeated for credit. Mr. Buth

CM252. Biological Catalysis. (Same as Biological Chemistry M255, Chemistry CM255, and Pharmacology M253.) Lecture, three hours; discussion, one hour. Prerequisite: courses 100A, 153A, 153B, or equivalent, consent of instructor. Reaction mechanisms in molecular biology; experimental approaches for study of enzymes, including kinetics, isotope labeling, spectroscopy, chemical modification, and mass spectrometry; design of pharmacologically active agents and artificial enzymes. Drug metabolism and interactions addressed on a molecular level. Lectures currently alternate with laboratory course CM160. Graduate students required to write research paper and present oral report on it.

Mr. Cho, Mr. Fukuto, Mr. Sigman (W)


M254. Seminar: Plant Morphogenesis (2 units). Ms. Hirsch

255. Seminar: Invertebrate Zoology (2 units). Mr. Morin, Mr. Muscatine

CM256. Human Genetics. (Same as Microbiology CM256.) Lecture, three hours; discussion, one hour. Prerequisite: courses 100A, 153A, or equivalent, consent of instructor. Application of genetic principles in human populations, with emphasis on cytogenetics, biochemical genetics, population genetics, and genetic counseling. 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. Concurrency scheduled with course CM256A. Open to advanced independent research projects of graduate students.

Mr. Luiss, Mr. Merriam

257A. Gene Manipulation: Genetic Engineering. (Formerly numbered 257B.) Lecture, three hours; discussion, one hour. Prerequisite: courses 100A, 153A, or equivalent, consent of instructor. Survey of methods and applications of recombinant DNA research as applied to both basic scientific research and the biotechnology industry.

Mr. Salser

257B. Gene Manipulation: Advanced Course (2 units). Lecture, 90 minutes; discussion, one hour. Prerequisite: course 157 or 257A. Additional topics in methods and applications of recombinant DNA research as applied to both basic scientific research and the biotechnology industry. S/U or letter grading.

Ms. Selser

M258A. Molecular Genetic Mechanisms of Immune Response (2 units). (Same as Microbiology M258A and Microbiology and Immunology M258A.) Lecture, two hours; discussion, one hour. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on immunoglobulin I and II, oncogenes of immune system, T cells and B cells, and loci affecting differentiation. S/U or letter grading.

Mr. Kronenberg, Mr. Wall (W, five weeks)

M258B. Biology of B Cells: Development, Repertoire, and Activation (2 units). (Same as Microbiology M258B and Microbiology and Immunology M258B.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on B cell development, repertoire, and growth and differentiation regulation. S/U or letter grading.

Mr. Braun, Mr. Stevens (W, five weeks)

258C. T Cells (2 units). (Same as Microbiology M258C and Microbiology and Immunology M258C.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B, Microbiology and Immunology 202A. Reading and discussion of current research articles on immune response, function, including receptors and activation pathways, memory, tolerance, and specialized subjects and their functions.

Mr. Clark (Sp, five weeks)

M259D. Molecular Interactions in Immunologic Diseases (2 units). (Same as Microbiology M259D and Microbiology and Immunology M259D.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on immunocompetence of antibiotics, antigens, and complement, antigen recognition, antigen restriction. S/U or letter grading.

Mr. Porter (Sp, five weeks, alternate years)

M259F. Immune Regulation (2 units). (Same as Microbiology M259F and Microbiology and Immunology M259F.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on idiootype network suppressor T cells, tolerance at T and B cell levels, and Ig control. S/U or letter grading.

Mr. Sercarz (F, five weeks)

265A. Seminar: Herpetology (2 units). Discussion, three to six hours. Prerequisite: consent of instructor. Seminar on topics of current interest in population genetics, such as kin selection, sociobiology, cultural evolution, conservation genetics, etc.

Mr. Taylor

265B. Seminar: Stomatal Function (2 units). Lecture, two hours; discussion, one hour. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on stomatal responses, gas exchange, environmental and hormonal regulation of stomatal responses, sensory transduction, and developmental adaptations.

Mr. Zeiger

265M. Seminar: Biophysical Plant Ecology (2 units). Mr. Nobel

M266A-M266B-M266C. Seminar: Molecular Embryology (2 units each). (Same as Biological Chemistry M266A, Molecular Genetics M266B, and Microbiology and Immunology M266C.) Lecture, three hours; discussion, one hour. Prerequisite: course 101A or consent of instructor. Advanced course in developmental genetic principles and techniques, with emphasis on early development. Intended mostly for students actively working or highly interested in embryology. S/U or letter grading.

Ms. Lengyel, Mr. Merriam

266M. Seminar: Current Topics in Evolutionary Ecology (2 units). Mr. Cody

268. Seminar: Population Biology (2 units). Mr. Cody, Mr. Hespenheide, Mr. Vance


Mr. Buth, Mr. Hespenheide

270. Seminar: Environmental Physiology (2 units). S/U grading. Mr. Nagy

271. Seminar: Physiology and Mythology (2 units). Prerequisite: course 101A or equivalent or consent of instructor. Advanced study in biology of algae and fungi. Topics in physiology and ecology, physiology and physiology of algae and fungi, and their industrial uses. Algae and fungi as experimental organisms. Phylogeny and origin of eukaryotes. Evolutionary origin of chloplasts.

Mr. Chapman

272. Seminar: Marine Biology (2 units). Mr. Gordon, Mr. Morin, Mr. Muscatine

273. Seminar: Entomology (2 units). Discussion of specific topics in entomology and related fields. Main theme varies from year to year, but usually emphasizes areas such as behavior, ecology, and evolution. S/U grading.


Mr. Gibson (W)

276. Seminar: Molecular Genetics (2 units). Topics vary each term.

Mr. Salser

277. Seminar: Genetics (2 units). Mr. Merrian

278. Seminar: Molecular Genetics of Development (2 units). Prerequisites: graduate standing, consent of instructor. Topics vary from year to year, with focus on development of establishment of pattern and function during embryogenesis by interaction of signal transduction systems and transcription factors. S/U or letter grading.

Mr. Coburn

279. Seminar: Molecular Neurobiology (2 units). Lecture, three hours; prerequisite: graduate standing. Emphasis on current topics in molecular and developmental neurobiology. S/U or letter grading. Mr. Tobie

280. Cellular and Molecular Developmental Neurobiology. (Same as Anatomy M204, Neuroscience M204, Physiology M204, and Psychiatry M204.) Lecture, three hours; discussion, one hour. Prerequisites: Neuroscience M201, M202, and M203, or Biological Chemistry M253, or consent of instructor. Cellular and molecular processes that regulate development of nervous systems of vertebrates and invertebrates. Topics include regional specification in early neurogenesis, generation of neural diversity, pattern formation, and course covering fundamental and recent advances in molecular cellular and molecular immunology. Lectures supplemented with discussion section focusing on reading and analysis of primary research articles. S/U or letter grading.

Mr. Kronenberg, Ms. Miceli, Mr. Smale

282. Seminar: Molecular Biology (2 units).

283. Seminar: Ichthyology (2 units). Prerequisite: course 111 or 112. Student presentations and discussion of specific topics in ichthyology. Theme varies from year to year. May be repeated for credit.

Mr. Buth

283A. Seminar: Topics in Cell Biology (2 units). 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, and molecular and cellular transformation, nuclear organization and function.

Mr. Simpson

284. Seminar: Structural Macromolecules (2 units). Lecture, one hour; discussion, three hours. Prerequisites: Introduction to Biochemistry M280 or consent of instructor. Corequisite: consent of instructor. Protein and related topics including structure, function, interaction, and function of macromolecules. Emphasis on structure, and roles in cell and developmental biology.

Mr. Fessler

CM285. Intermediate Immunology. (Formerly numbered CM285.) Lecture, three hours; discussion, one hour. Prerequisite: course M185A or equivalent. Recommended corequisite: Chemistry M13B. In-depth exploration of topics covered in course M185A. Concurrently scheduled with course CM185B.

Mr. Aguiara, Mr. Kronenberg, Mr. Sercarz
296. Seminar: Plant Development (2 units). Lecture, one hour; discussion, two hours. Prerequisites: one plant physiology course and at least one advanced undergraduate or graduate plant development or biochemistry course. Seminar on specific topics in plant development, current research, and research being conducted in each term. SU grading.

Mr. Phinney, Ms. Tobin

288. Seminar: Plant Cell Biology (2 units). Recommended (but not prerequisite) course 162.

Mr. Segovia González

289. Current Topics in Plant Molecular Biology (2 units). (Formerly numbered 296.) Discussion, one hour. Recent research developments in the field of plant molecular biology. Opportunities for graduate students to discuss individual research interests. SU grading.

Ms. Hirsch

290. Comparative Physiology (2 units). Mr. Gordon, Mr. Narins

291. Seminar: Physiology and Biochemistry of Arthropods (2 units). Mr. Engemann

292. Seminar: Molecular Evolution (2 units). Discussion, three hours. Detailed analysis of current understanding of evolution of molecular sequences and structures.

Mr. Lake

M293A. Seminar: Current Topics in Immunobiology of Cancer (2 units). (Same as Microbiology M292A and Microbiology and Immunology M292A.) Prerequisite: consent of instructor. Review of recent literature in immunology, biology, and biochemistry of cancer, with emphasis on fundamental studies involving cell-mediated immunity, humoral response, tumor specific antigens, and new techniques. Discussion of reports on scientific meetings. May be repeated for credit. SU/grading.

Mr. Bonavida (F,W,Sp)

M293B. Immunology of AIDS (2 units). (Same as Microbiology M292B and Microbiology and Immunology M292B.) Lecture, one hour; discussion, one hour. Prerequisites: courses M256B, M258C, Microbiology and Immunology 202A, 202B, 202C, 202D, or equivalent, consent of instructor. Lecture and student discussion of assigned publications. Topics include specific anti-HIV immune responses, activation of immune system by HIV, and basic mechanisms that underlie HIV-induced immunodeficiency. S/U or letter grading.

Ms. Giorgi (W)

M293C. Biological Individuality and Immunity (2 units). (Same as Microbiology M292C and Microbiology and Immunology M292C.) Prerequisite: course 293A. Review of current literature in the field of immunogenetics, with emphasis on fundamental studies involving genetic and immunologic principles and techniques. Selected topics discussed and results interpreted in view of current knowledge. Conclusions and current research methods evaluated. (Sp, alternate years)

M293D. Selected Topics in Immunology (2 units). (Same as Microbiology M292D and Microbiology and Immunology M292D.) Prerequisite: consent of instructor. Student participation in discussions related to various topics in immunology. May be repeated for credit. S/U or letter grading.

Mr. O’Lague

294. Seminar: Current Aspects of Photosynthesis (2 units). Mr. Thörmer

295. Seminar: Neurophysiology (2 units). Mr. O’Lague

296A-296AZ. Advanced Topics in Molecular, Cellular, and Developmental Biology (2 units each). Discussion, three hours. Prerequisite: consent of instructor. 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. SU grading.

296A-296BZ. Seminars: Integrative Biology — Cell, Organism, and Population (1 to 4 units each). Discussion, three hours. Prerequisite: consent of instructor. Advanced study and analysis of current topics in cellular, organismic, and population biology. Discussion of current research and literature in research specialty of faculty member teaching course. SU grading.

297. Advances in Molecular Analysis of Plant Development and Plant/Microbe Interactions (2 units). Prerequisite: consent of instructor. Recent advances in plant molecular biology, with emphasis on control of gene expression both during plant development and in plant/microbe interactions. SU grading.

Ms. Hirsch, Mr. Singh

M298. Seminar: Current Topics in Molecular Biology (2 units). (Same as Biological Chemistry M298, Chemistry M298, Microbiology M298, Microbiology and Immunology M298A, Microbiology and Immunology M298B.) Prerequisite: consent of instructor and graduate advisor of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

(F,W,Sp)

299. Seminar: Parasitology (2 units).

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. SU grading.

495. Preparation for Teaching Biology in Higher Education (2 units). Prerequisite: graduate standing. Study of problems and methodologies in teaching biology, which includes workshops, seminars, apprentice teaching, and peer observation. SU grading.

496. Preparation for Teaching Biology in Higher Education (2 units). Prerequisite: graduate standing. 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. SU grading.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate advisor 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. SU grading.

596. Directed Individual (or Tutorial) Studies (2 to 12 units).

596F. Directed Individual (or Tutorial) Studies (2 to 8 units). Given off campus at a marine science center.

597. Preparation for M.A. Comprehensive Examination (2 to 12 units). Prerequisite: consent of UCLA graduate advisor and graduate dean, and host campus advisor, department chair, and graduate dean. May not be applied toward M.A. or Ph.D. course requirements. SU grading.

598. M.A. Thesis Research and Writing (2 to 12 units).

599. Ph.D. Dissertation Research and Writing (2 to 12 units).

Business and Administration (Interdepartmental)

A316 Murphy Hall, (310) 825-1965

Additional Coursework for Students Interested in Business and Administration

The specialization in business and administration is not a major, but a sequence of supplemental courses designed to prepare students for the complexities of a career in business and administration. Students complete one of the many majors in the College of Letters and Science, as well as a sequence of courses.

For example, if you are interested in international business, you might major in a foreign language to become familiar with the literature and culture of other countries, and then add this program to gain basic understanding of economics, accounting, and statistics. Other students interested in working for a governmental agency or nonprofit corporation might add this program to a social sciences major. Students with an interest in a liberal arts area, who are not planning to go to graduate school, may want to complete this program to prepare for a job in business while pursuing a major of their choice. (Note: This program may not be taken with any economics major.)

Completion of this program in addition to a Letters and Science major will give you the basic skills and knowledge most employers seek. Courses used to satisfy either the major or general education requirements may also be applied toward the requirements of this program.

A minimum grade of C – is necessary to apply courses to this program, with an overall C average in the specialization. All courses must be taken for a letter grade; the P/NP option is not acceptable. You may satisfy one of the field studies course requirements by completing an independent studies course (199), taken in an appropriate department with prior consent of the program faculty advisor. You also are required to seek guidance from a field studies coordinator in choosing and researching your topic.

To enter the specialization, you must file a petition with the College Counseling Service in the College of Letters and Science. If you do not complete the program prior to graduation, you must petition out of the program to be eligible to graduate. (Such petitions are automatically granted; there is no penalty for not completing the program.) All degree requirements, including the specific requirements for this specialization, must be fulfilled within 228 units. A statement of completion is noted on your transcript and diploma when you have successfully completed the requirements for this specialization and for graduation.

For further information and help in assessing the appropriateness of this program and how it relates to your career/education goals, contact the College Counseling Service in the College of Letters and Science.

Core Courses

Required: Economics 1 and 2; Management 1A-1B; one statistics course; one mathematics course (except Mathematics A, 1, 38A, 38B, 104); two courses from English 4, 100W, 129, 131A through 131J, 136A, 136B, 136C (136A and 136B are in Progress courses; credit is given only on completion of both courses).
Analytical Skills
Required: Three courses from one of the following areas: (1) quantitative methods and formal reasoning: Anthropology 180, 186, Computer Science 141, Economics 141, 147A, 147B, Geography 171, Philosophy 9, 31, 32, Political Science 102, Program in Computing 10A, 10B, 10C, Psychology M142, 144, 150, 151, Sociology 104, 112, 113; (2) administration: Political Science M105, 142C, 143A, 143B, 145D, 146B, 146C, 146D, 151, 156B.

Field Studies
Required: Any three courses listed below, preferably from within one of the 10 fields:
(1) Communications — Communication Studies 100, 101, Sociology CM124A, CM124B, 135
(2) Urban and Regional Development Studies — Geography 148, M149, 150, 155, 157
(3) Applied Psychology — Linguistics 1 or 20, Psychology 110, 111, 120, 121, 187
(4) Economy and Society — Anthropology 60, 60P, 150, 167, History 149A, 149B, Political Science M141D, 142B, Psychology 175, Sociology 158, 168, 173
(5) Economic Systems — Economics 110, 180, 190, Political Science 124, 129, 130, Sociology 173
(6) Professional Writing — English 129*, 131A* through 131J*, 136A*, 136B*
(7) Accounting — Management 120A, 120B, 122, 123, 124, 127, 128
(8) Artificial Intelligence — Economics 141, 142, 148, Mathematics 142, 149, 172A, 172B
(10) Labor Studies — History 155A, 155B, Political Science 142C, Psychology M137E, Sociology 171

Chemistry and Biochemistry
3010 Young Hall, (310) 825-3958

Professors
Mario E. Baur, Ph.D. (Physical Chemistry)
Emily A. Carter, Ph.D. (Theoretical Chemistry)
Ovivile L. Chapman, Ph.D. (Organic Chemistry)
Steven G. Clarke, Ph.D. (Biochemistry)
Donald J. Crum, Ph.D. (Saul Winstein Professor of Organic Chemistry, University Professor)
Richard E. Dickerson, Ph.D. (Biochemistry, Molecular Biology)
David S. Eisenberg, D.Phil. (Physical Chemistry, Molecular Biology; Distinguished Teaching Award)
Julii F. Feigon, Ph.D. (Biochemistry)
Peter M. Felker, Ph.D. (Chemical Physics)
Christopher S. Foote, Ph.D. (Organic Chemistry and Biochemistry)
William M. Gelbart, Ph.D. (Physical Chemistry)
Jay D. Graila, Ph.D. (Biochemistry)
M. Frederick Hawthorne, Ph.D. (Inorganic and Organometallic Chemistry)
Karyoty Holzer, Ph.D. (Biochemistry)
Kendall N. Houk, Ph.D. (Organic and Theoretical Chemistry)
Wayne L. Hubbell, Ph.D. (Biochemistry; Jules Stein Professor of Ophthalmology)
Michael E. Jung, Ph.D. (Physical Chemistry and Biochemistry; Distinguished Teaching Award)
Herbert D. Kaesz, Ph.D. (Inorganic and Organometallic Chemistry)
Richard B. Kaner, Ph.D. (Inorganic and Solid-State Chemistry; Luckman Distinguished Teaching Award)
Daniel Kivelson, Ph.D. (Physical Chemistry; Distinguished Teaching Award)
Charles M. Knobler, Ph.D. (Physical Chemistry; Distinguished Teaching Award)
Raphael D. Levine, Ph.D. (Physical Chemistry)
Harold G. Martinson, Ph.D. (Biochemistry, Molecular Biology)
Malcolm F. Nicol, Ph.D. (Physical Chemistry)
C. Kumar N. Patel, Ph.D.
Emil Reissler, Ph.D. (Biochemistry, Molecular Biology)
Howard Reiss, Ph.D. (Physical Chemistry)
Verne N. Schumaker, Ph.D. (Biochemistry, Molecular Biology; Distinguished Teaching Award)
David S. Sigman, Ph.D. (Organic and Biological Chemistry)
Joan S. Valentine, Ph.D. (Inorganic Chemistry and Biochemistry)
John T. Wasson, Ph.D. (Geochemistry, Chemistry)
Richard J. Weiss, Ph.D. (Biochemistry)
Charles A. West, Ph.D. (Biochemistry; Distinguished Teaching Award)
R. Stanley Williams, Ph.D. (Physical Chemistry)
Jeffrey I. Zink, Ph.D. (Inorganic and Physical Chemistry)

Professors Emeriti
Frank A.L. Arei, Ph.D.
Daniel E. Atkinson, Ph.D.
Kyle D. Bayes, Ph.D.
Paul D. Boyer, Ph.D.
Mostafa A. El-Sayed, Ph.D. (Physical Chemistry; Jules Stein Award)
Paul S. Farrington, Ph.D.
Clifford G. Garner, Ph.D., D.Sc.
E. Russell Hardwick, Ph.D.
Thomas L. Jacobs, Ph.D.
John M. Jordan, Ph.D.
William G. McMillan, Jr., Ph.D.
Robert L. Scott, Ph.D.
Robert A. Smith, Ph.D.
Charles E. Strouse, Ph.D.
Kenneth N. Trueblood, Ph.D. (Distinguished Teaching Award)

Associate Professors
Sabeena Merchant, Ph.D. (Biochemistry, Molecular Biology)

Assistant Professors
Delroy A. Baugh, Ph.D. (Physical Chemistry)
James U. Bowie, Ph.D. (Biochemistry)
Catharine F. Clarke, Ph.D. (Biochemistry)
Albert J. Courrey, Ph.D. (Biochemistry)
Miguel Garcia-Garibay, Ph.D. (Organic Chemistry)
Robin L. Garrett, Ph.D. (Physical and Analytical Chemistry)
James W. Gober, Ph.D. (Biochemistry)
James R. Heath, Ph.D. (Physical Chemistry)
Andrej J. Liu, Ph.D. (Physical Chemistry)
Craig A. Merlic, Ph.D. (Organic and Organometallic Chemistry)
David C. Myles, Ph.D. (Organic and Bioorganic Chemistry)
Daniel Neuhauser, Ph.D. (Physical Chemistry)
Yves Rubin, Ph.D. (Organic and Bioorganic Chemistry)
Todd O. Yeates, Ph.D. (Biochemistry)

Lecturers
Max Kopelevich, Ph.D. (Chemistry)
Betty A. Luceigh, Ph.D. (Chemistry; Distinguished Teaching Award)
Arline A. Russell, Ph.D. (Chemistry)

Scope and Objectives
Chemistry is concerned with the composition, structure, and properties of substances, the transformations of these substances into others by reactions, and the kinds of energy changes that accompany these reactions. The department is organized in four interrelated and overlapping subdisciplines that deal primarily with the chemistry of inorganic substances (inorganic chemistry), the chemistry of carbon compounds (organic chemistry), the chemistry of living systems (biochemistry), and the physical behavior of substances in relation to their structures and chemical properties (physical chemistry).

Undergraduate Study
Admission
Regular and transfer students who have the prerequisites for the various courses are not thereby assured of admission to those courses. The department may deny admission to any course if a grade of D or below was received in a prerequisite, or if in the opinion of the department the student shows other evidence of inadequate preparation.

Transfer students with more than 84 quarter units are accepted into the departmental majors only if they have completed the following courses or their equivalents: the entire Chemistry and Biochemistry 11 series, Mathematics 31A, 31B, 32A, Physics 8A, 8C/8CL, and 8D/8DL, or 6A, 6B, and 6C (or a year of calculus-based physics). For biochemistry majors, year of biology may replace the physics. For chemistry majors, Mathematics 32B is recommended.

Transfer students with more than 105 quarter units are accepted into the departmental majors only if they have completed the following courses or their equivalents: the entire Chemistry and Biochemistry 11 series and one term of organic chemistry, Mathematics 31A, 31B, 32A, Physics 8A, 8C/8CL, and 8D/8DL, or 6A, 6B, and 6C (or a year of calculus-based physics). Biochemistry majors also should have completed a course in the biology of organisms; chemistry majors should have completed Mathematics 32B.

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 132A. Transfer students should consult the department's Undergraduate Advising Office for assistance in planning their programs.
Preliminary Examination for Chemistry and Biochemistry 11A

If you wish to enroll in Chemistry and Biochemistry 11A or 11AH, you must take the Chemistry Diagnostic Test during the enrollment period for the term in which you intend to take these courses. Enrollment is limited to students who have passed the examination. It will be given in CS50 Young Hall on Monday, September 26, 1994; Thursday, November 17, 1994; and Thursday, March 2, 1995.

If your performance on the examination does not qualify you for immediate admission to Chemistry and Biochemistry 11A, but you wish to enroll in a subsequent term, you may be eligible for enrollment in Los Angeles Valley College (LAVC) Chemistry 17. This course is given at UCLA during Fall Quarter specifically for UCLA students preparing for Chemistry and Biochemistry 11A. If you successfully complete LAVC course 17, you are entitled to admission to course 11A for the next three terms. Offered on a Passed/Not Passed basis, LAVC course 17 carries no UCLA graduation credit but does displace four units on your Study List. It is not an acceptable substitute for course 11A.

Advanced Placement in Chemistry

Students who have taken the Advanced Placement (AP) Chemistry Test and obtained a score of 4 or 5 receive eight units of chemistry credit and may petition for Chemistry 11A equivalency, or may take course 11A or 11AH at UCLA. Everyone planning to take Chemistry 11A or 11AH must take the Chemistry Diagnostic Test. If you received a score of 3 on the AP Chemistry Test, you receive eight units of chemistry credit but no course equivalency.

Credit Limitations

You may not take or repeat a chemistry or biochemistry course for credit if it is a prerequisite for a more advanced course for which you already have credit. This applies in particular to the repetition of courses (e.g., if you wish to repeat Chemistry 11A, you must do so before completing course 11B).

Undergraduate Majors

The department offers three majors: chemistry, biochemistry, and general chemistry. The chemistry and biochemistry majors are designed to prepare students for graduate study 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., 190, 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 4016 Young Hall.

Bachelor of Science in Chemistry

This program is for students who intend to pursue a career in chemistry.

Preparation for the Major

Required: Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL; Mathematics 31A, 31B, 32A, 32B, 33A; Physics 8A, 8C/8CL, and 8D/8DL (8B/8BL strongly recommended), or 6A, 6B, and 6C*. Physics 8 series is strongly recommended for students interested in physical chemistry, biophysical chemistry, or physical organic chemistry. No specific foreign language is required; however, reading knowledge of German (at least at the level of German 3) is strongly recommended if you are planning to pursue graduate work in chemistry.

The Major

Required: Chemistry and Biochemistry 11A, 11B, 113A, 114 (or 114H), 132A, 132B/132BL, 132C/132CL, either 136 or 144, 153A, 153L, 173, and two other upper division or graduate courses in the department, including at least one additional laboratory course from 136, 144, 154, 174, 184.

Bachelor of Science in Biochemistry

This 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 110A, 110B, 113A, 114 (or 114H), 132A, 132B/132BL, 132C/132CL, either 136 or 144, 153A, 153L, 173, and two other upper division or graduate courses in the department, including at least one additional laboratory course from 136, 144, 154, 174, 184.

The Major

Required: Chemistry and Biochemistry 110A, 110B, 113A, 114 (or 114H), 132A, 132B/132BL, 132C/132CL, either 136 or 144, 153A, 153L, 173, and two other upper division or graduate courses in the department, including at least one additional laboratory course from 136, 144, 154, 174, 184.

*If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

Graduate Study

The department offers programs of study and research leading to the M.S. and Ph.D. degrees in both Chemistry and Biochemistry. Candidates for advanced degrees may specialize in the following fields: biochemistry, inorganic, organic, or physical chemistry.

If you are planning to work toward the Ph.D., you should not seek an M.S. degree first but should apply directly to the Ph.D. program. Application materials may be obtained by writing to Phyllis Jergenson, Student Services Director, Department of Chemistry and Biochemistry, 4006 Young Hall, UCLA, Los Angeles, CA 90024-1569.

You may also be admitted to the biochemistry Ph.D. program through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.

Admission

An excellent undergraduate record is required in addition to the University minimum requirements. Graduate Record Examination (GRE) General and Subject Tests are recommended. GRE examinations are required for international students.

Each student admitted to graduate standing in chemistry is given orientation examinations at the beginning of the first term. The main purpose of the orientation requirement is to help you and your adviser plan your course program. The examinations include material covered in upper division courses in physical, organic, and inorganic chemistry. All courses
suggested because of deficiencies in undergraduate preparation are normally to be completed by the end of the first year.

There are no orientation examinations in biochemistry. You plan a course program in consultation with the biochemistry graduate adviser.

Chemistry students are encouraged to become familiar with research activities of all faculty members in their area of interest and to join a research group as soon as possible. Biochemistry students rotate through three research groups during Fall, Winter, and Spring Quarters, with a final selection made at the end of Spring Quarter.

Master of Science Degrees

Course Requirements

Chemistry M.S. — At least nine courses (36 units) are required, of which at least five (20 units) must be graduate courses and the remainder upper division courses. You must take a minimum of two courses in your major area and one course in an outside area. Choices may be made from the following:

Inorganic — Chemistry and Biochemistry 174, 207, 271A through 271Z, C275, C276A, 276B, 277, 279, C281

Organic — Chemistry and Biochemistry 207, 232, 236, 241A through 241Z, 242, C243A, C243B, 244A, 244B, 245, C251


Substitutions may be made with consent of the area adviser. Courses submitted as part of the M.S. program must be taken on a letter grade basis (exceptions noted below).

Up to 24 units of course 596 (S/U grading) or 598 may be applied toward the total course requirement; up to 20 units may be applied toward the minimum graduate course requirement.

Plan I (thesis plan) is the preferred method of attaining the M.S. in Chemistry.

Plan II (comprehensive examination plan) requires the satisfactory completion of three cumulative examinations in lieu of a thesis. In exceptional cases where Plan II is used, an additional six units of course 597 and six units from 258 and six units of course 268 to the graduate course requirement and the total course requirement. Courses must be approved by the biochemistry graduate adviser. With the exception of Chemistry and Biochemistry 258 and 596, all courses must be taken for a letter grade. The written requirements associated with the Winter and Spring Quarter student seminars must be satisfactorily completed.

Ph.D. Degrees

Course Requirements

Chemistry Ph.D. — Candidates in each area of specialization should normally complete as a minimum the coursework indicated below. Some of these requirements can be met on the basis of orientation examinations and courses taken prior to entry into the graduate program. If your projected research falls in an area which differs appreciably from that anticipated by the field requirements listed below, you may be permitted appropriate modifications. Required coursework must be completed prior to advancement to candidacy.


Organic Chemistry — (1) Required background material: Chemistry and Biochemistry 132A, 132B, 132C, 136; (2) courses C243A, 244A; (3) course C243B or 244B; (4) one additional course from physical chemistry (C213B, 245) or organic chemistry (173, 174, C275, 276A) or biochemistry (153C); (5) two courses from 207, 232, 236, 241A through 241Z, 242, 245, C281; (6) Chemistry and Biochemistry 248.

Physical Chemistry — (1) Required background material: Chemistry and Biochemistry 110A, 110B, 113A; (2) courses C215A, 215B, C223A, C223B, or equivalent; (3) course 226 each term; (4) one term of course 218 (for presentation of research); (5) two courses (for letter grade credit) from 215C, 215D, 223C, 225; (6) two courses (with S/U grading option) from 215C, 215D, 221A through 221F, 223C, 225, C243A, C276A, 277, Physics 105A, 110A, 110B, 131, 132, 140, or upper division mathematics courses (subject to approval). Substitutions may be made with consent of the physical chemistry area adviser.

Biochemistry Ph.D. — Candidates should normally complete as a minimum the coursework indicated below. Some of these requirements can be met on the basis of courses taken prior to entry into the graduate program with consent of the graduate adviser. Required coursework must be completed prior to advancement to candidacy.

(1) Required background material: one year of organic chemistry, one physical chemistry or biophysical chemistry course, one year of biochemistry, some coursework in the life sciences, and some biochemistry laboratory experience. Deficiencies in background may be made up after admission.

(2) Two courses (10 to 12 units) from Chemistry and Biochemistry CM253, M263, M267 (Anatomy and Cell Biology M209A may be substituted for course M267 with consent of the graduate adviser).

(3) An additional 24 units of upper division or graduate courses, including units from item 2 but not from items 4, 5, or 6, of which 18 units must be completed in your first year. You should select the courses in consultation with the biochemistry graduate adviser.

(4) Chemistry and Biochemistry 258 in your first four terms; seminars in other departments may be substituted with consent of the graduate adviser.

(5) Chemistry and Biochemistry 268 in your first three terms.

(6) Three laboratory rotations (Chemistry and Biochemistry 596) during your first year.

Teaching Experience

One year of teaching experience is required (one term may be waived with consent of the graduate adviser).

Qualifying Examinations

Chemistry Ph.D. — Rather than a single comprehensive examination, the department gives all chemistry Ph.D. candidates a series of written tests called cumulative examinations. These are designed to encourage and test the continued growth of professional competency through coursework, study of the literature, departmental seminars, and informal discussions with colleagues.

Three examinations are given per term at approximately monthly intervals. If you enter directly into the Ph.D. program and perform satisfactorily on the orientation examination in your special area, you may begin writing the examinations immediately. You must begin by the start of your second term in residence and must continue until you have passed five. To remain in good standing, you should pass at least one of the first six examinations attempted. Students with a master’s degree from an American university are required to pass three examinations out of nine attempts. Fifteen attempts are normally the maximum.

Biochemistry Ph.D. — The written examination requirement for all biochemistry Ph.D. can-
Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination

You are required to prepare a dissertation thesis based on independent, original research conducted under the supervision of your research adviser and doctoral committee. The final oral examination is optional with the doctoral committee. The determination is made at the time of the oral qualifying examination.

Lower Division Courses

2. Introductory Chemistry. Lecture, two hours; discussion, two hours. Not open to students with credit for course 11A. Concept of submicroscopic world of chemistry, ranging from protons to proteins in subject matter.

3. Beginning a Career in Molecular Sciences (1 unit). To 50 freshmen/sophomores. Recommended for students considering a career in chemical sciences. Introduction to and discussion of research and career opportunities in molecular sciences; establishment of a faculty/student mentorship for each student to help in preparing a paper on a student-selected research topic. May be repeated twice. (F,Sp)

4. General Chemistry. Lecture, four hours; discussion, one hour. Preparation: high school chemistry or equivalent background and three and one-half years of high school mathematics, successful completion of Chemistry Diagnostic Test. Recommended: high school physics. Required of all majors in chemistry and biochemistry. (Students lacking prerequisites may qualify for admission by exceptional performance on Chemistry Diagnostic Test.) Atomic picture of matter; periodicity of chemical properties; types of chemical reactions; reaction stoichiometry; chemical reaction calculations; quantum theory; atomic and molecular structure and bonding.

5. General Chemistry Laboratory. Laboratory, four hours; discussion, one hour. Preparation: high school chemistry or equivalent background and three and one-half years of high school mathematics. (Students lacking preparation may qualify for admission by exceptional performance on Chemistry Diagnostic Test.) Enroll in chemistry laboratory course 11A (or 11B, C- or better). Kinetic theory and thermodynamics of gas phase; thermochromy; molecular interactions in liquids and solids; acid-base and solubility equilibria; free energy and reactivity.

6. General Chemistry (Honors). Lecture, three hours; discussion, one hour. Enforced prerequisite: course 11A (or 11AH, C- or better). Use of the balance; volumetric techniques; equilibria; thermochromy; quantitative analysis using volumetric and potentiometric procedures; Beer’s law. (C- or better). Chemical kinetics; electrochemistry; main group and transition metal reactivity; coordination chemistry; special topics such as carbon chemistry, polymers, ceramics, biomolecules, etc.

7. General Chemistry Laboratory (2 units). Laboratory, four hours; video laboratory, one hour. Enforced requisites: courses 11A and 11B (corequisites), C- or better. Use of the balance; volumetric techniques; equilibria; thermochromy; quantitative analysis using volumetric and potentiometric procedures; Beer’s law. Ms. Russell (F,Sp)

8. General Chemistry (3 units). Lecture, two hours; discussion, one hour. Enforced prerequisite: course 11B (or 11BH, C- or better). Chemical kinetics; electrochemistry; main group and transition metal reactivity; coordination chemistry; special topics such as carbon chemistry, polymers, ceramics, biomolecules, etc.

9. General Chemistry (Honors). Lecture, three hours; discussion, one hour. Enforced prerequisite: course 11AH (B- or better). Honors course parallel to course 11B. Mr. Kivelson (W)

10. General Chemistry Laboratory (2 units). Laboratory, four hours; video laboratory, one hour. Enforced requisites: courses 11A and 11B (corequisites), C- or better. Use of the balance; volumetric techniques; equilibria; thermochromy; quantitative analysis using volumetric and potentiometric procedures; Beer’s law. Ms. Russell (F,Sp)

11. General Chemistry (3 units). Lecture, two hours; discussion, one hour. Enforced prerequisite: course 11B (or 11BH, C- or better). Chemical kinetics; electrochemistry; main group and transition metal reactivity; coordination chemistry; special topics such as carbon chemistry, polymers, ceramics, biomolecules, etc.

12. General Chemistry Laboratory (2 units). Laboratory, four hours; video laboratory, one hour. Enforced requisites: courses 11A and 11B (corequisites), C- or better. Use of the balance; volumetric techniques; equilibria; thermochromy; quantitative analysis using volumetric and potentiometric procedures; Beer’s law. Ms. Russell (F,Sp)

13. General Chemistry (3 units). Lecture, two hours; discussion, one hour. Enforced prerequisite: course 11B (or 11BH, C- or better). Chemical kinetics; electrochemistry; main group and transition metal reactivity; coordination chemistry; special topics such as carbon chemistry, polymers, ceramics, biomolecules, etc.

14. General Chemistry Laboratory (2 units). Laboratory, four hours; video laboratory, one hour. Enforced requisites: courses 11A and 11B (corequisites), C- or better. Use of the balance; volumetric techniques; equilibria; thermochromy; quantitative analysis using volumetric and potentiometric procedures; Beer’s law. Ms. Russell (F,Sp)

15. Survey of Organic Chemistry and Biochemistry. Lecture, six hours; discussion, one hour. Enforced requisites: courses 11A and 11B (or 11BH, C- or better). Not open to students with credit for course 132A. Recommended for students in prenursing, prephysical therapy, and predental hygiene. Does not meet requirements for admission to medical and dental schools. Introduction to structures and reactions of organic compounds, particularly with respect to their roles and transformations in living systems. (F)

16. Laboratory in Elementary Organic Chemistry and Biochemistry (1 unit). Laboratory, four hours. Enforced corequisite: course 15 (C- or better). Does not meet requirements for admission to medical and dental schools. Introduction to quantitative work with aqueous solutions and to preparation, isolation, and characterization of organic compounds, particularly some of those important in living systems. (F)

17. Lower Division Seminars (2 units each). (Formerly numbered 88.) Seminar, two hours; outside study, four hours. Limited to freshmen/sophomores. General introduction to frontier of molecular sciences or intensive exploration of a particular theme or topic. Consult Schedule of Classes for topics and instructors. P/NP or letter grading.

18. Serendipity in Science. Limited to 20 freshmen. Inquiry into unexpected discoveries in science that have had significant impact on society and analysis of circumstances which brought these about, beginning with: discovery of helium in the sun by Janssen in 1868 (using the newly developed field of spectroscopy); discovery of X rays by Röntgen in 1895 and of radioactivity by Becquerel in 1896. Other topics include discoveries important to medicine, such as penicillin by Fleming in 1928 and cleft palate by Rosen- berg in 1969. Mr. Kaez (F)

19. Special Courses in Chemistry (1 to 4 units). To be arranged. May be repeated for a maximum of eight units. (F,Sp)
110B. Physical Chemistry: Introduction to Statistical Mechanics and Kinetics. Lecture, four hours; discussion, one hour. Prerequisites: course 110A and Mathematics 32B, or consent of instructor. Strongly recommended: course 113A (for biochemistry majors; course 115B may be substituted). Kinetic theory of gases, principles of statistical mechanics, statistical thermodynamics, equilibrium structure and free energy, relaxation and transport phenomena; chemical kinetics, molecular-level reaction dynamics. Mr. Felker, Mr. Neuhauer (W,Sp).

113A. Physical Chemistry: Introduction to Quantum Mechanics. Lecture, four hours; discussion, one hour. Prerequisites: course 111C, Physics 8A, 9C, and 8D, or 6A, 6B, and 6C; Mathematics 31A, 31B, 32A, 33A (may be taken concurrently). Departure from classical mechanics: Schrödinger vs. Newton equations; model systems: particle-in-a-box, harmonic oscillator, rigid rotor, and hydrogen atom; approximation methods: perturbation and variational methods; many-electron atoms, spin, and Pauli principle, chemical bonding. Mr. Baugh, Mr. Kivelson (F-Sp).

C113B. Physical Chirality: Introduction to Molecular Spectroscopy. Lecture, four hours; discussion, one hour. Prerequisite: course 113A. Interaction of radiation with matter, microwave spectroscopy, infrared and Raman spectroscopy, vibrations in polyatomic molecules, electronic and magnetic resonance spectroscopy. Concurrently scheduled with course C213B. Ms. Garrell (W).

114. Physical Chemistry Laboratory. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 110C, 110A, 110B, and 113A, or consent of instructor. Lectures include techniques of physical measurement, error analysis and statistics, special topics. Laboratory includes spectroscopy, thermodynamic measurements, and chemical dynamics. Mr. Baugh, Mr. Williams (W,Sp).

114H. Physical Chemistry Laboratory (Honors). Lecture, two hours; laboratory, eight hours. Prerequisites: courses 110CL, 110A, 110B, and 113A, with grades of B - or better, or consent of instructor. Lectures include techniques of physical measurement, error analysis and statistics, special topics. Laboratory includes topics in physical chemistry to be selected in consultation with instructor. Mr. Baugh, Mr. Williams (W,Sp).

C115A-C115B. Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: course 113A, Mathematics 31A, 31B, 32A, 32B, 35A. Recommended: knowledge of differential equations equivalent to Mathematics 135A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C115A or Physics 115B is prerequisite to courses C152. 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 nonrelativistic quantum mechanics; expansion theorems; wavs; oscillators; angular momentum; hydrogen atom; matrix techniques; approximation methods; time dependent problems; atoms; spectropscopy; magnetic resonance. May be concurrently scheduled with courses C215A-C215B. Mr. Heath (F, C115A; W, C115B).

121. Special Topics in Physical Chemistry. Prerequisite: course 110B. Recommended: course 113A, Physics 8D. Topics of special interest presented at depth suitable for students who have completed junior-year courses in physical chemistry.

C123A-C123B. Classical and Statistical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisite: course 110B or 156. Recommended: course 113A. Rigorous presentation of fundamentals of classical equilibrium problems of chemical thermodynamics: probability, ensembles, partition functions, independent molecules, and the perfect gas. Applications of classical and statistical thermodynamics to phase equilibria, solid and fluid states, phase equilibria, electric and magnetic effects, ortho-para hydrogen, chemical equilibria, reaction rates, the imperfect gas, nonelectrolyte and electrolyte thermodynamics; supercooled liquid, high pressure, gravitation. May be concurrently scheduled with courses C223A-C223B. Ms. Liu (F, C123A; W, C123B).

125. Computers in Chemistry. Lecture, three hours. Prerequisite: course 121. Knowledge of FORTRAN IV or PL/1. 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 kinetics. Mr. Kopelevich (F).

132A. Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: courses 11B or 11BH and 11CL (may be taken concurrently), with grades of C - or better, or consent of instructor. Structure and properties of organic molecules; chemical bond and its relation to organic molecular structure; stereochemistry, and reactivity; mechanisms and stereochemistry of organic reactions; electronic and nuclear magnetic resonance study of a chemical reaction; synthesis, properties, and reactions of alkanes, alkenes, alkynes, aldehydes, ethers, alcohols, carboxylic acids, ketones, alcohols, and amines. Mr. Armstrong, Mr. Foote, Ms. Luceigh (F, W, Sp).

C132A. Organic Chemistry (Honors). Lecture, three hours; discussion, one hour. Prerequisites: courses 11B or 11BH, and 11CL (may be taken concurrently), with grades of B - or better, or consent of instructor. Honors course parallel to course 132A. Mr. Garcia-Garibay (F).

132B. Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course 132A or 132AH with a grade of C - or better or consent of instructor. Corequisite: course 132B. Introduction to infrared, 'H, and 13C NMR spectroscopy; structure, reactivity, and spectroscopic properties of carbonyl and carboxyl derivatives, aromatic compounds, and amino acids and their acyclic analogs. Mr. Chapman, Ms. Luceigh (F, W, Sp).

132BH. Organic Chemistry (Honors). Lecture, three hours; discussion, one hour. Prerequisite: course 132A or 132AH with a grade of C - or better or consent of instructor. Honors course parallel to course 132A. Mr. Jung (W).

132BL. Organic Chemistry Laboratory (2 units). Lecture, one hour; laboratory, three hours. Prerequisites: courses 11CL, and 132A or 132AH, with grades of C - or better or consent of instructor. Corequisite: course 132B. Basic experimental techniques in organic synthesis (distillation, extraction, crystallization reactions, and workup) and organic analytical methods (melt and boiling point, refractive index, chromatography, IR, NMR, GC). One-step synthesis of known organic compounds on macroscale level. Mr. Chapman, Ms. Russel (F, W, Sp).

132C. Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: course 132B or 132AH, and 132BH, with grades of C - or better, or consent of instructor. Introduction to electron absorbers and mass spectroscopy; modern NMR spectroscopy; biological molecules: glycols, carbohydrates, and lipids; polymerization. Mr. Courey, Ms. Feigon, Mr. Grailla (F, W, Sp).

132CH. Organic Chemistry (Honors). Lecture, three hours; discussion, one hour. Prerequisite: course 132B or 132AH with a grade of B - or better or consent of instructor. Honors course parallel to course 132C. Mr. Rubin (Sp).

132CL. Organic Chemistry Laboratory (2 units). Lecture, one hour; laboratory, four hours. Prerequisites: courses 132B or 132BH, and 132BL, with grades of C - or better, or consent of instructor. Corequisite: course 132C. Modern techniques in organic synthesis and analytical chemistry. Micro-preparative and semi-preparative, scale single and multistep synthesis of known organic molecules. One- and two-dimensional multinuclear NMR techniques. CAS on-line literature search and written synthesis proposal. Ms. Luceigh, Mr. Merlic (F, Sp).

136. Organic Structural Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 132B, 132AH, and 132BH (may be taken concurrently), or equivalent, with grades of C - or better, or consent of instructor. Laboratory course in organic structure determination by chemical and spectroscopic methods; nmr techniques. Mr. Mylavarapu (Sp).

C143B. Mechanism and Structure in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course C143A with a grade of C - or better or consent of instructor. Mechanisms of organic reactions. Acid and acid catalysis; linear free energy relationships; isotope effects. Molecular orbital theory; photochemistry; pericyclic reactions. May be concurrently scheduled with course C243A. Mr. Rubin (F).

144. Practical and Theoretical Introductory Organic Synthesis. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 132C/132CL or equivalent. Lectures on modern synthetic reactions and processes, with emphasis on stereoselective methods for carbon-carbon bond formation. Laboratory methods of synthetic organic chemistry, including reaction techniques, synthesis of natural products, and molecules of theoretical interest. Mr. Merlic (F).

153A. Biochemistry: Introduction to Structure, Enzymes, and Metabolism. Lecture, three hours; discussion, one hour; tutorial, one hour. Prerequisite: courses 132B or 132BH with a grade of C - or better. Structure of proteins, carbohydrates, and lipids; enzymes; mechanisms and principles of metabolism: including glycolysis, citric acid cycle, and oxidative phosphorylation. Mr. Gober, Ms. Merchant, Mr. Weiss (F, W, Sp).

153B. Biochemistry: DNA, RNA, and Protein Synthesis (Honors). Lecture, three hours; discussion, two hours. Prerequisite: course 153A. Honors course parallel to course 153B. Mr. Courey.

153C. Biochemistry: Biosynthetic and Energy Metabolism and Its Regulation. Lecture, three hours; discussion, one hour. Prerequisite: course 153A. Nucleotide metabolism; DNA replication; DNA repair; transcription; translation; RNA structure and processing; protein synthesis and processing. Mr. Courey, Ms. Feigon, Mr. Grailla (F, W, Sp).

153BH. Biochemistry: DNA, RNA, and Protein Synthesis (Honors). Lecture, three hours; discussion, two hours. Prerequisite: course 153A. Honors course parallel to course 153B. Mr. Courey.

CM153G. Macromolecular Structure (6 units). (Same as Biological Chemistry CM153G.) Lecture, one hour; laboratory, five hours. Prerequisites: courses 110A, 135A, 135B, 135C, 154, or equivalent. Chemical and physical properties of proteins and nucleic acids. Structure, cloning, expression, processing of RNA; biosynthesis, purification, structure, and analysis of proteins; correlation of structure and biological properties. Concurrently scheduled with course CM253. Mr. Eisenberg, Mr. Glitz (F, W, Sp).
153L. Biochemical Methods I (2 units). (Formerly numbered 153AL.) Lecture, one hour; laboratory, four hours. Prerequisites: courses 123B or 123BH, 123BL, 123CP, or equivalent. Two to three major laboratory projects involving biochemical techniques to investigate contemporary problems in biochemistry. Topics include transcription activation, molecular basis of DNA-protein interactions, biochemical basis of platelet activation, and initiation of blood clotting cascade. Experiments entail characterizing function of proteins, nucleic acids, and lipids involved in these processes.

Mr. Bowie, Ms. Clarke, Mr. Martinson (F,W,Sp)

CM155. Biological Catalysis. (Formerly numbered C155.) (Same as Biology CM160.) Prerequisites: courses 110A, 153A, 153B, Biology 100A, 100B, or equivalent, consent of instructor. Reaction mechanisms in molecular biology. Techniques for study of enzymes, including kinetics, isotopic labeling, spectroscopy, chemical modification, and metal interactions addressed on a mechanistic level. Concurrently scheduled with course CM255.

Mr. Cho, Mr. Fukuto, Mr. Sigman (W)

158. Physical Biochemistry. Lecture, four hours; discussion, one hour. Prerequisites: courses 110A, 153A, 153B, 154A. Biochemical kinetics; solution thermodynamics of biochemical systems; multiple equilibria; hydrodynamics; energy levels, spectroscopy, and bonding; topics from structural, statistical, and electrochemical methods of biochemistry.

Mr. Reisler, Mr. Schumaker, Mr. Yeates (F,W,Sp)

CM159A. Mechanisms in Regulation of Transcription I (2 units). (Same as Biological Chemistry CM159A.) Lecture, four hours; outside study, two hours. Prerequisites: courses 153B and 154, or consent of instructor. Not open to graduate students. Mechanisms that control transcription in bacteria. Re- pressor and activation at promoters. Sigma factors and other transcription factors as targets of signal transduction pathways.

Mr. Baur, Mr. Han, Mr. Zink (F, alternate years)

CM159B. Mechanisms in Regulation of Transcription II (2 units). (Same as Biological Chemistry CM159B.) Lecture, four hours; discussion, one hour. Prerequisite or corequisite: course 110A. Sigma factors; various types of RNA polymerase-hexadecapeptides and interactions addressed on a mechanistic level. Concurrently scheduled with course CM259B.

Ms. Garrell, Mr. Kaner (W)

190. Undergraduate Thesis Research. Prerequisites: two terms of course 199 on related material, consent of undergraduate adviser and research director. Final term of integrated one-year research project in an area of molecular biology. May be repeated for credit. S/U grading.

Mr. Wasson (Sp)

196A-196F. Special Courses in Chemistry (1 to 4 units each). Hours to be arranged. Consent of undergraduate adviser.

F,W,Sp

199A. Directed Individual Studies or Research for Undergraduate Students (2 to 8 units). Formerly numbered 199A-199ZZ.) Prerequisites: junior standing with at least 3.0 GPA in the major or senior standing or consent of instructor, consent of department chair. To be arranged with faculty member who will direct the research. Additional information on requirements, enrollment petitions, and written proposal deadlines may be obtained from undergraduate office. May be taken for a maximum of eight units. S/U grading.

F,W,Sp

199B. Directed Individual Studies or Research for Undergraduate Students (2 to 8 units). Formerly numbered 199A-199ZZ.) Prerequisites: eight units of course 199A, junior standing with at least 3.0 GPA in the major or senior standing or consent of instructor, consent of department chair. To be arranged with faculty or department chair. Consent of faculty member who will direct the research. Additional information on requirements, enrollment petitions, and written proposal deadlines may be obtained from undergraduate office. May be taken for a maximum of four units. S/U grading.

F,W,Sp

Graduate Courses

205. Introduction to Chemistry of Biology. Lecture/discussion, three hours. Overviews of biochemistry, biochemistry, and physiology, with emphasis on chemical interactions at molecular level.

Ms. Valentine (Sp)

207. Organometallic Chemistry. Lecture/discussion, three hours. Prerequisite or corequisite: course C243A or consent of instructor. Survey of organometallic chemistry, structure, and reactivity (emphasizing a mechanistic approach) of compounds containing carbon bonded to elements selected from main group metals, transition metals, and metal carbonyls. Applications in catalysis and organic synthesis.

Mr. Merli (Sp)

C213B. Physical Chemistry: Molecular Spectroscopy. Lecture, four hours; discussion, one hour. Prerequisites: courses 132A, 132B. Introduction to molecular spectroscopy.

Ms. Garrett (W)

C215A-C215B. Quantum Chemistry Methods. Lecture, four hours; discussion, one hour. Prerequisites: courses 113A, Mathematics 31A, 31B, 32A, 33A. Recommended: knowledge of differential equations equivalent to Mathematics 135A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C215A or Physics 115B is prerequisite 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. Determination of atomic and molecular structure, total energy, and properties of chemical systems. Concepts and methods of quantum mechanics. May be concurrently scheduled with course C113B.

Mr. Heath (F), C215A, W, C215B

215C. Advanced Quantum Chemistry: Applications. Lecture, three hours; discussion, one hour. Prerequisites: course C215A, Physics 131, or equivalent. Topics in quantum chemistry selected from molecular structure, collision processes, theory of solids, symmetry and its applications, and theory of electromagnetic radiation and other modern methods.

Mr. Kelper (Sp)

215D. Molecular Spectra, Diffraction, and Structure. Lecture, three hours; discussion, one hour. Prerequisite: course C215B, Physics 131, or equivalent. Selected topics from electronic structure 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.

218. Physical Chemistry Student Seminar (2 units). Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

219A-219Z. Seminars: Research in Physical Chemistry (2 units each). Discussion, three hours. Prerequisite: consent of instructor. Advanced study and analysis of current topics in physical chemistry. Discussion of current research and literature in selected specialty of faculty member teaching course.

S/U grading.

219B. Chemistry and Physics of Surfaces. Mr. Williams

219C. Physical Chemistry of Complex Fluids. Mr. Kim, Mr. Kivelblat

219D. Computer Simulation in Chemistry. (Formerly numbered 220A.) Ms. Carter

219E. Dynamics of Molecule-Molecule and Molecule-Surface Reactions. Mr. Baugh

219F. Environmental Chemistry and Global Cycling. Mr. Baur

219G. Gas Phase Kinetics and Photochemistry. Mr. Bayes

219H. Spectroscopy and Dynamics of Molecules, Clusters, and Biological Systems. Mr. Ei-Sayed
219L. Spectroscopy of Isolated Molecules, Complexes, and Clusters. Mr. Felker
219J. Chemistry and Biophysics of Interfaces. Ms. Garrett
219K. Statistical Mechanics of Disordered Systems. Mr. Gelbart
219L. Modern Methods for Molecular Reactions and Structure. Mr. Neuhäuser
219M. Chemistry of Materials at High Pressures. Mr. Nicol
219N. Cosmochemistry. Mr. Wasson
219O. Chemistry and Physics of Nonuniformities. Mr. Heath
219P. Statistical Mechanics of Complex Fluids. Ms. Liu

221A-221Z. Advanced Topics in Physical Chemistry (2 to 4 units each). Prerequisite: consent of instructor. Each course encompasses a recognized specialty in physical chemistry, generally taught by a staff member whose research interests embrace that specialty. S/U or letter grading.

C223A-C223B. Classical and Statistical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisite: course 110B or 156. Recommended: courses C215A-C215B. Classical thermodynamics. Principles of classical thermodynamics: probability, ensembles, partition functions, independent molecules, and the perfect gas. Applications of classical and statistical thermodynamics techniques 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, non-electrolyte and electrolyte solutions, surface phenomena, high polymers, gravitation. May be concurrently scheduled with courses C123A-C123B.

223C. Statistical Mechanics. Lecture, three hours; discussion, one hour. Prerequisite: courses C215B, C223B, Physics 131, or equivalent. Fundamentals of statistical mechanics; classical equations of state; Couloomb systems; phase transitions; quantum statistical mechanics; quantum corrections to the equations of state; density matrix; second quantization. S/U or letter grading. Mr. Gelbart (Sp)

225. Chemical Kinetics. Lecture, three hours; discussion, one hour. Prerequisite: courses C215B, C223B, Physics 131, or equivalent. Classical and theoretical approaches to studies of rates and mechanisms of chemical reactions. Modern experimental techniques and molecular-level theory of reaction dynamics. Examples of well-studied elementary reactions. S/U or letter grading. Mr. Levine (F)

228. Physical Chemistry Seminar (2 units). Seminars presented by staff, outside speakers, postdoc fellows, and graduate students. May be repeated for credit. S/U or letter grading.

229A. Introduction to Physical Chemistry Research (2 units). Lecture, 90 minutes. Intended primarily for entering physical chemistry graduate students. S/U grading.

CM235. Macromolecular Structure (6 units). (Formerly numbered M253.) (Same as Biological Chemistry M235.) Lecture, five hours. Prerequisite: courses 110A, 135A, 135B, 135C, or equivalent. Structure and organization of animal cells, cell-cell contact, motility of cell and mobility of cellular components, chromosome structure, interactions between cytoplasmic nucleus, genetic analysis in higher eukaryotic cells, biochemistry of tissue development and organization.

251A-251Z. Advanced Topics in Biochemistry (2 units each). Prerequisite: consent of instructor. Each course encompasses a recognized specialty in biochemistry, generally taught by a staff member whose research interests embrace that specialty.

C243B. Organic Chemistry: Mechanism and Structure. Lecture, three hours; discussion, one hour. Prerequisite: course C243A or consent of instructor. Mechanisms of organic reactions; structure and reactivity of biological intermediates. May be concurrently scheduled with course C143B. Mr. García-Garibay (W)

244A. Organic Synthesis: Methodology and Stereosechemistry. Modern synthetic reactions and transformations. Special emphasis on regents useful in asymmetric induction and stereoselective synthesis of structurally complex target molecules. Mr. Jung (F)

244B. Strategy and Design in Organic Synthesis. Lecture, three hours; discussion, one hour. Prerequisite: corequisite course C243A or consent of instructor. Theory behind the planning of syntheses of complex molecules from simpler ones. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Myles (W)

245. Applications of Electronic Theory in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite or corequisite: course C243A or consent of instructor. Organic nuclear orbital theory: introduction to alternative theoretical methods; aromaticity and homoaromaticity; Huckel and Möbius conjugation; Woodward-Hoffmann theory of concerted, pericyclic reactions and their use in the synthesis of simpler one. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Houk (Sp)

247. Organic Colloquium (2 units). Seminars in organic chemistry and related areas presented by staff, outside speakers, postdoc fellows, and graduate students. May be repeated for credit. S/U grading.

248. Organic Chemistry Student Seminar (2 units). Seminars presented by staff, outside speakers, postdoc fellows, and graduate students. May be repeated for credit. S/U or letter grading.


250. Topics in Biochemistry and Molecular Biology of Animal Cells. Lecture, three hours. Prerequisites: courses 132A, 132B/132BLL, 132C/132CL, or equivalent. Structure and function of animal cells and organelles. Protein synthesis, function, and degradation. Mr. Moazed (F)

251A. Molecular Biology of Animal Cells. Lecture, three hours. Prerequisite or corequisite: course C243A or equivalent or consent of instructor. Structure and function of animal cells and organelles. Introduction to alternative methods; aromaticity and homoaromaticity; Huckel and Möbius conjugation; Woodward-Hoffmann theory of concerted, pericyclic reactions and their use in the synthesis of simpler one. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Myles (W)

251B. Applications of Electronic Theory in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite or corequisite: course C243A or consent of instructor. Organic nuclear orbital theory: introduction to alternative theoretical methods; aromaticity and homoaromaticity; Huckel and Möbius conjugation; Woodward-Hoffmann theory of concerted, pericyclic reactions and their use in the synthesis of simpler one. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Houk (Sp)

251C. Organic Colloquium (2 units). Seminars in organic chemistry and related areas presented by staff, outside speakers, postdoc fellows, and graduate students. May be repeated for credit. S/U grading.


251E. Topics in Biochemistry and Molecular Biology of Animal Cells. Lecture, three hours. Prerequisite: courses 132A, 132B/132BLL, 132C/132CL, or equivalent. Structure and function of animal cells and organelles. Protein synthesis, function, and degradation. Mr. Moazed (F)

251F. Molecular Biology of Animal Cells. Lecture, three hours. Prerequisite or corequisite: course C243A or equivalent or consent of instructor. Structure and function of animal cells and organelles. Introduction to alternative methods; aromaticity and homoaromaticity; Huckel and Möbius conjugation; Woodward-Hoffmann theory of concerted, pericyclic reactions and their use in the synthesis of simpler one. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Myles (W)

251G. Applications of Electronic Theory in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite or corequisite: course C243A or consent of instructor. Organic nuclear orbital theory: introduction to alternative theoretical methods; aromaticity and homoaromaticity; Huckel and Möbius conjugation; Woodward-Hoffmann theory of concerted, pericyclic reactions and their use in the synthesis of simpler one. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Houk (Sp)

251H. Organic Colloquium (2 units). Seminars in organic chemistry and related areas presented by staff, outside speakers, postdoc fellows, and graduate students. May be repeated for credit. S/U grading.


251J. Topics in Biochemistry and Molecular Biology of Animal Cells. Lecture, three hours. Prerequisite: courses 132A, 132B/132BLL, 132C/132CL, or equivalent. Structure and function of animal cells and organelles. Protein synthesis, function, and degradation. Mr. Moazed (F)

251K. Molecular Biology of Animal Cells. Lecture, three hours. Prerequisite or corequisite: course C243A or equivalent or consent of instructor. Structure and function of animal cells and organelles. Introduction to alternative methods; aromaticity and homoaromaticity; Huckel and Möbius conjugation; Woodward-Hoffmann theory of concerted, pericyclic reactions and their use in the synthesis of simpler one. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Myles (W)

251L. Applications of Electronic Theory in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite or corequisite: course C243A or consent of instructor. Organic nuclear orbital theory: introduction to alternative theoretical methods; aromaticity and homoaromaticity; Huckel and Möbius conjugation; Woodward-Hoffmann theory of concerted, pericyclic reactions and their use in the synthesis of simpler one. Organic reactions and their use in the stereospecific, electronic theory, photochemistry, and organic synthesis. Mr. Houk (Sp)

251M. Organic Colloquium (2 units). Seminars in organic chemistry and related areas presented by staff, outside speakers, postdoc fellows, and graduate students. May be repeated for credit. S/U grading.

CM255. Biological Catalysis. (Formerly numbered M255.) (Same as Biological Chemistry M255, Biology CM252, and Pharmacology M255.) Prerequisites: courses 110A, 153A, 153B, Biology 100A, 100B, or equivalent, consent of instructor. 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. Concurrently scheduled with course CM155. Graduate students must write research paper and present oral report on it.

Mr. Cho, Mr. Fukuto, Mr. Sigman (W)

256A-256Z. Seminars: Research in Biochemistry (2 units each). Discussion, three hours. Prerequisite: consent of instructor. 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. Mr. Schumaker

256B. Biochemistry of Protein Function. Mr. Clarke

256C. Biochemistry and Molecular Genetics of Fungi. Mr. Weiss

256D. Transcriptional Control Mechanisms in Droso- phila Embryogenesis. Mr. Coury

256E. Secondary Metabolites in Higher Plants: Bio- synthesis, Regulation, and Physiological Functions. Mr. West

256F. Current Topics in Prokaryotic Development. Mr. Gober

256G. Nucleic Acid Structure Determination by NMR. Ms. Faigon

256H. Basic Mechanisms of Promoter Activation. Mr. Graff

256J. Contractile Proteins in Muscle Contraction and Cell Motility. Mr. Reisler

256K. Biochemistry and Molecular Biology of Chla- mydomonas. Ms. Merchant

256L. Literature of Structural Biology. Mr. Dickerson, Mr. Eisenberg, Mr. Yeates

256M. Mechanism and Regulation of Transcription Termination in Eukaryotic Organisms. Mr. Martinson

256N. Advanced Topics in Structural Biology. Mr. Dickerson, Mr. Eisenberg, Mr. Yeates

256O. Membrane Biophysics. Mr. Hubbell

256P. Analysis of Protein Structure. Mr. Bowie

256Q. Biochemistry and Function of Ubiquinone in Yeast and Higher Eukaryotes. Ms. Clarke

257. Physical Chemistry of Biological Macromolecules (2 units). (Same as Biological Chemistry M257.) Prerequisites: courses 110A and 153A, or consent of instructor. Theory of hydrodynamic, thermodynamic, and optical techniques used to study structure and function of biological macromolecules.

258. Biochemistry Student Seminar (2 units). Seminars presented by graduate students on topics of current biochemical interest. May be repeated for credit. S/U grading.

CM259. Mechanisms in Regulation of Transcrip- tion I (2 units). (Formerly numbered 259.) (Same as Biological Chemistry CM259.) Lecture, four hours; outside study, two hours. Prerequisite: course CM253 or equivalent, consent of instructor. Mechanisms that control transcription in bacteria, expression and activ- ation of promoters, Sigma factors and polymerase binding sites. Control of transcription as targets of transcription factors. Analysis of current topics in inorganic chemistry. Discussion of current research and literature in re-

272A. Chemistry of Materials. Mr. Kaner

272B. Metallorganic, Inorganic Biomaterials, Organic Chem- istry. Mr. Hawthorne

272C. Inorganic Spectroscopy. Mr. Zink

272D. Bioinorganic Chemistry and Biology of Transi- tion Metals and Oxygen. Ms. Valentine

272E. Organometallic Synthesis and Chemical Vapor Deposition. Mr. Kassz

272F. Polythynyl-Based Lattice Clathrates. Mr. Strouse

272G. Issues in Chemical Education. Ms. Russell

C275. Inorganic Chemistry: Reaction Mechanisms. Lecture, three hours. Prerequisites: courses 110A, 110B, 113A, 173, or equivalent. Survey of inorganic reaction mechanisms, including thermodynamic and kinetic aspects of chemical equilibria; control of metal ion; transition-metal coordination chemistry; inner- and outer-sphere and chelate complexes; substi- tuion, isomerization, and racemization reactions; stereochemistry; oxidation/reduction, free-radical, polymerization, and photochemical reactions of inor- ganic species. May be concurrently scheduled with course C175. Mr. Hawthorne (F)

C276A. Inorganic Chemistry: Group Theory and Spectroscopy. Lecture, three hours; discussion, one hour. Prerequisites: courses 113A, 173, or equivalent. 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.

276B. Physical Methods for the Characterization of Inorganic Compounds. Lecture, three hours. Prerequisite: course C276A or consent of instructor. Applications of spectroscopic techniques, including IR, Raman, visible, UV, NMR, ESR, and NQR, to elu- cidation of structure and bonding in inorganic and organometallic compounds.

277. Crystal Structure Analysis. Lecture, three hours. Theory and practice of modern crystallography, with emphasis on practical experience in struc- ture determination. Topics include crystallographic symmetry, scattering theory, data collection, Fourier analysis, heavy atom techniques, direct methods, iso- morphous replacement, crystallographic refinement, error analysis, and common pitfalls. S/U or letter grading.

278. Inorganic Chemistry Student Seminar (2 units). Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U or letter grading.

279. Bioinorganic Chemistry. Lecture, three hours. Prerequisite: course C276A or consent of instructor. Synthesis of inorganic compounds, structural and spectroscopic characterization of unique properties of polymers, polymer characterization methods, and special topics such as conductive and biomedical polymers and polymer conjugated compounds. Ms. Valentine (W)

280. Solid-State Chemistry. Lecture, three hours. Prerequisite: course 173 or equivalent. Survey of impor- tant materials, their synthesis, and characteriza- tion as single crystals, powders, or polymers. Chem- ical, optical, and magnetic properties and their rela- tionship to band theory. Mr. Kaner

C281. Polymer Chemistry. Lecture, three hours; dis- cussion, one hour. Prerequisites: courses 110A, 132A, 132B. Synthesis of organic and inorganic macromolecules, mechanism and statistical mechani- cal descriptions of unique properties of polymers, polymer characterization methods, and special topics such as conductive and biomedical polymers and polymer conjugated compounds. Ms. Garrell, Mr. Kaner (alternate years)

M298. Seminar: Current Topics in Molecular Biol- ogy (2 units). (Same as Biological Chemistry M298, Biological Chemistry M299, Microbiology 298, Molecular Biology M298.) Prerequisite: consent of instructor and graduate advisor of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates special topics as assigned. May be repeated for credit. (F, W, Sp)
375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

400. Safety in Chemical and Biochemical Research (2 units). Survey of safe laboratory practices for experimental research in organic, inorganic, and physical chemistry and biochemistry. Topics include laser safety, cryogenic hazards, high- and low-pressure experimentation, gas and carcinogen handling, chemical spills, fire extinguishing, and chemical disposal. S/U grading. Mr. Merlic (Sp)

495. Teaching College Chemistry (2 units). Lecture, 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. (F)

596. Directed Individual Study or Research (2 to 16 units). To be arranged with faculty member who will direct 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 units). Prerequisite: consent of graduate adviser (chemistry). S/U grading.

598. Research and Preparation of M.S. Thesis (2 to 16 units). Each faculty member supervises research of M.S. students and holds research group meetings, seminars, and discussions with the students.

599. Research and Preparation of Ph.D. Dissertation (2 to 16 units). Each faculty member supervises research of Ph.D. students and holds research group meetings, seminars, and discussions with the students.

Chemistry/ Materials Science (Interdepartmental)

5731 Boelter Hall (6532 Boelter Hall in early 1995), (310) 825-5534

Professors
Bruce S. Dunn, Ph.D. (Materials Science and Engineering), Chair
M. Frederick Hawthorne, Ph.D. (Chemistry and Biochemistry)
Richard B. Kaner, Ph.D. (Chemistry and Biochemistry/Luckman Distinguished Teaching Award)
John D. Mackenzie, Ph.D. (Materials Science and Engineering)
Malcolm F. Nicol, Ph.D. (Chemistry and Biochemistry)
King-Ng Tu, Ph.D. (Materials Science and Engineering)
R. Stanley Williams, Ph.D. (Chemistry and Biochemistry)
Jeffrey I. Zmik, Ph.D. (Chemistry and Biochemistry)

Assistant Professors
Mark S. Goosney, Ph.D. (Materials Science and Engineering)
James R. Heath, Ph.D. (Chemistry and Biochemistry)

Scope and Objectives
The undergraduate major is designed for students who are interested in solid-state chemistry, the preparation of engineering materials such as semiconductors, glasses, ceramics, metals, and polymers, the reactivity of such materials in different environments, and how chemical compositions affect properties. It provides appropriate preparation for graduate studies in many fields emphasizing interdisciplinary research involving chemistry, engineering, and applied science.

Bachelor of Science Degree
Preparation for the Major

Required: Chemistry and Biochemistry 11A or 11AH, 11B or 11BH, 11BL, 11C or 11CH, 11CL, English 3, Materials Science and Engineering 14, Mathematics 31A, 31B, 32A, 32B, 33A, Physics 8A, 8B or 8BH, 8C or 8CH, 8CL, 8D or 8DH, 8DL, Program in Computing 10A.

The Major


For further information, contact Barbara Brooks, Materials Science and Engineering, 5732 Boelter Hall (6532 Boelter Hall in early 1995), (310) 825-5534.

Chicana and Chicano Studies (Interdepartmental)

67 Kinsey Hall, (310) 206-7695

Professors
Juan Gómez-Quíñones, Ph.D. (History)
Fernando M. Torres-Gil, Ph.D. (Social Welfare)

Associate Professors
Héctor Calderón, Ph.D. (Spanish)
Leobardo Estrada, Ph.D. (Urban Planning)
Guillermo Hernández, Ph.D. (Spanish)
Steven J. Loza, Ph.D. (Ethnomusicology and Systematic Musicology)
José Montiñón, Ph.D. (Spanish)
Vílma Ortiz, Ph.D. (Sociology)
Raymund A. Paredez, Ph.D. (English)
Raymond A. Roconi, Ph.D. (Political Science)
George Sanchez, Ph.D. (History)

Assistant Professors
Raul Hinjosoa-Queda, Ph.D. (Urban Planning)
Chon A. Notiga, Ph.D. (Film and Television)
Sonia Saldivar-Hull, Ph.D. (English)
Daniel G. Solorzano, Ph.D. (Education)
Edward E. Telles, Ph.D. (Sociology)
Edit Villarreal, M.F.A. (Theater)

Lecturer
Richard Chabran, M.L.S.

Scope and Objectives
Today there is a demand for individuals with extensive knowledge of the Chicana and Chicano communities. Opportunities exist in both the public and private sectors that call for men and women academically prepared and aware of the history, culture, and current problems facing Chicano/Chicano studies. The Chicana and Chicano studies major provides students with the language and cross-cultural studies background that will enhance their qualifications for positions in schools, governmental organizations, and private enterprise.

The program, coordinated by an interdisciplinary committee, is interdisciplinary and leads to the Bachelor of Arts degree.

Bachelor of Arts Degree

The B.A. program in Chicana and Chicano Studies is designed to provide systematic instruction for students who wish concentrated study of the Chicana and Chicano experience. Viewed as developmental, the program subjects the Chicana/Chicano reality to critical investigation, including social, economic, educational, historical, and political analysis. The major is recommended for students preparing for graduate study as well as for public service careers.

Preparation for the Major

Required: Chicana and Chicano Studies 10A, 10B, Spanish 5 or equivalent.

The Major

Required: A total of 15 upper division courses, including Chicana and Chicano Studies 101, nine courses from the approved list of Chicana and Chicano studies courses (available in the program office each term), one term of field studies, and three related study courses and one advanced seminar from the approved list of courses or by petition to the program director or undergraduate counselor. Related study includes courses with some Chicana/Chicano content, such as those on Mexico, Latin America, and the experiences of people of color in the U.S.

Recommended: English 100W, Library and Information Science 111C; the introductory course in two of the following: anthropology, economics, history, political science, sociology, or one or more courses in Chicana/Chicano history, literature, feminism, social science.

Optional Multidisciplinary Senior Thesis — Prerequisite: senior standing. Chicana and Chicano studies majors have the option during their senior year to enroll in two 199 courses in their major concentration area, with the intention of producing a Chicana and Chicano studies undergraduate thesis related to the major concentration. Enrollment in the two 199 courses is with the advice and consent of a faculty member. 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 termination of the thesis.

Course Limitations — No more than two 199 courses may be applied toward the major concentration; 199 courses applied toward the multidisciplinary senior thesis option may not also be applied toward the major concentration area. Registration in 199 courses must be approved in writing by the program director. No more than two CED courses may be applied toward the major concentration.

Chicana and Chicano Studies Specialization

The specialization complements study in a traditional field. Students participating in this program are required to complete both a departmental major and the Chicana and Chicano studies specialization. You must take Chicana and Chicano Studies 10A, 10B, 101, and four courses from the approved list of Chicana and Chicano studies courses (available in the program office each term).

Lower Division Courses

10A. Introduction to Chicano Life and Culture. Lecture, three hours; discussion, one hour. Enrollment priority to Chicana and Chicano studies majors. Introduction to central concepts and historical experiences which define Chicano culture, from exploring indigenous roots to examining current trends. Emphasis on diversity of the Chicano experience, gender as a central cultural variable, and particular socio-economic conditions which have shaped cultural response.

10B. Chicanos in American Society. Lecture, three hours; discussion, one hour. Enrollment priority to Chicana and Chicano studies majors. Examination of conditions of Chicanos in the U.S., with particular attention to socioeconomic aspects of their experience. Additional emphasis on examination of role of women in both a family context and the workplace.

Upper Division Courses

101. Theoretical Concepts in Chicana and Chicano Studies. Lecture, three hours. Enrollment priority to Chicana and Chicano studies majors and students in the specialization. Examination of following theoretical concepts and practical concerns: self-definition, relationships between educational institutions and the Chicana/Chicano community, nature of critical Chicana/Chicano specific research, basic issues in Chicana/Chicano culture, and current problems facing the Chicana/Latina community.

102. The Mexican American and the Schools. (Same as Education M102.) Prerequisite: consent of instructor. Review of research and teaching strategies. Analysis of school policies and practices and their effect on development of Mexican American and Chicano youth and communities. Mr. Solorzano

103C. Origins and Evolution of Chicano Theater. (Same as Theater M103C.) Lecture, three hours. Prerequisite: upper division standing. Exploration of development of Chicano theater from its beginning in legends and rituals of ancient Mexico to work of Luis Valdez (late 1960s). Ms. Villareal-Hull

103D. Contemporary Chicano Theater. (Same as Theater M103D.) Lecture, three hours. Prerequisite: upper division standing. Study of recent trends in Chicano theater as reflected in works of contemporary Chicano dramatists and theater artists. Ms. Villareal

105. The Chicano Experience in Literature. (Same as English M105.) Prerequisite: satisfaction of Subject A requirement. Study of literature in English by and about Chicanos. Survey of depiction of the Chicano experience in America. Topics include, with emphasis on development of Chicano literature itself, its cultural backgrounds, and distinctive uses of language.

107A. Chicana Feminism. Lecture, three hours. Prerequisite: Women's Studies M103A. Lecture, three hours. Prerequisite: Women's Studies 10 or consent of instructor. Examination of theories and practices of women who identify as "Chicana feminist." Analysis of writings of Chicanas who do not identify as feminist but whose practices attend to gender inequities faced by Chicanas both within the Chicana/Chicano community and the dominant society. Attention to Anglo-European and Third World women. Ms. Saldivar-Hull

120. Immigration and the Chicano Community. Lecture, three hours. Discussion on relationship between international immigration and development of the Chicana/Chicano community. Examination of U.S. immigration policy and Mexican-origin population and other Latin American immigrants. Mr. Hinojosa-Ojeda (W)

125. U.S./Mexico Relations. Lecture, three hours. Examination of complex dynamics in relationship between Mexico and the U.S., using a political economy approach to study of asymmetrical integration between advanced industrial economies and developing countries. Mr. Hinojosa-Ojeda (Sp)

M145. Introduction to Chicano Literature. (Same as Theater M145.) Lecture, three hours. Prerequisite: Spanish 25 or 26. Recommended: Spanish 136B. 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 and critical statements pertaining to characteristics and development of the Chicano literary corpus. Mr. Caideron

M147A. Ethnic Politics: Chicana/Latina Politics. (Formerly numbered M147.) (Same as Political Science M144A.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: Political Science 40, and one 140-level political science course or one upper division course on race or ethnicity from history, psychology, or sociology, or consent of instructor. Introduction to political economy of racial domination in the U.S., concentrating on study of Mexican-origin population and other Latin American immigrants. Topics include migration, family, education, economic, and political organization, conflict, and institutional 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, special presentations, reading assignments, written examinations, library and field research, and submission of a paper. Mr. Gómez-Quiñones

M159A. History of the Chicano Peoples. (Same as History M159A.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey lecture course on historical development of the 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 the Mexican community by taking into major formative historical periods and issues affecting the community. Without a 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/or field research, and submission of a paper. Mr. Gómez-Quiñones

M172T. Ethnic History of Hispanic Cultures in the U.S. Southwest. (Same as Anthropology M172T.) Lecture, three hours. Prerequisite: Anthropology 9 or consent of instructor. Ethnography of social and cultural adaptations of Hispanic peoples in the U.S. Southwest: their respective social organization, economic and political institutions, sacred and secular belief systems, and expressive cultures. P/NP (undergraduates), S/U (graduates), or letter grading.

197/197Z. Special Topics in Chicanas and Chicano Studies. Lecture, three hours. Some sections may require prior coursework or consent of instructor. Lecture or seminar format on selected topics in Chicanas and Chicano studies. May be repeated for credit. 197Z: Independent Studies (2 to 4 units). Prerequisites: courses 10A, 10B, upper division standing, consent of interdepartmental Chicana and Chicano Studies Program faculty. Intensive directed research program. May be repeated for a maximum of eight units.

Classics

7349 Bunche Hall, (310) 825-4171

Professors

Andrew R. Dycik, Ph.D.
Bernard D. Frischer, Ph.D.
Sander M. Goldberg, Ph.D.
Michael W. Haslam, Ph.D.
Beng T. Lung, Ph.D.
Sarah P. Morris, Ph.D.
Jaan Puhvel, Ph.D.
Milton V. Anastas, Ph.D.
Philip Levine, Ph.D.
Albert H. Travis, Ph.D.

Associate Professors

Ann L.T. Bergren, Ph.D. (Distinguished Teaching Award)
David L. Blank, Ph.D.
Katherine C. King, Ph.D. (Luckman Distinguished Teaching Award)
Steven Lattimore, Ph.D.

Assistant Professors
Robert A. Gurval, Ph.D.
Carole E. Newlands, 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, mythology, philosophy, and religion. The department is also strong in three fields which are not commonly taught in classics departments, namely classical linguistics, medieval Latin, and Byzantine studies.

Bachelor of Arts degrees are offered in Classical Civilization, in Greek, in Latin, and in Greek and Latin. Other undergraduate degrees include the B.A. in English/Greek and in English/Latin, offered jointly with the English Department. 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. Graduate degrees include the Master of Arts in Classics (Greek and Latin), Greek, and Latin, and the Ph.D. in Classics.

Bachelor of Arts in Classical Civilization
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 either 40 or 41.

The Major
Required: (1) Greek 3 or Latin 3; (2) two courses in Greek or Roman history (History 115B, 115C, 116A, 116B, 117A, 117B, 118); (3) two courses in classical art or archaeology (Classics 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 103 or Latin 100 through 133, and Classics 195 may be applied as only one course toward the major; (5) one senior seminar (Classics 197); with approval of the undergraduate adviser, a senior paper (Classics 199) may be substituted for the senior seminar.

Bachelor of Arts in Greek
Preparation for the Major
Required: Greek 1, 2, 3 and Latin 1, 2, 3, or equivalent.

The Major
Required: (1) Nine upper division courses in Greek, including course 110; (2) one upper division course in Latin; (3) Classics 143 and either 140 or 141; (4) two courses in Greek or Roman history (History 115B-115C, 116A-116B, 117A-117B), (5) two additional courses in one or two of the related areas: classical archaeology (Classics M153A through M153K), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A, 166B), ancient philosophy (Classics 145A, Philosophy 101A, 101B, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170), medieval Latin literature (Latin 131, 133). Total courses required: 16.

Bachelor of Arts in Greek and Latin
Preparation for the Major
Required: Greek 1, 2, 3 and Latin 1, 2, 3, or equivalent.

The Major
Required: (1) Twelve upper division courses, six in Greek and six in Latin, including Greek 110 and Latin 110A; (2) one course from Classics 140, 141, 142, 143; (3) one course in Greek or Roman history (History 115B, 115C, 116A, 116B, 117A, 117B); (4) one additional course in two of the related areas: classical archaeology (Classics M153A through M153K), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A, 166B), ancient philosophy (Classics 145A, Philosophy 101A, 101B, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170), medieval Latin literature (Latin 131, 133). Total courses required: 16.

Bachelor of Arts in Latin
Preparation for the Major
Required: Greek 1, 2, 3 and Latin 1, 2, 3, or equivalent.

The Major
Required: (1) Nine upper division courses in Latin, including course 110A; (2) one upper division course in Greek; (3) Classics 141 and either 142 or 143; (4) two courses in Greek or Roman history (History 115B-115C, 116A-116B, 117A-117B); (5) two additional courses in one or two of the related areas: classical archaeology (Classics M153A through M153K), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A, 166B), ancient philosophy (Classics 145A, Philosophy 101A, 101B, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170), medieval Latin literature (Latin 131, 133). Total courses required: 16.

Note: Students in the Greek, Latin, and Greek and Latin majors are permitted to take Greek 200A-200B-200C and Latin 200A-200B-200C. Two of these courses may replace one course in requirement 3 of the Greek major and Latin major and requirement 2 of the Greek and Latin major, as well as two courses in requirement 1 of all three majors, thereby reducing the total number of required courses by one.

Bachelor of Arts in English/Greek
Preparation for the Major
Required: English 4, 10A, 10B, 10C, Greek 1, 2, 3.

The Major
Required: (1) Seven courses from English 140 through 190 selected in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Greek, including courses 100 and either 101A or 101B, selected in consultation with an adviser in the Department of Classics (of these seven courses, at least two must be in poetry and two in prose). Total courses required: 14.

Bachelor of Arts in English/Latin
Preparation for the Major
Required: English 4, 10A, 10B, 10C, Latin 1, 2, 3.

The Major
Required: (1) Seven courses from English 140A through 190 selected in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Latin, including courses 105A and 113, selected in consultation with an adviser in the Department of Classics (of these seven courses, at least two must be in poetry and two in prose). Total courses required: 14.

Honors Program
The honors program is open to students in each of the departmental majors. To qualify for graduation with departmental honors, you must (1) complete all requirements for your 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 Classics 195 with a grade of A — or better.
To qualify for graduation with departmental highest honors, you must (1) complete all requirements for your 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 Classics 195 with a grade of A.

Master of Arts Degrees

Admission
Requirements for admission to the M.A. programs are a UCLA B.A. degree, or the equivalent, with a major in Greek and Latin (for the Classics M.A.), Greek (for the Greek M.A.), or Latin (for the Latin M.A.) and a grade-point average of at least 3.0 in the major; a statement of purpose; three letters of recommendation, normally from previous instructors in the classics; and the Graduate Record Examination (while there is no minimum required score, the GRE is used as a criterion in uncertain cases, as well as to assess applications for teaching assistantships and other financial assistance from the department). In cases of deficient preparation or doubtful equivalency to a UCLA B.A., the department may grant provisional admission, requiring additional coursework or a written examination. Applicants for the Classics M.A. program who are deficient in Greek (or Latin) may be admitted to the Latin (or Greek) program, then permitted to transfer into the classics program when the deficiencies have been removed. The department uses the same application form as UCLA Graduate Application Processing, which may be obtained from the Department of Classics (7949 Bunche Hall, UCLA, Los Angeles, CA 90024-1475) or the Graduate Admissions Office.

Major Fields or Subdisciplines
The department offers M.A. degrees in Classics (Greek and Latin), Greek, and Latin.

Foreign Language Requirement
In addition to taking courses in Greek and/or Latin, you must demonstrate proficiency in German, French, or Italian during your first year of study, either by passing German 5, French 6, or Italian 5 at UCLA (or an equivalent course) with a minimum grade of C, or by examination. For German and French, the examination is the standard Graduate School Foreign Language Test (GSFLT) reading examination with a score of 500 or better; for Italian, a written translation examination is administered by the department.

Course Requirements
For the Classics M.A., Classics 287, Greek or Latin 210, and five courses from Greek 200A-200B-200C/Latin 200A-200B-200C are required. For the Greek M.A., Classics 287, Greek 200A-200B-200C, and 210 are required. For the Latin M.A., Classics 287, Latin 200A-200B-200C, and 210 are required. (The Greek and Latin 200A-200B-200C courses test parts of the department reading lists in a one-hour translation examination. The remaining courses are to be selected in consultation with the graduate advisor.) No more than two half seminars, each counting as two units, and no more than one 500-series course may be applied toward the M.A. course requirements.

Comprehensive Examination Plan
The department follows the comprehensive examination plan for the M.A. degrees. Before the examination, you are expected to complete the departmental reading lists in Greek authors (for the Greek M.A.) or Latin authors (for the Latin M.A.) or in Greek and Latin authors (for the Classics M.A.). The examination consists of a three-hour written test in Greek and Latin literature (Greek for Greek M.A., Latin for Latin M.A., Greek and Latin for Classics M.A.) in two parts: (1) passages for translation at sight and for generic identification and comparison and (2) an essay question combining periods kept separate in the Greek and Latin 200A-200B-200C courses (for Classics M.A., combining Greek and Latin). It must be taken no later than one term after you fulfill the M.A. course requirements. The examination may be repeated once, in the term following your first attempt; in exceptional cases and with consent of the departmental faculty, more than once. A grade of B+ or better is required for admission into the Ph.D. program.

Ph.D. Degree

Admission
A UCLA M.A. degree in Classics, Greek, or Latin, with a comprehensive examination grade of B+ or better, or an equivalent degree from another university is required. In addition to an M.A. degree the department requires a statement of purpose. Students without a UCLA M.A. must also submit three letters of recommendation, normally from previous instructors in the classics, and the Graduate Record Examination (while there is no minimum required score, the GRE is used as a criterion in uncertain cases, as well as to assess applications for teaching assistantships and other financial assistance from the department). The department uses the same application form as UCLA Graduate Application Processing, which may be obtained from the department or the Graduate Admissions Office.

Major Fields or Subdisciplines
The department offers the Ph.D. degree in Classics with major fields in (1) classical literature and philology, (2) classical linguistics, (3) Byzantine Greek, and (4) medieval Latin.

Foreign Language Requirement
New students in the doctoral program will normally have demonstrated proficiency in French, German, or Italian as described in the requirements for the M.A. degree. During the first year of study in the Ph.D. program, you must demonstrate proficiency in either French (Italian may be substituted with consent of the regular department faculty) or German, whichever was not used to satisfy the M.A. requirement. If Italian or French was used to satisfy the M.A. requirement, German must be taken.

Greek and Latin Graduate Courses
Most Greek and Latin seminars may be taken as follows: (1) full seminars (four units, letter grading), with a required final paper (or an equivalent workload, such as a final examination, as designated by the instructor) to be presented to the instructor and assessed as part of the final grade or (2) half seminars, with full participation in the course but no required paper (or equivalent as described above). Half seminars carry two units and are normally taken on an S/U grading basis only. Arrangements must be made with the instructor beforehand for S/U or letter grading, and the appropriate petition must be filed with the Registrar's Office.

Course Requirements

Classical Literature and Philology — M.A. degree holders in Greek only or Latin only must take two 200A-200B-200C courses in the other language. In addition, five (or more) 200-series courses are required of all Ph.D. students, including Greek 210 and Latin 210 unless taken previously. Required courses (except for Greek 210 and Latin 210) are in addition to those taken for the M.A.

Classical Linguistics — M.A. degree holders in Greek only or Latin only must complete the Classics M.A. course requirements by taking two 200A-200B-200C courses in the other language. A minimum of five full seminars is required: Classics 180 (or an equivalent undergraduate or graduate course taken at UCLA or elsewhere), 240; Greek 242, 243, Latin 242, and either Classics 230A-230B or one term of Vedic (Indic M222A, presupposing three terms of upper division classical Sanskrit).

Byzantine Greek — M.A. degree holders in Greek only or Latin only must complete the Classics M.A. course requirements by taking courses 200A-200B-200C in the other language. A minimum of five full seminars is required: Greek 210, at least two courses from 231A-231B-231C, 240A-240B, 245, History 216A-216B.

Medieval Latin — M.A. degree holders in Greek only or Latin only must complete the Classics M.A. course requirements by taking courses 200A-200B-200C in the other language. A minimum of five full seminars is required: Latin 130 or 120, 131, 133 (or equivalent undergraduate or graduate courses taken at UCLA or elsewhere), 210, at least two courses from 231A-231B, 243 (or History 219A or 219B), Greek 231A or 231B or 231C (or an upper division medieval language course such as French 115A, 115B, 115C, German 122, Italian 113A, 113B, 114A, 114B, 190, Spanish M118A, M118B, 122, 123, or an equivalent undergraduate or graduate course taken at UCLA or elsewhere), History 217.
Qualifying Examinations
Each major field has a separate reading list. All lists include the reading list in Greek and Latin authors required for the M.A. in Classics.

Classical Literature and Philology — (1) Two one and one-half hour translation examinations (one in Greek, one in Latin), which may be taken concurrently or separately, consisting of passages from the Ph.D. reading list and other literature (M.A. degree holders in Greek only or Latin only take an additional two-hour examination in sight translation from the other language), (2) a 15- to 25-page research paper on a field or author of your choice outside your area of specialization (submitted either before or after the comprehensive examination), (3) a written three-hour examination in your area of specialization and prospective dissertation topic.

Classical Linguistics — (1) A written three-hour translation examination in classical Greek or Latin, (2) a written three-hour examination consisting of passages of ancient texts covered in the required course, (3) a two-hour written examination in comparative grammar.

Byzantine Greek — (1) A written three-hour translation examination in classical Greek and Latin, (2) a written three-hour examination on Byzantine Greek.

Medieval Latin — (1) A written three-hour translation examination in classical Latin and (2) a written three-hour examination on medi eval Latin.

Complete examination details are available in the department. Each qualifying examination may normally be retaken twice. The University Oral Qualifying Examination, administered by the doctoral committee after you complete your last qualifying examination, tests your knowledge of your major field (and possible stipulated areas outside your specialization) and includes discussion of your formal dissertation proposal.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination
An oral defense of the dissertation, which is written under the supervision of the individual adviser and must contribute significantly to research on the subject, may be required or waived at the discretion of the doctoral committee.

Classics

Upper Division Courses

140. Topics in History of Greek Literature. Lecture, three hours. Prerequisites: courses 10, 40. 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. Mr. Haslam

141. Topics in History of Latin Literature. Lecture, three hours. Prerequisites: courses 20, 41. Investigation of a specific issue in the interpretation of Latin literature, such as construction of an edition of a genre or evaluation of a particular author. May be repeated for credit with topic change. P/NP or letter grading. Mr. Goldberger, Mr. Gurval, Ms. Newlands

142. Ancient Epic. Lecture, three hours. Prerequisite: courses 10, 40. Study of Greek and/or Latin drama in translation. P/NP or letter grading. Mr. King

143. Ancient Drama. Lecture, three hours. Prerequisites: courses 10 or 20, and 40 or 41. Study of Greek and/or Latin drama in translation. P/NP or letter grading. Mr. King

144. General and Topical Studies in Ancient Literature. Lecture, three hours. Prerequisites: courses 10 or 20, and 40. Investigation of a problem in ancient literature that involves discussion of both Greek and Roman material. May be repeated for credit with topic change. P/NP or letter grading. Mr. Frischer, Mr. Goldberg, Ms. Newlands

145A. Ancient Greek and Roman Philosophy. Lecture, two hours; discussion, one hour. Study of some major Greek and Roman philosophical texts, including those of Pre-Socratics, Plato, Aristotle, and Hellenistic philosophers, with emphasis on the cultural setting of the texts, their literary form, interrelations, and contribution to discussion of basic philosophical issues. Mr. Blank

145B. Later Ancient Greek Philosophy. Lecture, two hours; discussion, one hour. Prerequisite: course from 145A, Philosophy 100A, 101B, or 102. or consent of instructor. Study of some major texts in Greek philosophy of the Hellenistic and Roman periods. Mr. Blank

150A. Origins of the Western View of Women: The Female in Greek Thought. Lecture, three hours. Prerequisites: course 10, 40. Concurrent or consent of instructor. Interdisciplinary study of concept of the female in various forms of thought developed by the Greeks (e.g., epic, tragedy, comedy, history, political philosophy, gynecology). Special emphasis on how these texts lay the foundation for the Western view of women. Ms. Bergren

150B. Origins of the Western View of Women: The Female in Roman and Early Christian Thought. Lecture, three hours. Prerequisites: course 20, 101B, or equivalent, consent of instructor. Interdisciplinary study of concept of the female in Roman and early Christian thought. Special emphasis on status of the female with regard to sexuality, procreation, and the sacred. Ms. Bergren, Ms. Newlands

C151E. Archaeological Field Techniques (12 units). Off-campus field archaeology. 36 hours. Prerequisites: at least one classical archaeology course, consent of instructor. Training in techniques of archaeological research in the field, including topographic and area survey methods, mapping and recording artifacts, excavation and data analysis. Conducted in Mediterranean region. May be scheduled with an equivalent course 251E. P/NP or letter grading. Mr. Morris

152. The Ancient City. Lecture, three to four hours. Prerequisites: courses 10 and 20, or History 1A, or equivalent. Study of urban planning in the ancient world, with particular attention to cities of classical Greece and Rome, but with consideration also to comparable developments in the ancient Near and Far East. Examination of questions of architectural space and organization, of form, design, and function of major municipal areas and buildings, and of the protection of public amenities by detailed reference to significant archaeological sites and contemporary sources. Mr. Frischer, Mr. Lattimore

M153A. Mycenaean Art and Architecture. (Same as Art History M102A.) Lecture, three hours. Prerequisite: Art History 50. Study of development of art and architecture in Mycenaean Crete from ca. 3000 to 1000 B.C., P/NP or letter grading. Mr. Morris

M153B. Archaic Greek Art and Architecture. (Same as Art History M102B.) Lecture, three hours. Prerequisite: Art History 50. Study of development of art and architecture in Mycenaean Greece from ca. 2000 to 1000 B.C., P/NP or letter grading. Mr. Morris

M153C. Archaic Greek Art and Architecture. (Same as Art History M102C.) Lecture, three hours. Prerequisites: course 10 or equivalent, 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. Mr. Lattimore, Mr. Morris
M13D. Classical Greek Art and Archaeology.
(Same as Art History M102D.) Lecture, three hours. Prerequisites: course 10 or equivalent, Art History 50. Recommended: upper division classics or Greek courses. Study of development of art and architecture of Greek world from approximately 490 through 350 B.C. P/NP or letter grading. Mr. Lattimore

M13E. Hellenistic Greek Art and Archaeology.
(Same as Art History M102E.) Lecture, three to four hours. Prerequisites: course 10 or equivalent, Art History 50. Study of development of art and architecture of Greek world from middle of the 4th century B.C., including survey of monument of Greek art forms to the Roman conquest of Greece. Mr. Lattimore

M153F. Etruscan Art.
(Same as Art History M102F.) Lecture, three hours. Prerequisite: Art History 50. Arts of Italic peninsula from ca. 1000 B.C. to the end of Roman Republic. P/NP or letter grading. Mr. Downey

M153G. Roman Art.
(Same as Art History M102G.) Lecture, three hours. Prerequisite: Art History 50. Art and architecture of Rome and its Empire from ca. 300 B.C. to A.D. 300. P/NP or letter grading. Ms. Downey

M153H. Late Roman Art.
(Same as Art History M102H.) Lecture, three hours. Prerequisites: course M153G, Art History 50. Art of Roman Empire from the 1st through 4th century (A.D.). P/NP or letter grading. Ms. Downey


Mr. Lattimore, Ms. Morris

161. Introduction to Classical Mythology.
Lecture, three hours. Prerequisite: course 10 or History 1A or equivalent. Origins of classical myth; substance of divine myth and heroic saga; place of myth in religion; survey of study of classical mythology.

Mr. Lattimore, Mr. Puhvel

162. Classical Myth in Literature.
Lecture, four hours. Prerequisite: courses for History 1A or equivalent. Use of myth in principal authors and genres of Greek and Roman literature, with examples of its influence in later literature.

Mr. Lattimore

185. Ancient Athletics.
Prerequisite: course 10 or History 1A or equivalent. Study of ancient Greek and Roman athletics and their connections with religion, politics, literature, and art.

Mr. Lattimore

186A. Greek Religion.
Prerequisite: course 10 or History 1A or equivalent. Study of the religion of the ancient Greeks.

188B. Roman Religion.
Prerequisite: course 20 or equivalent. Study of the religion of the ancient Romans.

Mr. Frischer, Ms. Newlands

187. Greek and Roman Magic.
Lecture, three hours. Prerequisite: course 10 or History 1A or equivalent. Study of beliefs about supernatural phenomena in the ancient world, including witches, ghosts, vampires, and magic spells, presented in both literary and archaeological sources.

Ms. Bergren

188. Introduction to Comparative Mythology.
Prerequisite: course 161 or consent of instructor. Religious, mythical, and historical traditions of Greece and Rome compared with each other and with those of other ancient Near Eastern and European societies.

Mr. Puhvel

170. Power and Imagination in Byzantium.
(Fomerly numbered 888B.) (Same as History M122B.) Lecture, three hours. Prerequisites: course M70 or History 125A-125B. Study of relations of authority and the religion in the highly centralized Byzantine Empire. Topics include criticism of the emperor, iconoclasm, intellectual freedom, attempts at reform.

Mr. Dyck (F,W,Sp)

190. The Medieval Book.
Seminar, three hours. Prerequisites: courses 10, 20, and 40 or 41, senior standing in Greek and Latin, Greek, Latin, or classical civilization. Study of the book from manuscript to print, with attention to construction of a new language, literacy, and the script, as well as sharing cultural and historical contexts, medieval methods of information retrieval, and transition from script to print culture.

Mr. Blank

195. Senior Honors Paper. (Formerly numbered 195A-195B-195C.) Supervised through individual consultation with an appropriate faculty member, students revise paper written in a prior upper division course to a substantial piece of academic work, editing, and script, as well as changing cultural and historical contexts, medieval methods of information retrieval, and transition from script to print culture.

Mr. Blank

196. Seminar. Lecture, three hours. Prerequisite: senior standing. Seminar on important themes, periods, genres of ancient Greek and Roman world that take an innovative interdisciplinary approach to questions old and new. Class presentations and papers.

Ms. Bergren, Mr. Blank (F,W,Sp)

199. Special Studies in Classics (2 to 8 units).
Prerequisites: senior standing, consent of instructor.

Graduate Courses

Mr. Dyck

201B. Topics in Ancient History: Roman World (2 or 4 units).
Seminar, three hours. Introduction to basic methods and approaches to study of Roman history by intensive examination of a major topic, including readings of classical and modern scholarship. S/U or letter grading.

Mr. Dyck

230A-230B. Language in Ancient Asia Minor.
Prerequisite: consent of instructor. Study of language situation in Anatolia in 2nd and 1st Millennia B.C. Readings in Hitite, Palaic, Luwian, Hieroglyphic, Lycian, and Lydiaic texts. Anatolian-Greek relationships and survivals in classical and Hellenistic times.

Mr. Gruen

240. Etruscology.
Prerequisite: consent of instructor. Survey of scholarly research on Etruscan language and culture, with analysis of epigraphic material.

Mr. Dyck

Seminar, three hours. Different steps required in preparation of a critical edition of an ancient text: localization of 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; emendation; formulation of apparatus criticus and apparatus fontium.

Mr. Dyck, Mr. Haslam, Mr. Löstedt

245. Computing and Classics.
Introduction to process and analysis of digitized texts of classical authors for purposes of literary history and criticism.

Mr. Frischer

246. Greek and Latin Meter.
Prerequisite: consent of instructor. Comprehensive study of meter as it functions in classical poetry.

Mr. Frischer, Mr. Haslam

251A. Seminar: Classical Archaeology — Aegaean Bronze Age (2 or 4 units).

251B. Seminar: Classical Archaeology — Greco-Roman Architecture.

Mr. Frischer, Mr. Haslam

251C. Seminar: Classical Archaeology — Greco-Roman Sculpture.

Mr. Lattimore

251D. Seminar: Classical Archaeology — Greco-Roman Painting (2 or 4 units). Discussion, three hours. Prerequisite: consent of instructor. Studies in style and iconography of various periods of ancient Greek and Roman painting. May be repeated for credit with consent of instructor. Mr. Lattimore

252E.1. Archaeological Field Techniques (12 units). Off-campus field archaeology, 36 hours. Prerequisites: at least one classical archaeology course and consent of instructor. 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 C151E. S/U or letter grading.

Ms. Morris
### Graduate Courses

The 200-series courses which are designated A and B (e.g., 201A-201B) are double courses. Course A is a preseminar and is normally prerequisite to course B, a seminar. Seminars numbered 201A through 233 (excepting 231) may be taken for either two or four units. If a seminar is taken for four units, a paper is required.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>200A-200B</td>
<td>Sophocles (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Haslam, Mr. Lattimore</td>
</tr>
<tr>
<td>200A-206B</td>
<td>Sophocles (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Haslam, Mr. Lattimore</td>
</tr>
<tr>
<td>201A-207B</td>
<td>Euripides (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Haslam, Mr. Lattimore</td>
</tr>
<tr>
<td>201A-208B</td>
<td>Aristophanes (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Ms. Bergren</td>
</tr>
<tr>
<td>201A-209B</td>
<td>Seminars: Hellenistic Poetry (2 or 4 units each)</td>
<td>(Formerly numbered 209.) S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Frischer, Mr. Haslam</td>
</tr>
<tr>
<td>201A-209B</td>
<td>Seminars: Hellenistic Poetry (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Frischer, Mr. Haslam</td>
</tr>
<tr>
<td>201A-211B</td>
<td>Herodotus (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Frischer, Ms. King</td>
</tr>
<tr>
<td>201A-212B</td>
<td>Thucydides (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Haslam, Mr. Lattimore</td>
</tr>
<tr>
<td>201A-213B</td>
<td>Seminar: Greek Historiography (2 or 4 units)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Dyck</td>
</tr>
<tr>
<td>201A-214B</td>
<td>Demosthenes (2 or 4 units)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Dyck</td>
</tr>
<tr>
<td>201A-215B</td>
<td>Early Greek Orators (2 or 4 units)</td>
<td>Studies in works of Anabion, Andoioedes, and Lylytes. S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank</td>
</tr>
<tr>
<td>201A-216B</td>
<td>Menander (2 or 4 units)</td>
<td>Prerequisite: reading knowledge of classical Greek. S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Frischer, Mr. Goldberg</td>
</tr>
<tr>
<td>201B-217B</td>
<td>Greek Lyric Poetry (2 or 4 units each)</td>
<td>Prerequisite: consent of instructor. S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>217A. Archai Lyric. S/U (two-unit course) or letter (four-unit course) grading.</td>
</tr>
<tr>
<td>201B-218B</td>
<td>Greek Lyric Poetry (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Frischer</td>
</tr>
<tr>
<td>201B-222B</td>
<td>Plato (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Dyck, Mr. Frischer</td>
</tr>
<tr>
<td>201B-223B</td>
<td>Aristotle (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Ms. Bergren, Mr. Blank</td>
</tr>
<tr>
<td>201B-224B</td>
<td>Seminar: Post-Aristotelian Philosophy (2 or 4 units)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Dyck, Mr. Frischer</td>
</tr>
<tr>
<td>201B-231C</td>
<td>Seminar: Later Greek and Byzantine Literature (2 or 4 units each)</td>
<td>Prerequisite: consent of instructor. Studies in some detail of Byzantine Greek language and literature. Topics vary from year to year.</td>
<td>Ms. Bergren, Mr. Blank</td>
</tr>
<tr>
<td>201B-231C</td>
<td>Seminar: Later Greek and Byzantine Literature (2 or 4 units each)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Dyck</td>
</tr>
<tr>
<td>201B-232B</td>
<td>Byzantine Poetry (2 or 4 units)</td>
<td>Study of main representatives of both religious and secular poetry.</td>
<td>Mr. Blank, Mr. Dyck</td>
</tr>
<tr>
<td>201B-233B</td>
<td>Byzantine Poetry (2 or 4 units)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Dyck</td>
</tr>
<tr>
<td>201B-234B</td>
<td>Byzantine Poetry (2 or 4 units)</td>
<td>History of the Greek Language, Pre-requisite: consent of instructor.</td>
<td>Mr. Blank, Mr. Dyck</td>
</tr>
<tr>
<td>201B-235B</td>
<td>Byzantine Poetry (2 or 4 units)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Dyck</td>
</tr>
<tr>
<td>201B-236B</td>
<td>Byzantine Poetry (2 or 4 units)</td>
<td>S/U (two-unit course) or letter (four-unit course) grading.</td>
<td>Mr. Blank, Mr. Dyck</td>
</tr>
</tbody>
</table>

### Latin

#### Lower Division Courses

1. **Elementary Latin**
   - Lecture, five hours.
2. **Elementary Latin**
   - Lecture, five hours. Enforced prerequisite: course 1.
3. **Elementary Latin**
   - Lecture, five hours. Enforced prerequisite: course 2.

#### Upper Division Courses

Note: Latin 3 is prerequisite to 100, which is normally prerequisite to all other 100-series courses in classical Latin authors.

100. **Readings in Latin Prose and Poetry.** Lecture, three hours. Prerequisite: course 1 or equivalent. Close study of a prose text supplemented with related readings in poetry. Attention to historical and cultural context. Course is normally prerequisite to other courses in the Latin 100 series.

105A, 105B. **Beginning Vergil:** Selections from Aeneid I-VI. (Formerly numbered 105B.) Lecture, three hours. Prerequisite: course 100 or consent of instructor. Reading of one or more books from first half of the Aeneid, designed especially for students with only limited experience in reading Latin poetry.

108. **Advanced Vergil.** Lecture, three hours. Prerequisite: course 105A or equivalent or consent of instructor. Reading and discussion of Vergil's Eclogues, Georgics, and/or second half of the Aeneid. May be repeated for credit with change in reading assignments. P/NP or letter grading.

110. **Catullus.** Lecture, three hours. Prerequisite: course 108.

116. **Horace.** Lecture, three hours. Prerequisite: course 108.

118. **Roman Elegy.** Selections from Catullus, Tibullus, and Propertius.

120. **Roman Elegy.** Lecture, three hours. Prerequisite: course 108.

130. **Roman Elegy.** Lecture, three hours. Prerequisite: course 108.

140. **Ovid.**

150A. **Beginning Vergil:** Selections from Aeneid I-VI. (Formerly numbered 105B.) Lecture, three hours. Prerequisite: course 100 or consent of instructor. Reading of one or more books from first half of the Aeneid, designed especially for students with only limited experience in reading Latin poetry.

150B. **Advanced Vergil.** Lecture, three hours. Prerequisite: course 105A or equivalent or consent of instructor. Reading and discussion of Vergil's Eclogues, Georgics, and/or second half of the Aeneid. May be repeated for credit with change in reading assignments. P/NP or letter grading.

160. **Catullus.** Lecture, three hours. Prerequisite: course 110.

170. **Horace.**

180. **Roman Elegy.** Selections from Catullus, Tibullus, and Propertius.

200. **Roman Elegy.** Lecture, three hours. Prerequisite: course 110.

240A. **Greek Dialects and Historical Grammar.** Pre-requisite: consent of instructor. Linguistic situation in early Greece. Readings in classical Greek dialects. Greek grammar in context of common Greek and Indo-European languages.

243. **Mycenaean Greek.** Prerequisite: consent of instructor. Script, language, and grammar of the Linear B inscriptions; their relevance to ancient Greek linguistic and cultural history.

244. **Greek Paleography.** Prerequisites: reading knowledge of Greek. In some detail of introductory text to Greek papyri, considered both as historical documents and as carriers of literature.

245. **Greek Paleography.** Studies in development of book hand in Greek manuscripts earlier than the invention of printing.

246. **Directed Individual Study or Research (2 to 8 units).**

247. **Research for Ph.D. Qualifying Examinations (2 to 8 units).**

299. **Research for Ph.D. Dissertation (2 to 8 units).**

110A-110B. Study of Latin Prose. Discussion, three hours. Course 110A is prerequisite to 110B. Work in sight reading and grammatical analysis of classical prose texts; writing of classical prose. Mr. Gurval, Mr. Løfstedt, Ms. Newlands

111. Livy. Mr. Frischer, Mr. Gurval, Mr. Løfstedt

112. Tacitus. Mr. Frischer, Mr. Gurval, Ms. Newlands

113. Cicero: The Orations. Mr. Dyck, Mr. Frischer, Mr. Gurval

114. Roman Epitaleography: Cicero and Pliny. Mr. Dyck, Mr. Frischer, Mr. Gurval

115. Caeser. Mr. Dyck, Mr. Gurval, Ms. Newlands

116. Roman Novel. Lecture, three hours. Prerequisite: course 100 or equivalent. Reading and discussion of either Petronius’ Satyrica or Apuleius’ Metamorphoses and development of the genre of prose novel in antiquity. May be repeated for credit with change in author and text. Mr. Frischer, Mr. Gurval, Ms. Newlands

117. Sallust. Mr. Gurval, Ms. Newlands

118. Seneca. Selection from Seneca’s works read in Latin. Mr. Gurval, Mr. Løfstedt, Ms. Newlands

120. The Vulgate. Lecture, three hours. Prerequisite: course 3 or consent of instructor. Reading of selected chapters of St. Jerome’s translation of the Bible, with emphasis on unclassified features of the Latin. Mr. Løfstedt

121. Patristic Texts. Lecture, three hours. Prerequisite: 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. Mr. Løfstedt

130. Introduction to Medieval Latin. Prerequisite: course 3 or consent of instructor. Reading of easy prose texts, with emphasis on basic language training. Mr. Løfstedt

131. Medieval Latin Prose. Prerequisite: course 130 or consent of instructor. Extensive reading of selected texts in prose, with emphasis on idiosyncrasies of medieval Latin. Mr. Løfstedt

133. Medieval Latin Poetry. Prerequisite: one upper division Latin language course or consent of instructor. Mr. Løfstedt

139. Special Studies in Latin (2 to 8 units). Prerequisites: senior standing, consent of instructor.

Graduate Courses

The 200-series courses which are designated A and B (e.g., 203A and 203B) are double courses. Course 203A is a preseminar and is normally prerequisite to course B, a seminar. Seminars numbered 201 through 231B (except 210) may be taken for either two or four units. If a seminar is taken for four units, a paper is required.

203A. Elegiac Poetry (2 or 4 units). S/U (two-unit course) or letter (four-unit course) grading. Mr. Frischer, Ms. Newlands

203B. Propertius (2 or 4 units). S/U (two-unit course) or letter (four-unit course) grading. Mr. Frischer, Mr. Gurval, Ms. Newlands

204A-204B. Vergil: Aeneid (2 or 4 units each). S/U (two-unit course) or letter (four-unit course) grading. Mr. Frischer, Mr. Gurval, Ms. Newlands

205A. Seminar: Vergil’s Bucolics (2 or 4 units). S/U (two-unit course) or letter (four-unit course) grading. Mr. Frischer, Mr. Gurval, Ms. Newlands

205B. Seminar: Vergil’s Georgics (2 or 4 units). Close reading of Vergil’s text; careful evaluation of influential criticism on the poem, much of it recent; examination of work’s place within the tradition of rural poetry. S/U (two-unit course) or letter (four-unit course) grading.

206. Horace (2 or 4 units). S/U (two-unit course) or letter (four-unit course) grading. Mr. Frischer, Mr. Gurval, Ms. Newlands

207. Roman Comedy (2 or 4 units). Prerequisite: consent of instructor. Survey of history of Roman comedy. Reading of one comedy by Plautus or Terence, with emphasis on language and meter. S/U (two-unit course) or letter (four-unit course) grading.

208. Ovid (2 or 4 units). Prerequisite: reading knowledge of classical Latin. Detailed study of poetic works of Ovid. Readings in the original with discussion of secondary literature. May be repeated for credit with topic change. S/U (two-unit course) or letter (four-unit course) grading.

209. Seminar: Roman Satire (2 or 4 units). Prerequisite: two units of Latin. Seminar on 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 (two-unit course) or letter (four-unit course) grading.

210. Advanced Latin Prose Composition. Prerequisite: course 110B.

211A-211B-211C. Seminars: Roman Historians (2 or 4 units each). Study of history of Roman literature. Choice of one or several poets other than Tacitus, S/U (two-unit course) or letter (four-unit course) grading.

211A. Sallust. Mr. Gurval, Ms. Newlands

211B. Livy. Mr. Frischer, Mr. Gurval

211C. Tacitus. Mr. Frischer, Mr. Gurval, Ms. Newlands

212. Latin Paleography. Lecture, three hours. Close study of one of the major texts of classical Latin. May be repeated for credit with topic change. S/U (two-unit course) or letter (four-unit course) grading.

213. Latin Art. Mr. Frischer, Mr. Gurval, Ms. Newlands

214. Latin Art. Mr. Frischer, Mr. Gurval, Ms. Newlands

215. Seminar: Roman Novels (2 or 4 units). Works such as Petronius’ Satyricon and Apuleius’ Metamorphoses: study of literary problems. May be repeated for credit with topic change. S/U (two-unit course) or letter (four-unit course) grading.

216. Roman Rhetoric (2 or 4 units). Seminar, three hours. Close study of one rhetorical text (e.g., Rhetorica ad Herennium, Cicero’s de Oratore, Seneca’s Controversiae or Suasiones, Quintilian’s Institutio), with attention to its place in the rhetorical tradition. May be repeated for topic change. S/U (two-unit course) or letter (four-unit course) grading.

217. Cicero’s Orations (2 or 4 units). Seminar, three hours. S/U (two-unit course) or letter (four-unit course) grading.

218. Cicero’s De Oratore (2 or 4 units). Seminar, three hours. S/U (two-unit course) or letter (four-unit course) grading.

220. Cicero’s Orationes (2 or 4 units). Seminar, three hours. S/U (two-unit course) or letter (four-unit course) grading.

221. Cicero’s Philosophical Works (2 or 4 units). S/U (two-unit course) or letter (four-unit course) grading. Mr. Dyck, Mr. Frischer

221B. Cicero: De Natura Deorum (2 or 4 units). S/U (two-unit course) or letter (four-unit course) grading. Mr. Dyck, Mr. Frischer

222. Seminar: Roman Stoicism (2 or 4 units). Prerequisite: reading knowledge of Greek and Latin. S/U (two-unit course) or letter (four-unit course) grading. Mr. Blank, Mr. Dyck, Mr. Frischer

223. Lucretius (2 or 4 units). S/U (two-unit course) or letter (four-unit course) grading. Mr. Blank, Mr. Frischer

224. Seneca (2 or 4 units). Seminar, third hours. Close study of one work of prose or poetry by the younger Seneca. Emphasis on literary and philosophical problems, with some attention to prephilological and historical matters as well. May be repeated with topic change. S/U (two-unit course) or letter (four-unit course) grading.

231A-231B. Seminars: Medieval Latin (2 or 4 units each). Prerequisite: at least one upper division Latin course or consent of instructor. Studies in various areas of the language and literature of medieval Latin. May be repeated for credit with consent of instructor. S/U (two-unit course) or letter (four-unit course) grading.

232. Vulgar Latin. Prerequisite: consent of instructor. History and characteristics of popular Latin; its development into early forms of the Romance languages. Mr. Løfstedt

235. Late Latin Poetry (2 or 4 units). Seminar, three hours. Close study, with attention to literary and historical background, of work of one or several poets who flourished between the death of Ovid and fall of the Roman Empire. May be repeated with change in author. Ms. Newlands

236. Late Latin Prose (2 or 4 units). Seminar, three hours. Close study, with attention to literary and historical background, of work of several authors who flourished between the death of Tacitus and fall of the Roman Empire. May be repeated with change in author. Ms. Newlands

240. History of the Latin Language. Prerequisite: consent of instructor. Development of Latin from the earliest monuments until its emergence in the Romance languages. Mr. Løfstedt

242. Italic Dialects and Latin Historical Grammar. Prerequisite: consent of instructor. Linguistic situation in early Italy: Readings in Osco, Umbrian, and early Latin texts. Latin grammar in context of Italic and Indo-European linguistics. Mr. Puhvel


270. Teaching Latin. Prerequisite: graduate standing or consent of instructor. Techniques for teaching; organization of courses; review of content of curriculum offered in junior and senior high schools.

495. College Teaching of Latin (2 units). Prerequisite: appointment as a teaching assistant, consent of instructor. Methodology of instruction in conjunction with classroom practice. May be repeated for credit. S/U (two units). Mr. Goldberg

596. Directed Individual Study or Research (2 to 8 units).

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units).

599. Research for Ph.D. Dissertation (2 to 8 units).

Related Courses in Other Departments

Ancient Near East (Near Eastern Languages) 170. Introduction to Biblical Studies

272. Semitic Background of the New Testament

Art History M102A. Archic Greek Art and Archaeology

M102D. Classical Greek Art and Archaeology

M102E. Hellenistic Greek Art and Archaeology

M102C. Archaic Greek Art and Archaeology

M102D. Classical Greek Art and Archaeology

M102E. Hellenistic Greek Art and Archaeology

M102C. Archaic Greek Art and Archaeology

M102B. Classical Greek Art and Archaeology

M102A. Archic Greek Art and Archaeology

History 116A-115B-115C. History of Ancient Mediterranean World

116A-116B. History of Ancient Greece

117A-117B. History of Rome

121A-121B. Medieval Europe

123A-123B. Byzantine History
Communication Studies (Interdepartmental)

334 Kinsey Hall, (310) 825-3303

Professors
Gordon L. Berry, Ed.D. (Education)  
Christine L. Borgman, Ph.D. (Library and Information Science)  
Andrew Christensen, Ph.D. (Psychology)  
Patricia M. Greenfield, Ph.D. (Psychology; Distinguished Teaching Award)  
Nancy M. Henley, Ph.D. (Psychology)  
John C. Heritage, Ph.D. (Sociology)  
Shanta Iyengar, Ph.D. (Political Science)  
Neil M. Malamuth, Ph.D. (Chair)  
Melvin Pollner, Ph.D. (Sociology)  
Donald E. Hargis, Ph.D., Emeritus

Associate Professors
Patrice L. French, Ph.D.  
Sara Melzer, Ph.D. (French)  
Paul L. Rosenthal, Ph.D. (Distinguished Teaching Award)  
L. Geoffrey Cowan, LL.B. (Distinguished Teaching Award)  
Marie S. Gregory, M.A. (Distinguished Teaching Award)

Assistant Professors
Richard Anderson, Ph.D. (Political Science)  
Steven E. Clayman, Ph.D.

Senior Lecturers
Jeffrey I. Cole, Ph.D. (Distinguished Teaching Award)  
L. Geoffrey Cowan, LL.B. (Distinguished Teaching Award)  
Marie S. Gregory, M.A. (Distinguished Teaching Award)

Scope and Objectives
The major in communication studies is an interdisciplinary program 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 specialty are offered: the specialization in mass communication centers on formal and institutional communication systems and the macrocosmic social contexts in which they function; the specialization in interpersonal communication centers on face-to-face communicative interaction in the small group environment.

Bachelor of Arts Degree
Students selecting the major in communication studies must complete the required lower division prerequisites 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 during Spring Quarter in the program office.

Preparation for the Major
Required lower division courses: Communication Studies 10, Psychology 10, Sociology 1, Speech 1, Anthropology 33 or Linguistics 1, Program in Computing 1, one course from Economics 40, Sociology 18, or Statistics 50.

You are encouraged but not required to complete as many lower division preparation for the major courses as possible before admission to the program.

Writing Requirement
Required: English 131D.

The Major
Required Core Courses: Communication Studies 100 and 101 and one course from Anthropology M140, Communication Studies 102, or Psychology 122.

Specializations
Mass Communication — (1) Communication Studies 140, 152, and one course from Political Science 141B, Psychology 137B, Sociology 133; (2) systems, institutions, and policies — two courses from Communication Studies 153, 155, 156, 165, 170, 177, 180, 187, either Communication Studies M147 or Sociology M176; (3) media content/criticism/history — two courses from Communication Studies 160, M161, 171, Film and Television 106A, 108, 110A, either Communication Studies 175 or Film and Television 116; (4) electives in interpersonal communication — two courses from Communication Studies 115, 120, 130, M144A or M144B or Sociology CM124A or CM124B, Psychology 135 or Sociology 132, Sociology 135 or Psychology 135; (5) general electives — two courses from one of the following groups: (a) American studies — English 115A, History 148A, 148B, 148C, 150A, 150B, 156A, 156B, Political Science 114A, 114B; (b) language theory — Communication Studies M124, 150, Linguistics 170, Philosophy 172, Philosophy 122 or 123; (c) social systematics — Communication Studies M144A or M144B or Sociology CM124A or CM124B, Anthropology 133R, 135A, 135B, 142A, 142B, Sociology 134.

Interpersonal Communication — (1) Four courses (at least one of which must be Communication Studies 115 or 120) from Communication Studies 115, 120, M144A or M144B or Sociology CM124A or CM124B, Sociology 132 or Psychology 135, Sociology 135 or Psycholo-

Lower Division Courses
10. Introduction to Communication Studies. Introduction to fields of mass communication and interpersonal communication. Study of modes, media, and effects of mass communication, interpersonal processes, and communication theory.

Mr. Cole (F, W, Sp)

88A-88Z. Lower Division Seminars: Special Topics in Communication Studies. (Formerly numbered 97A-97Z.) Seminar, three hours. Variable topics courses; consult Schedule of Classes for topics to be offered in a specific term. P/NP or letter grading. 88A. Communication Studies M124, 150, Linguistics 170, Philosophy 172, Psychology 122 or 123; (c) social systematics — Communication Studies M144A or M144B or Sociology CM124A or CM124B, Anthropology 133R, 135A, 135B, 142A, 142B, Sociology 134.

Upper Division Courses
100. Communication Theory. Prerequisite: course 10 or Linguistics 1 or Sociology 1 or Psychology 10 or consent of instructor. Analysis of fundamental nature of human communication; its physical, linguistic, psychological, and sociological bases. Study of theoretical models explicating the process and constituents of the communicative act.

Mr. Clayman, Ms. French

101. Freedom of Communication. Analysis of legal, political, and philosophical issues involved 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.

Mr. Cowan, Mr. Rosenthal (F, Sp)

102. Code of Human Communication. Prerequisite: course 10 or Linguistics 1 or Sociology 1 or Psychology 10 or consent of instructor. Structural analysis and description of human communication codes; development of language: characteristics of the source, channel, and destination in human communication.

Ms. French

115. Dyadic Communication and Interpersonal Relationships. Prerequisite: course 100. Developmental approach to study of communication in dyadic relationships. Analysis of differences in the stages of relationships in terms of communication rules and verbal and nonverbal messages.

Ms. French, Ms. Henley
M116. Communication and Conflict in Couples and Families. (Same as Psychology M176.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: Psychology 10 or 11, 41, and 127, or consent of instructor. Examination of (1) dysfunctional communication and conflict in couples and families and (2) relationship between the two processes to individual psychotherapy, marital discord, and family violence. Mr. Christiansen

M117. Rhetoric of Rule. (Same as French M143.) Lecture, three hours. Exploration of how and why power is symbolically constructed by comparing Louis XVI's and President Clinton's attempts to manipulate their image in the "media" of their respective cultures. Ms. Melzer

120. Principles and Types of Group Communication. Prerequisite: course 100 or consent of instructor. Analysis of purposes, principles, and types of small group communication. Particular emphasis on organization and participation in problem-solving discussion.

M124. Psychology of Language and Gender. (Same as Psychology M137J, and Women's Studies M137J.) Lecture, three hours. Prerequisites: Psychology 10 or equivalent, junior standing. Examination of current topics at intersection of gender and language. Topics include gender and language in advertising, children's language, and "women's" and "men's" language in various racial/ethnic/class/sexual preference contexts and conversational interaction. Ms. Henley

130. Cultural Factors in Interpersonal Communication. Prerequisite: course 100 or consent of instructor. Study of cultural factors as they affect the quality and processes of interpersonal communication: exercises in participation, analysis, and criticism of interethnic and intercultural communications in the small group configuration. Ms. French

140. Theory of Persuasive Communication. Prerequisite: course 100 or consent of instructor. Analysis of principles and modes of communication designed to influence human conduct; analysis of structure of persuasive discourse; integration of theoretical materials from relevant disciplines of humanities and social sciences. Mr. Rosenthal

142. Rhetorical Theory. Prerequisite: course 100 or consent of instructor. Survey of major classical and neoclassical theories on rhetoric. Analysis of theories of Plato, Aristotle, Cicero, Quintilian, St. Augustine, and others. Mr. Greenfield, Mr. Malamuth, Mr. Rosenthal

144A-M144B. Conversational Structures I, II. (Same as Sociology CM124A-CM124B.) Lecture, three hours; discussion, one hour. Prerequisite: M144A. 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. M144B. Prerequisite: course M144A. Consideration of some more expanded sequence structures, story structures, topical sequences, and overall structural organization of single conversations. Mr. Malamuth

M147. Sociology of Mass Communication. (Same as Sociology M176.) Prerequisite: course 100 or consent of instructor. Studies in relationship between mass communication and social organization. Topics include history and organization of mass media, institutions, social forces that shape production of mass media news and entertainment, selected studies in media content, and effects of media on society.

150. Analysis of Communication Content. Prerequisite: course 100 or consent of instructor. Study of methodologies for qualitative and quantitative analysis of the content of communications. Ms. French

152. Analysis of Communication Effects. Prerequisite: course 100 or consent of instructor. Study of experimental and field research on effects of communications. Study of source, message, and environmental factors affecting audience response.

Ms. Greenfield, Mr. Malamuth

153. The Media and Aggression Against Women. Lecture, two hours; discussion, two hours. Prerequisite: course 152 or consent of instructor. Study of the gender dynamics of media and aggression against women. Consideration of both role of the media as reflecting cultural values and scripts and its potentially harmful role as a reinforcing agent of a culture. Analysis of research on role of individual differences among members of a culture as mediators of the impact of the media. Mr. Malamuth

155. Communication Technology and Public Policy. Prerequisite: course 100 or consent of instructor. Examination of the relationships between mass communication technology and policy, with special attention to current policy issues, institutions which make policy decisions, and social, economic, and technological trends which create policy problems. Modern communication technologies are analyzed in terms of the impact on society, technology, and public policy. Mr. Cole

156. Human/Computer Communication. Prerequisite: completion of the seven preparation for the major courses. Limited to communication studies majors. Survey of behavioral, design, and evaluation issues in human/computer communication. Readings from disciplines of psychology, sociology, computer science, and management in an interdisciplinary context. Students perform several on-line assignments in learning to use different technologies. Term paper required. Ms. Borgman

160. Political Communication. Prerequisites: Psychology 100 and 101, or consent of instructor. Study of the nature and function of communication in the political sphere; analysis of contemporary and historical communications within established political institutions; case studies; political campaigns. Mr. Cole

161. Electoral Politics: Mass Media and Elections. (Same as Political Science M141D.) Lecture, three or four hours; discussion, one hour (optional); outside study; eight or nine hours. Prerequisite: course 150. Assessment of mass media's role in American elections; the impact of media on campaign events; the role of public opinion. Mr. Lyengar

165. Agitational Communication. Prerequisites: courses 100 and 101, or consent of instructor. Study of the role of the public from the agitational process. Topics include the relationship of ideology, media, and agitational techniques. Mr. Iyengar

167. Media and Aggression Against Women. Lecture, two hours; discussion, two hours. Prerequisite: course 152 or consent of instructor. Study of the gender dynamics of media and aggression against women. Consideration of both role of the media as reflecting cultural values and scripts and its potentially harmful role as a reinforcing agent of a culture. Analysis of research on role of individual differences among members of a culture as mediators of the impact of the media. Mr. Malamuth

167. Liberal and Freedom of Expression. Lecture, two hours; discussion, two hours. Prerequisite: course 101 or consent of instructor. Course examines liberty of expression and its relationship to the free flow of information in a democratic society. Examination of the substance, scope, and effects of libel laws. Topics include application of libel laws to public official, public figure, and private plaintiffs and media and nonmedia defendants; group libel, privileged libel, and libelous fiction.

Mr. Rosenthal

168. Politics of Censorship. Discussion, two hours; simulation teaching, three hours. Prerequisites: course 101, consent of instructor. Examination of the provisions of the First Amendment 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 "International Code of Communication Order." Mr. Cowan (W)

169. Field Studies in Communication (2 to 8 units). Prerequisites: course 10, junior standing, consent of instructor. Fieldwork in communication. Students will direct the study. Prerequisites: senior and honors status. May be taken to a maximum of four units per term. P/NP grading. Ms. Gregory

178. Ethical and Policy Issues in Institutions of Mass Communication. Prerequisites: courses 10, 101. Intensive examination of ethical and policy issues arising from interaction of media institutions (print, film, broadcasting, and new technologies) and social institutions (legal, political, religious, and governmental agencies, courts, the Presidency, schools, churches, political action groups, advertisers, and audiences). Mr. Cole

180. Multicultural Television and Society. (Formerly numbered 197C.) Study and evaluation of cross-cultural, social, and psychological characteristics of selected national and international television programs and their implications for social learning in children. Mr. Malamuth

191H. Research Methods in Communication (Honors). Lecture, three hours. Prerequisites: courses 100, 101, junior standing. Provides a working understanding of research methods in communication studies, particularly related to study of mass media effects, to give students the background necessary to design, implement, and report their own research project.

Mr. Iyengar, Mr. Malamuth (F)

196H. Undergraduate Honors Proseminar. Prerequisites: senior standing, 3.5 GPA in communication studies major; 3.3 GPA overall. Limited enrollment. Variable topics; course consent of instructor. Study of selected aspects of the field of human communication.

Mr. Iyengar, Mr. Malamuth

197A-197B. Special Topics in Communication Studies. Lecture, three hours. Prerequisite: completion of the prerequisites or consent of instructor. Variable topics courses; consult Schedule of Classes for topics to be offered in a specific term.

197A. Mass Communication Theory; 197B. Systems, Institutions, and Policy Concerns; Mass Communication and Society; 197C. Communication and History; 197D. American Studies; 197E. Language/Interaction Structures; 197F. Social Systems; 197G. Intersocietal Communication Theory; 197J. Heterogeneous Groups Communication (F, W, Sp)

199. Special Studies (2 to 8 units). To be arranged with faculty member who will direct the study. Prerequisites: senior standing, consent of instructor. Variable topics courses; consult Schedule of Classes for topics to be offered in a specific term.

199A. Mass Communication Theory; 199B. Systems, Institutions, and Policy Concerns; 199C. Communication and History; 199D. American Studies; 199E. Language/Interaction Structures; 199F. Social Systems; 199G. Intersocietal Communication Theory; 199J. Heterogeneous Groups Communication (F, W, Sp)

199H. Special Studies for Honors Candidates (2 to 8 units). To be arranged with faculty member who will direct the study. Prerequisites: senior and honors program standing. Independent studies for students who desire intensive or specialized investigation of selected research topics.
Scope and Objectives

Standing at the forefront of innovative literary analysis and criticism, comparative literature is one of the most exciting fields in the humanities. As a discipline it requires exceptional linguistic ability and high intellectual caliber. UCLA's graduate interdepartmental program offers students the opportunity to work with faculty in any of the University's language and literature departments as well as with the Comparative Literature Program faculty.

Comparative literature at UCLA focuses on those elements which define literature in general, such as genre, period, theme, language, and theory. Courses are designed to provide students with a historical understanding of the concepts of genre and period by studying specific genres and periods or literary movements. Paradigmatic or thematic courses offer another way of examining literature synchronically or diachronically regardless of language boundaries.

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.

Master of Arts Degree

Admission

A bachelor's degree in literature, ancient or modern, is a prerequisite for admission to the program. Students not having a literature major in their B.A. program are required to demonstrate the equivalent knowledge and comprehension of one literature before being considered a graduate student in good standing. Applicants are expected to have at least a 3.4 grade-point average in upper division literature courses, take the Graduate Record Examinations (GRE), and submit three letters of recommendation to the Comparative Literature Program (2326 Murphy Hall, UCLA, Los Angeles, CA 90024-1536). Applicants should have literary proficiency in one foreign language and at least elementary knowledge of a second.

Areas of Study

Your study plan should combine work in the major and minor literatures by focusing on a limited area in which these literatures may be explored. The area may be a literary period (e.g., Romanticism), a genre (e.g., the novel), or a theoretical problem.

The major literature is the area of your primary concentration. You specialize in one historical-defined period (e.g., medieval, Renaissance, and baroque, neoclassicism and 18th century, Romanticism to modern), but general knowledge of the major literature is a prerequisite for the specialization.

In the minor literature, you focus on a period comparable to the area of specialization in the major literature, although you may not have as much historical depth and breadth as in the major literature.

Foreign Language Requirement

Literary proficiency in the major and minor literatures is an essential prerequisite for courses and degrees in comparative literature. You should be able to take graduate classes conducted in the languages of your specialization, speak the major foreign language adequately, and read literary texts in that language with "literary proficiency" (i.e., with sensitivity to stylistic nuances).

Before completing the M.A., you must demonstrate knowledge of two foreign languages. Proficiency in one must be certified by completing two or more upper division and/or graduate literature courses in the appropriate language department. (You must prove more than elementary language competency in order to take these courses.) The second language requirement may be satisfied either by completing two years of language classes, by taking one upper division literature class, or by passing the Graduate School Foreign Language Test (GSFLT) with a score of 600 or better. Translation examinations may be administered by departmental members in languages for which no GSFLT is available.

Course Requirements

The following 12 courses are the minimum course requirements. Some students will take extra courses to make up deficiencies.

(1) Four comparative literature courses, including Comparative Literature 200 and one course in literary theory such as 290, 291, 292, or 293; two courses that deal with primary texts in a comparative context (e.g., courses on genre, period, or a special topic that examine primary texts).

(2) Five courses (three must be graduate, two may be upper division) in your major literature.

(3) Three courses (at least one must be graduate) in your minor literature. You should study periods, genres, or problems in the minor literature which lend themselves to comparison with similar elements in your major literature. Of the above required courses, eight units at most may be in the 500 series. Course 596 or 597 may be applied toward the minimum course requirement and the graduate course requirement.

Comprehensive Examination Plan

The examination for the M.A. is both written and oral, testing both historical knowledge and comprehension of methodology. There are three possible results of the examination: you may receive an M.A. degree and be allowed to progress toward the Ph.D., be granted a terminal M.A., or fail the examination altogether. The program allows a maximum of two attempts to pass the M.A. examinations. The written examinations test your skill in literary analysis and detailed knowledge of specified works in the major and minor literatures. The examinations are based on reading lists from the works of at least 15 authors in the major literature (two three-hour examinations) and the works of at least 10 authors in the minor literature (one three-hour examination). Normally, the reading list consists of approximately 24 to 30 works in the major literature and 12 to 15 works in the minor literature. For more details on the reading list, contact the program office.
Ph.D. Degree

Admission

For entrance into the Ph.D. program, an M.A. degree in Comparative Literature is normally required. Students with an M.A. degree in one national literature, extensive knowledge of a second, and the ability to read literary texts in a third language may be considered for admission. Applicants should submit three letters of recommendation. Students entering with any degree other than an M.A. in Comparative Literature from UCLA are required to pass a "permission to proceed" examination before being allowed to continue toward the Ph.D. It should be taken within your first year in residence.

Major Fields or Subdisciplines

The study plan for the Ph.D. should combine work in one major and two minor literatures by focusing on a limited area in which these literatures may be explored. This area may be a literary period or a particular aspect common to several literatures (e.g., a genre like tragedy or the novel, or a phenomenon like neoclassicism or the baroque). It may also be a critical or theoretical problem, involving analyses of styles or modes of interpretation; comparisons of classical and modern genres and themes; questions about the artistic process in different art forms; or problems in literary aesthetics or epistemology. You may substitute, by petition for program approval, a related field such as art history, women's studies, or film for one minor literature.

Foreign Language Requirement

You must have literary proficiency in at least two foreign languages before taking the qualifying examination. Reading knowledge of a third foreign language is strongly recommended. Two of the three languages offered for the Ph.D. must be from different language groups (e.g., Romance and Germanic, English and Slavic). If you intend to offer three literatures written in foreign languages for your Ph.D. degree, you are expected to have literary proficiency in the three pertinent foreign languages. A classical language is usually necessary for anyone majoring in a period prior to the 19th century. If you present three literature areas for the Ph.D., you must fulfill the language requirements through coursework.

If you select a nonliterary minor, you must still demonstrate the ability to read literature in two foreign languages. You are examined in at least one foreign language as part of your course and examination requirements for the Ph.D. You must also demonstrate literature reading proficiency in a second foreign language by taking an upper division course in that language. For example, if you select English (major), French (minor), and film (minor) as your three areas of specialization, you are expected to demonstrate literature reading proficiency in another foreign language such as Italian or German. If you have taken a course to fulfill your M.A. language requirements, you may not use the same course to fulfill the second foreign language requirement for the option described above.

Course Requirements

All students entering with an M.A. must take a minimum of six graduate courses, and often up to 12 courses. Those whose M.A. is not in Comparative Literature at UCLA must take three of the required six courses in comparative literature and one from each of the major and minor literatures/fields. Other relevant or necessary courses are determined in consultation with a graduate adviser. None of the minimum required courses may be in the 500 series. Although only six courses are required, you are strongly advised to take at least two and usually three courses in each of your literatures.

If you have taken your M.A. in Comparative Literature at UCLA, the following courses are required: two comparative literature courses, one with a theoretical orientation; two to three courses in your second minor; two courses in your major literature, preferably in your period of emphasis, plus any additional courses required by the program committee and/or graduate advisers. None of the minimum required courses may be in the 500 series.

Teaching Experience

Teaching experience is not required but is highly recommended.

Qualifying Examinations

The examinations are both written and oral and may be taken over a period of two to three terms at the end of the second year after receiving your M.A. degree. The written examinations are based on reading lists for the major and two minor literatures/fields.

For the major literature, you take one three-hour historical examination based on a reading list of 40 items. No more than 20 of the items may be in the approximately 100-year period of emphasis.

For the minor fields, you must take (1) one three-hour written examination in each minor field, based on approved reading lists of 25 to 30 items or (2) one three-hour written examination in the minor field not included in your M.A. examinations and write a paper of 20 to 30 pages on a topic in the minor field originally presented for the M.A., based on approved reading lists. The latter choice must have approval of the program chair and agreement of the examining professor.

For the University Oral Qualifying Examination, you must submit a detailed dissertation prospectus of approximately 20 pages. The two- to three-hour examination covers all written examinations, as well as your dissertation prospectus.

The program allows a maximum of two attempts to pass the Ph.D. examinations.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation

The doctoral dissertation must demonstrate original critical work in the field. Although a topic comparing literatures is commonly undertaken, comparative literature students may write a dissertation on a single subject in a single field provided that their wide range of knowledge is demonstrated by the quality of the work.

Graduate Courses

200. Methodology of Comparative Literature (6 units). Seminar, four hours. Prerequisite: consent of instructor. Study of methodology of comparative literature and theory of literature.

203. Classical Tradition: Epic. (Formerly numbered C207.) Seminar, three hours. Prerequisite: reading knowledge of Greek, Latin, or Italian. Analysis of Iliad, Odyssey, Aeneid, Gerusalemme Liberata, and Paradise Lost in both relation to their contemporary societies and literary traditions. Emphasis on how poets build on work of their predecessors. S/U or letter grading. Ms. King

204. Satire. (Formerly numbered C212.) Lecture, three hours. Examination of satire both in texts generally recognized as models of the genre as well as in others, including examples of satirical discourse. Special attention to two important literary problems: role played by authors and narrators in relation to treatment of characters before possible audiences and importance of contextual values in interpretation of satire. Concurrently scheduled with Humanities C104. Graduate students required to prepare papers based on texts read in original languages whenever possible and may meet as a group one additional hour each week. S/U or letter grading. C205. Comic Vision. Lecture, three hours. Prerequisite: knowledge of one appropriate foreign language, usually Greek or French. Analysis of selected Greek dramatic and their re-creations in Rome, the Renaissance, and in the modern period. S/U or letter grading. Ms. King

206. Archetypal Heroes in Literature. (Formerly numbered C229.) Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Survey 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. S/U or letter grading. Mr. Band

207. Allegory and Some Allegories. (Formerly numbered B210.) Seminar, three hours. Prerequisites: graduate standing, reading knowledge of one appropriate foreign language. Reading of texts traditionally held to be examples of the genre. Defining allegory is simple, saying which works count as examples of allegory, and why, is much harder. Authors include Prudentius, Augustine, Dante, Spenser, Donne, Tung Yueh, Hegel, Baudelaire, and Mallarmé. S/U or letter grading. Mr. Saussuy
C222. Renaissance Drama. (Formerly numbered C245.) Lecture, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Broad introduction to subject matter and types of plays in the Renaissance, with consideration of historical and literary influences on the plays. Readings include works of such dramatists as Tasso, Macha- velli, Lope de Vega, and Jonson. Course may be concurrently scheduled with Humanities C122. 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. Mr. Braunmuller

C240. Dramatic Theory and Criticism in German and English Romanticism. (Formerly numbered C271.) Seminar, three hours. Prerequisite: reading knowledge of one or more appropriate foreign languages. In critical essays of the Schlegels, Tieck, Jean Paul, Coleridge, De Quincey, and Hazlitt, with emphasis on role of the actor and the idea of dramatic action as discussed by the critics. May be concurrently scheduled with Humanities C140. S/U or letter grading. Mr. Burwick

C250. The 19th-Century Novel. (Formerly numbered C275.) Seminar, three hours. Prerequisite: reading knowledge of French or other appropriate foreign language. Study of the 19th-century novel in England and on the continent. Novels selected so as to allow seminar to concentrate on a particular tradition or critical problem. May be concurrently scheduled with Humanities C150. S/U or letter grading. Ms. Re

C251. Crisis of Authority. (Formerly numbered C278.) Seminar, three hours. Prerequisite: graduate standing or consent of instructor, reading knowledge of one appropriate foreign language. Darwin's Origin of Species and Nietzsche's notion of the Death of God reflect a major transition between the 19th and 20th centuries. Threat to, or collapse of, a divinely authorized and male-dominated society appears in works by G. B. Shaw, Gide, Beckett, Strindberg, Conrad, Hardy, Woolf, and Camus. May be concurrently scheduled with Humanities C151. 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. Mr. Shideler

C252. Symbolist Tradition in Poetry. (Formerly numbered C280.) Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Study of symbolist tradition in 19th- and 20th-century English, French, and German poetry. May be concurrently scheduled with Humanities C152. 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. Ms. Shideler

C250. Literature and the Visual Arts, 1700 to the Present. Lecture, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Knowledge of art history valuable but not required. Assuming that literature and the visual arts are in some degree expressions of cultural and philosophical patterns of era, course studies relationships between primarily English writers from 1700 to the present and movements in painting, architecture, and sculpture. Interdisciplinary investigation of similarities and differences between the plastic and verbal arts in contemporary culture. Course may be concurrently scheduled with Humanities C160. Graduate students required to read works written in original languages. Mr. Roston

C261. Fiction and History. (Formerly numbered C275.) Seminar, three hours. Analysis of use of historical events, figures, and themes in 19th- and 20th-century novels and plays. Texts and individual assignments range from Renaissance historical narratives (Italian humanists, Macha- velli) to contemporary imaginative works by such authors as Stendhal, Verne, Tomaselli of Lampedusa, Carpenter, and Kundera. Use of fictional methods by histori- ans. Emphasis on how aesthetic, ideological, and political factors influence authors' choice and use of historical material. May be concurrently scheduled with Humanities C161. Graduate students required to prepare papers based on texts read in original languages. S/U or letter grading. Ms. Re, Mr. Saussy

C262. The Psychological Novel. (Formerly numbered 292.) Seminar, three hours. Prerequisite: reading knowledge of one or more appropriate foreign languages. Study of French and English novels which both pre- cede and follow development of psychoanalysis. Selec- ted readings of Freud, in addition to the required readings of Henry James, Henry Fielding, and Marcel Proust. S/U or letter grading. Ms. Komar

C263. Crisis of Consciousness in Modern Litt- erature. (Formerly numbered C209.) Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Study of modern European and American works which are concerned both with subject matter and artistic methods with the growing self-consciousness of human beings and their soci- ety, focusing on works of Kafka, Rilke, Woolf, Sartre, and Stevens. May be concurrently scheduled with Humanities C163. Graduate students required to pre- pare papers based on texts read in original languages and to meet as a group one additional hour each week. S/U or letter grading. Ms. Komar

C264. The Modern Continental Novel. (Formerly numbered C286.) Seminar, three hours. Prerequisite: reading knowledge of at least one appropriate foreign language. Study of the modern novel's development from naturalism toward a mythic or symbolic level. Use of novelists such as Proust, Musil, Beckett, Nabokov, and Grass to focus on development of themes such as primitivism vs. authority, change vs. stability, and the self-conscious narrative. Concur- rently scheduled with Humanities C164. S/U or letter grading. Ms. Komar

C267. Theory and Texts of the Fantastic. (Formerly numbered C273.) Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. At- tempt to define the fantastic as a theoretical genre separate from the wider genre of fantasy. Critical texts by Todrov and Brooke-Rose. Primary texts by Hoffman, Kipling, Defoe, Borges, Cortazar, Landolfi, and Calvino. May be concurrently scheduled with Humanities C167. 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. Ms. Re

C270. Alternate Traditions: In Search of Female Voices in Contemporary Literature. (Formerly numbered C284.) Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Investigation of narrative texts by contempo- rary French, German, English, American, Spanish- American, African, and Asian women writers from a cross-cultural perspective. Common themes, prob- lems, and techniques. May be concurrently sched- uled with Humanities C170. 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. Ms. King, Ms. Komar, Ms. Re

C271. Imaginary Women. (Formerly numbered 227.) Seminar, three hours. Prerequisite: reading knowl- edge of one appropriate foreign language. Examina- tion of women characters found in various contempo- rary and historical narratives, including renaissance traditions and their reincarnations in modern African American, Anglo-American, Asian American, European, Native American, and Spanish-American literatures. Particular emphasis on position of women in the cultures and ideology of the authors. S/U or let- ter grading. Ms. King

C272. The Postmodern Novel. (Formerly numbered C286.) Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Study of the postmodern novel as it developed out of modernism. Postmodernism defined in three different ways — philosophically, scientifically, and economi- cally. Emphasis on relationship of recent novels to theories of structuralism and poststructuralism. Read- ings include authors such as Borges, Beckett, Nabokov, Pynchon, Fuentes, Grass, Boll, and Cal- vino. Concurrently scheduled with Humanities C163. Graduate students required to meet as a group one additional hour each week. S/U or letter grading.

C273. Postmodernism and the Third World. (For- merly numbered C290.) Seminar, three hours. Prer- requisites: reading knowledge of one appropriate for- eign language. Exploration of intersection between concepts of postmodernism and Third World culture and politics, including topics such as post-Marxism and revolution, historical thought, gender, imperialism, and their relationship to cultural politics; and recent Latin American literary production. Con- currently scheduled with Humanities C173. S/U or let- ter grading.


C275. Nationalism and Immigration Today. Seminar, three hours; outside study, nine hours. Prerequisites: graduate standing or consent of instructor, knowledge of one appropriate foreign language. Study of recent and early Latin American literary production. Literary and social discourses on issues of nationalism, immigra- tion, and the politics of identity in our postcolonial era, with consideration of broad range of texts (aesthetic representations, theoretical reflections, and legal docu- ments). S/U or letter grading. Mr. Behnke

C285. Translation Workshop. (Formerly numbered C230.) Seminar, three hours. Prerequisites: solid reading knowledge of at least one foreign language, consent of instructor. Open to qualified undergraduates with proper language preparation. Theory and prac- tice of literary translation. Analyses of significant theo- retical contributions to the field. Weekly exercises in translation and analysis of translation in various lan- guages at discretion of participants. S/U or letter grading. Mr. Heim

C290. Contemporary Theories of Criticism. (For- merly numbered 201.) Seminar, three hours. Prereq- isite: consent of instructor. Examination of the current theory of literature focusing on structuralist, psycho- analytic, and Marxist approaches. S/U or letter grading.

C291. Problems in Theory of Literature. (Formerly numbered C292.) Seminar, three hours. Prerequisites: course 290 or equivalent, reading knowledge of French or German. Study of specific topics in theory of literature for advanced students in criticism and lit- erary theory. May be repeated for credit. S/U or letter grading.

C292. Problems of the Sign in Literature. (Formerly numbered C293.) Seminar, three hours. Inquiry into theoretical bases and implications of the sign as an ideogram, non-ideogram, symbol, and signifier in language. How can the sign be central to Western thinking dwell on the sign as a concept-tool in order to focus on the rela- tionship between words and things, language and reality, the linguistic medium and its meaning-produc- ing functions. Excerpts from Plato, Augustine, Locke, Vico, and Hegel lead to a discussion of "sci- ences" envisioned by Saussure (semiology) and Peirce (semiotics) and propounded by contemporary theoretical writers such as Barthes, Hjelmslev, and Greimas. S/U or letter grading. Ms. Kao
Cybernetics
(Interdepartmental)

4531 Boelter Hall, (310) 825-7482

Professors
Jack W. Carlyle, Ph.D. (Computer Science)
Joseph J. DiStefano III, Ph.D. (Computer Science, Medicine), Chair
Michael G. Dyer, Ph.D. (Computer Science)
Jack L. Feldman, Ph.D. (Physiological Science)
C.R. Gallistel, Ph.D. (Psychology)
John Hanley, M.D., Emeritus (Psychiatry and Biobehavioral Sciences)

Associate Professors
David R. Jefferson, Ph.D. (Computer Science)
Eliot M. Landau, M.D., Ph.D. (Biomathematics)
Josef Skrzypek, Ph.D. (Computer Science)
Richard K. Vance, Ph.D. (Biology)

Assistant Professor
Valery I. Nenov, Ph.D. (Neurosurgery)

Scope and Objectives
The major in cybernetics is designed primarily for highly motivated undergraduates interested in interdisciplinary activities 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 introduction to psychology and computer science. The major itself provides an introduction to modeling, information processing, control and system analysis, with emphasis on quantitative ideas and methodologies. Mathematical and other analytical skills are essential in the major.

Cybernetics majors have four options for in-depth studies: life sciences, behavioral sciences, engineering and applied mathematical sciences, or integration of courses from these areas that form a coherent cybernetics curriculum. The major is appropriate preparation for employment or graduate study 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.

Bachelor of Science Degree
Precybernetics Major
You may apply for the precybernetics major via petition if you are a sophomore and have taken at least three of the premajor mathematics courses with a 2.7 GPA or better and three other premajor courses. Together, all preparation for the major courses, including mathematics, must be completed with at least a 3.0 GPA and a minimum grade of C in all courses. Transfer students must meet the same academic requirements, based on all courses transferred from another institution which satisfy premajor requirements, and must have completed one 12-unit term of residence in regular session at UCLA.

Preparation for the Major
Required: A minimum of 73 units, including Biology 5, 9; Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL, 132A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B, 8C; Program in Computing 10A; Psychology 10 or 11.

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 GPA in mathematics, 3.0 GPA overall, and a minimum grade of C in all courses). The major consists of a methodology core (five and one-half courses), a specialization area (seven courses), and a cybernetics breadth requirement (three courses). Each course in the major must be passed with a grade of C or better.

Methodology Core — Four subject areas as follows:
(1) One overview course: Computer Science 196A.
(2) Two courses in probability and statistics from one of the following groups: (a) Statistics M152A and 152B, or (b) Mathematics M150A and Statistics 152B, or (c) Electrical Engineering 131A and Statistics 152B.
(3) Two courses in signals and control systems (one from each group): (a) Electrical Engineering 102 and (b) Electrical Engineering 141 or Mechanical, Aerospace, and Nuclear Engineering 171A.
(4) One course in modeling and computer simulation: Computer Science M196B.

Applications/Specialization Areas — A minimum of seven courses in either life sciences, behavioral sciences, engineering and applied mathematics, or an integration of courses from these areas. A continually updated and approved list of courses in each specialization area is available in the program office and the College Counseling Service.

With few exceptions, courses in the life sciences area are in biology, microbiology, chemistry, and biochemistry, as well as in departments of the School of Medicine. Courses in the behavioral sciences area are in psychology and linguistics. And courses in the engineering and applied mathematics area are in engineering, computer science, and mathematics.

Cybernetics Breadth Requirement — One course from each of the applications/specialization areas selected from the current approved list.

Specialization in Computing You may select this area as an option in the existing applications/specialization areas. Program in Computing 10B, 10C, 30, and 60 are required, in addition to six courses selected from
an approved list. You graduate with a bachelor's degree in cybernetics and a specialization in computing.

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, in which honors-designated sections of selected courses are required. Students pursuing highest honors must, in addition, complete a senior thesis 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 required honors courses) 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.

Upper Division Course

Development Studies (Interdepartmental)
11276 Bunche Hall, (310) 825-2927

Professors
Edward A. Alpers, Ph.D. (History)
Charles F. Bennet, Ph.D. (Geography)
Robert R. Brenner, Ph.D. (History)
Carole H. Browner, Ph.D., In Residence (Psychiatry and Biobehavioral Sciences), Cochair
Lucie C. Cheng, Ph.D. (Sociology)
Sebastian Edwards, Ph.D. (Economics)
Jeffry A. Frieden, Ph.D. (Political Science)
John Friedmann, Ph.D. (Urban Planning)
Peter B. Hammond, Ph.D. (Anthropology)
John N. Hawkins, Ph.D. (Education)
Philip C. Huang, Ph.D. (Economics)
Dean T. Jamieson, Ph.D. (Education)
Nikki Keddie, Ph.D. (History)
Edmond Kessler, Ph.D. (Political Science)
Deepak Lai, J.D. (Economics), Cochair
Michael F. Lofchie, Ph.D. (Political Science)
Afaf Marsot, D.Phil. (History)
Antony R. Orme, Ph.D. (Anthropology)
Merrick Posnansky, Ph.D. (Political Science)
David E. Lopez, Ph.D. (Sociology)
Michael G. Morony, Ph.D. (History)
James Tong, Ph.D. (Political Science)
Carlos A. Torres, Ph.D. (Education)
William H. Worger, Ph.D. (History)
Mary A. Beiger, Ph.D. (History)

Assistant Professors
Richard Anderson, Ph.D. (Political Science)
Judith A. Carney, Ph.D. (Geography)
Rebecca Emigh, Ph.D. (Sociology)
Vinay Lal, Ph.D. (History)
José Moya, Ph.D. (History)
Joshua S.S. Muldavin, Ph.D. (Geography)
Nadine R. Peacock, Ph.D. (Anthropology)
Anna Simons, Ph.D. (Anthropology)
Edward E. Telles, Ph.D. (Sociology)

Lecturer
Linda Rodriguez, Ph.D. (History)

Scope and Objectives
This undergraduate major aims to provide a liberal education in relation to the critical issues and problems common to developing countries from a global or theme-oriented perspective. It is designed for students who are interested in careers related to international development in academia or in public or private agencies.

Bachelor of Arts Degree
Preparation for the Major
You must be a sophomore in good standing to enter the major. No specific courses are required as preparation for the major, but you should have some beginning experience in the social sciences at the college level.

The Major
Required: Fifty-six units of upper division courses (including the four core courses, Development Studies 100A-M100B, and Economics 110 or 111), taken for a letter grade, and the foreign language requirement. (For the quantitative methods requirement, some lower division courses are accepted in place of upper division courses.) The major may be selected from the approved list. Substitutions may be made only with the consent of the faculty advisor.

The major consists of six parts:
1. Development Studies 100A-M100B.
2. Economics 110 or 111.
3. Four core courses (two should be from the same discipline) from Anthropology 130, 150, Economics 112*, 191*, Geography 121, 133, Political Science 115, 167A, 186, Sociology 101, 184.

(4) One course in quantitative methods from Anthropology 180, 186, Biostatistics 100A, Economics 40, Geography 171, Political Science 6, Sociology 18, 104, 112, 113, Statistics 50.


Consult the program counselor regarding other possible electives that may be applied toward the major.

(6) Twenty-four quarter units in one modern foreign language or the equivalent in transfer units. You may also take a proficiency examination administered and evaluated by members of the program faculty (or by outside faculty for languages not familiar to program faculty).

Honors Program
Development studies majors who have completed Development Studies 100A-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, you must take courses 195A-195B-195C, in which you research, write, and present an honors thesis. To receive honors at graduation, you must have at least a 3.5 GPA in courses applied toward the major (including 195A-195B-195C) and an overall GPA of 3.0.

Highest honors are awarded to students who complete the major (including courses 195A-195B-195C) with a 3.75 GPA and who produce an exceptional thesis.

*Courses so marked have prerequisites.
Upper Division Courses

100A-M100B. Introduction to Development Studies. Seminar, three hours. Two-term seminar for undergraduates designed to examine concepts and issues arising from economic, social, and political change in the Third World. 100A. Economic Development and Culture Change. (Formerly numbered M100A.) Prerequisites: Anthropology 9 or consent of instructor, some beginning experience in social sciences at college level. M100B. Political Economy of Development. (Same as Political Science M197G.) Prerequisites: some beginning experience in social sciences at college level. (W.Sp)

195A-195B-195C. Directed Studies for Honors. Prerequisites: courses 100A-M100B, 3.5 GPA in courses offered for the major, formal application to honors program, consent of instructor. 195A. Research, discussion, and planning of honors thesis. 195B-195C. Research, preliminary drafting, and final writing of honors thesis. In Progress grading for course 195B (credit to be given only on completion of course 195C).

Diversified Liberal Arts (Interdepartmental)

A316 Murphy Hall, (310) 825-1965

Undergraduate Certificate Program

The Diversified Liberal Arts Program (DLAP) is neither a major, but a special certificate program through which you may waive the Multisubject Assessment for Teachers (MSAT) in California. The MSAT examination must be passed (or the DLAP completed) before students in elementary school teaching credential programs may begin their student teaching. To earn an elementary school teaching credential, you must complete an accredited program offered through a graduate school of education.

To earn the certificate in diversified liberal arts, you must complete a major in the College of Letters and Science. You must also complete DLAP requirements in four areas: (1) language and literature, (2) mathematics and science, (3) history and social science, (4) arts and culture.

Requirements for one of these areas are normally satisfied by courses taken for your major; in addition, you must complete a pattern of courses in specified areas.

You must petition for admission to the program and are advised to do so as soon as possible. Transfer students may petition to have suitable courses completed at other institutions applied toward the course requirements of this program. The college certifies completion of the program. If you do not complete the program prior to graduation, you must petition out of the program to be eligible to graduate.

For further information about the program and a complete list of courses that apply, contact a counselor in the College of Letters and Science, A316 Murphy Hall (310-206-6681). For information regarding the Teacher Credential Program in the Graduate School of Education and Information Studies, see a counselor in 1009 Moore Hall (310-825-8328).

Earth and Space Sciences

3806 Geology, (310) 825-3880

Professors
Orson L. Anderson, Ph.D. (Geophysics)
Peter Bird, Ph.D. (Geophysics, Geology)
Friedrich H. Busse, Ph.D. (Geophysical Fluid Dynamics)
Paul M. Davis, Ph.D. (Geophysics)
Wayne A. Dollase, Ph.D. (Geology)
Clarence A. Hall, Jr., Ph.D. (Geology)
T. Mark Hanston, Ph.D. (Geochronometry)
Raymond V. Kehn, Ph.D. (Geology)
David D. Jackson, Ph.D. (Geophysics)
Margaret G. Kilvanon, Ph.D. (Space Physics)
Robert L. McPheron, Ph.D. (Space Physics, Geophysics)
William I. Newman, Ph.D. (Planetary Physics)
Bruce N. Runnegar, Ph.D. (Paleontology)
Christopher T. Russell, Ph.D. (Space Physics)
J. William Schopf, Ph.D. (Paleobiology; Distinguished Teaching Award)
Gerald Schubert, Ph.D. (Geophysics, Planetary Physics)
John T. Wasson, Ph.D. (Geochemistry, Chemistry)

Associate Professors
Donald Carlisle, Ph.D.
John M. Christe, Ph.D.
Paul J. Coleman, Jr., Ph.D.
Isaac R. Kaplan, Ph.D.
William M. Kallau, M.S.
Helen Tappan Loeblich, Ph.D.
Arthur Montana, Ph.D.
Clemens A. Nelson, Ph.D.
Gerhard Oertel, Dr. rer. nat.
John L. Rosenfeld, Ph.D.
Ronald L. Shreve, Ph.D.

Assistant Professors
Craig E. Manning, Ph.D. (Geochronometry, Geochemistry; Luckman Distinguished Teaching Award)
Charles R. Marshall, Ph.D. (Paleonatography)
David A. Paige, Ph.D. (Planetary Science)
Walter E. Reed, Ph.D. (Geology)
An Yiu, Ph.D. (Geology)

Adjunct Professors
Paul M. Merlett, Ph.D. (Environmental Geology)
Floyd F. Sabins, Jr., Ph.D. (Geology)

Adjunct Associate Professor
Frank Kyte, Ph.D. (Geochemistry)

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 specializations 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 Sciences 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.

Bachelor of Science in Geology

Preparation for the Major

Required: Earth and Space Sciences 1 or 1H, 2, 51A, 51B, 61; Biology 2; Chemistry and Biochemistry 11A, 11B/11L; Mathematics 31A, 31B, 32A; Physics 8A/8AL, 8B/8BL, and 8C/8CL or 8B; Program in Computing 3 (recommended) or 1OA or more advanced placement by examination. All courses must be passed with a minimum grade of C-.

The Major


Students with an interest in nonrenewable natural resources are advised to take courses 136C, 137, 139, 141, and/or 150. Those interested in geochemistry are advised to take Earth and Space Sciences 103C, C107, C109, 119, 121A-121B, C126, and/or Chemistry and
The Major

Bachelor of Science in Geology — Engineering Geology

Preparation for the Major
Required: Earth and Space Sciences 1 or 1H, 51A, 51B, 61; Chemistry and Biochemistry 11A, 11B/11BL; Mathematics 31A, 31B, 32A, 32B, and Physics 8A/8AL, 8B/8BL, 8C/8CL; Program in Computing 3 (recommended) or 10A or more advanced placement by examination. Recommended: Mathematics 32B. All courses must be passed with a minimum grade of C–.

The Major
Required: Earth and Space Sciences 103A, 103B, 111, 112, 121A-121B, 135, 139; Civil and Environmental Engineering 108, 120, 121, 128L, 150; one course from Earth and Space Sciences C126, 129, 134, 136C, 137, 141, 150, Geography 100, Civil and Environmental Engineering 151, 155.

Bachelor of Science in Geology — Paleobiology

Preparation for the Major
Required: Earth and Space Sciences 1 or 1H, 2, 51A, 51B, 61; Biology 5, 5L, and 6 or 9 or 108; Chemistry and Biochemistry 11A, 11B/11BL, 11CL. All courses must be passed with a minimum grade of C–.

The Major

Bachelor of Science in Geophysics — Applied Geophysics

Preparation for the Major
Required: Earth and Space Sciences 1 or 1H, 51A, 51B, 61; Chemistry and Biochemistry 11A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL; Program in Computing 3 (recommended) or 10A or more advanced placement by examination. All courses must be passed with a minimum grade of C–.

The Major
Required: Earth and Space Sciences 103A, 103B, 111, 112, 116; six additional upper division courses from Earth and Space Sciences other than 100 or 120, English 131G, Geophysics 100/100A, 101/101A, 104, 105/105A, 106/106A, 107, 113, or other upper division physical sciences, life sciences, or engineering courses by petition.

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 tutorial guidance of a member of the faculty. 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 GPA of 3.5, who have completed at least 90 graded units at the University of California, and who have completed a minimum of two terms (eight units) of Earth and Space Sciences 199H leading to the preparation of a satisfactory honors thesis. Students demonstrating exceptional ability are awarded highest honors.

Graduate Study

Admission
Application may be made for admission to any term. Graduate Record Examination (GRE) scores are required; the examination should be taken at least six weeks before the deadline. Also required are three letters of recommendation which should be sent to the Graduate Adviser, Department of Earth and Space Sciences, 3683 Geology, UCLA, Los Angeles, CA 90024-1567. Application forms and a brochure giving information about the department may be obtained from the graduate adviser. Students who wish to apply for fellowships or teaching assistantships should be aware that these are allocated in February for the following academic year; completed applications should be received by January.

Major Fields and Subdisciplines

The Department of Earth and Space Sciences offers programs leading to the M.S. and Ph.D. degrees in Geochemistry, in Geology, and in Geophysics and Space Physics. The program in geochemistry offers study in crystal chemistry, experimental petrology, isotopic studies of stable and radioactive elements, meteorite research, planetology, and lunar geochemistry. The program in geology offers study in geomorphology, glaciology, mineralogy, paleobiology, paleontology, petrology, sedimentology, stratigraphy, structural geology, tectonophysics, and other fields. The program in geophysics and space physics offers study in applied geophysics, the Earth’s interior (seismology, gravity, thermal regime, geomagnetism, tectonics), geophysical fluid dynamics (turbulence, rotating systems, stability, hydromagnetism), planetology (orbital dynamics, planetary interiors, surfaces and atmospheres, solar system origin), and space physics (magnetosphere, radiation belts, solar wind, magnetic fields, cosmic rays). Other comparable areas of study are also possible.

Foreign Language Requirement

Advising committees may require one or more foreign language in special individual cases. The committees determine how the requirement is to be fulfilled.


Bachelor of Science in Geology — Engineering Geology

Preparation for the Major
Required: Earth and Space Sciences 1 or 1H, 51A, 51B, 61; Chemistry and Biochemistry 11A, 11B/11BL; Mathematics 31A, 31B, 32A, 33A; Physics 8A/8AL, 8B/8BL, 8C/8CL; Program in Computing 3 (recommended) or 10A or more advanced placement by examination. Recommended: Mathematics 32B. All courses must be passed with a minimum grade of C–.

Bachelor of Science in Geophysics — Geophysics and Space Physics

Preparation for the Major
Required: Earth and Space Sciences 1 or 1H, 9; Chemistry and Biochemistry 11A, 11B/11BL, 11C; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL; Program in Computing 3 (recommended) or 10A or more advanced placement by examination. All courses must be passed with a minimum grade of C–.

The Major
Required: Earth and Space Sciences 134, M140, 152, 153, 154, 155; Physics 105A, 105B, 110A, 110B, 112; Physics 131 or Mathematics 145; 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 249.

Bachelor of Arts in Earth Sciences

Preparation for the Major
Required: Earth and Space Sciences 1 or 1H, 2, 9, 15, 51A, 51B, 61; Biology 2 or 5; Chemistry and Biochemistry 11A, 11B/11BL; Mathematics 3A, 3B, and 3C, or 31A and 31B; Physics 6A, 6B, and 6C, or 8A/8AL and 8B/8BL. All courses must be passed with a minimum grade of C–.

The Major
Required: Earth and Space Sciences 103A, 103B, 111, 112, 116; five additional upper division courses from Earth and Space Sciences other than 100 or 120, English 131G, Geophysics 100/100A, 101/101A, 104, 105/105A, 106/106A, 107, 113, or other upper division physical sciences, life sciences, or engineering courses by petition.

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 tutorial guidance of a member of the faculty. 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 GPA of 3.5, who have completed at least 90 graded units at the University of California, and who have completed a minimum of two terms (eight units) of Earth and Space Sciences 199H leading to the preparation of a satisfactory honors thesis. Students demonstrating exceptional ability are awarded highest honors.

Graduate Study

Admission
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Major Fields and Subdisciplines

The Department of Earth and Space Sciences offers programs leading to the M.S. and Ph.D. degrees in Geochemistry, in Geology, and in Geophysics and Space Physics. The program in geochemistry offers study in crystal chemistry, experimental petrology, isotopic studies of stable and radioactive elements, meteorite research, planetology, and lunar geochemistry. The program in geology offers study in geomorphology, glaciology, mineralogy, paleobiology, paleontology, petrology, sedimentology, stratigraphy, structural geology, tectonophysics, and other fields. The program in geophysics and space physics offers study in applied geophysics, the Earth’s interior (seismology, gravity, thermal regime, geomagnetism, tectonics), geophysical fluid dynamics (turbulence, rotating systems, stability, hydromagnetism), planetology (orbital dynamics, planetary interiors, surfaces and atmospheres, solar system origin), and space physics (magnetosphere, radiation belts, solar wind, magnetic fields, cosmic rays). Other comparable areas of study are also possible.

Foreign Language Requirement

Advising committees may require one or more foreign language in special individual cases. The committees determine how the requirement is to be fulfilled.
Master of Science in Geochemistry

Admission
A bachelor’s degree in chemistry, geology, physics, or a related field is required. Applicants must have outstanding records in the basic sciences, physics, chemistry, and mathematics. The Graduate Record Examination (GRE) Subject Test may be in any appropriate field of science.

Course Requirements
A minimum of nine courses is required for the degree, at least six of which must be graduate-level courses. Each course of study is worked out individually between you and the advising committee. You are expected to attain, either through prior training or through prescribed coursework, a common mastery of the subject matter. At least 24 units must be graduate-level courses, of which at least four units must be a geology seminar (courses 251 through 260). For courses 597 and 598, those graded on an S/U basis may not be applied toward the requirements. The advising committees may require additional courses in light of individual educational objectives and backgrounds.

Eight units of 500-series courses (596, 597, 598) may be applied toward the total course requirement; four units may be applied toward the minimum graduate course requirement.

Thesis Plan
This plan is normally required for students continuing to the doctorate. The thesis subject may be selected at once and the research undertaken concurrently with coursework; in any event, it should normally be selected within your first year in residence. The completed thesis must be approved by the thesis committee. If it is not, the committee may recommend either termination of graduate study or further coursework or further research on both, leading to a revised thesis. Revision and resubmission is not normally permitted more than once.

Comprehensive Examination Plan
If you elect this plan, the advising committee prepares and administers the final examination (normally oral). In most cases, a failed final examination can be repeated once.

Master of Science in Geophysics and Space Physics

Admission
A bachelor’s degree in a physical science, engineering, mathematics, or other field is required. Undergraduate work must include junior- or senior-level courses in mathematical methods, statics, electromagnetism, and thermodynamics. Recent Graduate Record Examination (GRE) General Test scores are required; Subject Test scores are desirable, preferably in Physics, although Mathematics or Geology scores are also acceptable. Qualified students may proceed directly toward the Ph.D. degree, although must obtain the M.S. degree in the process.

Course Requirements
Courses applied toward the 36-unit minimum requirement must include Earth and Space Sciences 200A, 200B, and 200C and at least 12 additional units of 200-series (graduate) courses. At least half of these must fall within a single field of concentration (applied geophysics, Earth’s interior, geophysical fluid dynamics, planetology, or space physics) selected in consultation with your faculty adviser, and the remainder must contribute to your general competence in geophysics and space physics. Courses 200A, 200B, and 200C must be passed with a grade-point average of 3.2 or better unless you are following the thesis plan. Courses graded on an S/U basis may not be applied toward the minimum requirement.

Thesis Plan
The completed thesis must be approved by your faculty adviser (usually the chair of your advising committee), as well as by the other members of that committee. Eight units of 500-series courses (596, 598) may be applied toward the total course requirement.

Comprehensive Examination Plan
You may select either (1) a written six-hour examination in question/answer format or (2) an examination in written proposal/oral format. Contact the department for details of each format. Courses in the 500 series may not be applied toward the 36-unit minimum requirement.

Specialization in Applied Geophysics
The objective of this program is to provide advanced technical training to students who plan to do detailed analysis of geophysical data in industry, mainly petroleum exploration. Emphasis is on theory, computation, data analysis, and inversion. Fieldwork and original measurements are strongly supported, but UCLA has no facilities for gathering or routine processing of reflection seismic data. Undergraduate preparation for admission is equivalent to a B.S. in Geophysics (applied geophysics specialty), including a common mastery of the subject matter of Earth and Space Sciences 61, 111, 112, 136A, 136B, 136C, 152, Physics 105A, 105B, 110A, 110B, and 114. Exceptions may be allowed, but in particular, deficiency in geophysical fieldwork must be made up.

Course Requirements — Courses applied toward the 36-unit minimum requirement must include Earth and Space Sciences 200A and 202, plus at least two courses from 203, 204, 205, 222. Eight additional units of graduate-level courses are required; courses 200B, 208, M224A, M224B are recommended. Eight units of 500-series courses (596, 598) may be applied toward the graduate course requirement. Except for courses 596 and 598, those graded on an S/U basis may not be applied toward the minimum requirement.

Thesis Plan — A thesis is required for this specialization. A qualifying examination on the suitability of the proposed thesis should be taken by your fourth term in residence. You are also required to take a final examination on the adequacy of your completed thesis.
Ph.D. in Geochemistry

Admission
Admission requirements are the same as those for the M.S. in Geochemistry.

Course Requirements
Each course of study is worked out individually in consultation with your advising committee. You are expected to complete at least the minimum number of courses which are required for the M.S. in Geochemistry and to attain, either through prior training or through prescribed coursework, a common mastery of the subject matter of Earth and Space Sciences 51A, 51B, C107, C108, 234B, Chemistry and Biochemistry 110A, and 110B, as well as more advanced courses in particular fields, and some familiarity with the methods of field geology. You must also take one of the following each term: course 235A, 235B, 235C, 295A, 295B, or 295C.

Qualifying Examinations
The departmental written qualifying examination must be taken before the end of your first year of the doctoral program if you have a master's degree; otherwise, it must be taken before the end of your second year of enrollment. It is given in either a question/answer format or in a proposal format, at your discretion. Contact the department for details of each format. In case of failure, an examination of either format may be repeated at the discretion of the examining committee.

After passing the written qualifying examination, you must nominate your doctoral committee and arrange a time for the University Oral Qualifying Examination. This examination determines the suitability of the selected problem for the dissertation and your ability to research the problem but is not limited to these topics. Repetition of a failed examination is at the option of the doctoral committee.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
The final oral examination is normally required.

Ph.D. in Geophysics and Space Physics

Admission
Admission requirements are the same as those for the M.S. in Geophysics and Space Physics.

Course Requirements
Six courses are required, three in fundamental physics and three in the major geophysics disciplines. You must attain a grade-point average of 3.3 or better (on a 4.0 scale) in the six courses. Contact the department for details.

Qualifying Examinations
The departmental written qualifying examination is given in either a question/answer format or in a written research proposal/oral format, at your discretion. Contact the department for details of each format.

After passing the written qualifying examination, you must nominate your doctoral committee and arrange a time for the University Oral Qualifying Examination. This examination determines the suitability of the selected problem for the dissertation and your ability to research the problem but is not limited to these topics. Repetition of a failed examination is at the option of the doctoral committee. If you do not pass this examination within four years after entering the program, you are subject to dismissal.

Final Oral Examination
The examination is required.

Lower Division Courses
1. Introduction to Earth Science. Lecture, three hours; laboratory, two hours. Not open to students with credit for or currently enrolled in course 1H or 100. Survey of Earth materials; study of Earth materials; nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology. (F,W,Sp)
2. Geology and Space Physics. Lecture, three hours; discussion, one hour. Designed for nonmajors. Exploration of biology, evolution, and extinction of dinosaurs and close relatives, in context of history of life and evolution of the solar system. (F,W,Sp)
3. Historical Geology. Lecture, three hours; laboratory, one hour. Designed for nonmajors. History of life on Earth as revealed through the fossil record. P/NP or letter grading. (F,W,Sp)
4. Introduction to Oceanography. Lecture, three hours; discussion, one hour. Properties of water, along with the major oceans; major processes; major natural disasters. P/NP or letter grading. (F,W,Sp)
5. Elements of Earth science; study of Earth materials; nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology. (F,W,Sp)
6. Earthquakes. Lecture, three hours; discussion, one hour. Causes and effects of earthquakes, with special emphasis on the effects of earthquakes in Southern California. Topics include relationship between earthquakes and local and regional geology, types of earthquakes, past and future earthquakes in California, earthquake engineering, disaster preparedness, and society-produced materials and natural cycles. MS. Reid (W)
8. Major Events in History of Life. Lecture, three hours; laboratory, two hours. Designed for nonmajors. History of life on Earth as revealed through the fossil record. P/NP or letter grading. Mr. Ingersoll (W)
9. Dinosaurs and Their Relatives. Lecture, three hours; laboratory, one hour. Designed for nonmajors. Exploration of biology, evolution, and extinction of dinosaurs and close relatives, in context of history of life and evolution of the solar system. Information from paleontology, biology, and geology. Mr. Marshall (W)
10. Natural History of Southern California. Lecture, one hour; laboratory, three hours; four field weekends; outside study, eight hours. Identification, distribution, diversity of native plants and communities; 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. Mr. Hall (Sp)
Upper Division Courses

106. Principles of Earth Science. Lecture, three hours. Designed for nonmajors. Not open to students with credit for course 1 or 1H. Fundamentals of physical geology and Earth history; major problems of geology, such as continental drift and development of large-scale features of Earth; physical and biological evolution.

103A. Igneous Petrology (6 units). Lecture, two to three hours; laboratory, six hours; field trips. Prerequisites: courses 51A, 51B, Chemistry 11B, Mathematics 31B, Physics 8B. Recommended: Mathematics 32A. Mineralogy, chemical composition, and field occurrence of igneous rocks with reference to their origin by melting in earth. Introduction to thermodynamics as applied to petrology. Formation of magma, its movement, eruption, crystallization, and chemical evolution. Petrologic structure of the crust and mantle and its relation to seismology. Overview of petrologic and chemical evolution of Earth, mechanisms of origin of other planets from their origin to the present. P/NP or letter grading.

102B. Sedimentary Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103A. Recommended: course 61. Study of sedimentary rocks based on characteristics of sedimentary particles and dynamics of depositional processes. Lectures focus on development of depositional facies models, and laboratories emphasize recognition of sedimentary deposits from each major depositional facies. Mr. Reed (F)

103C. Metamorphic Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103B. Interpretation of metamorphic rocks based on field occurrence, mineralogical composition, texture, and application of physical and chemical principles. Mr. Manning (Sp)

108. Physical Geochemistry. Lecture, three hours; outside study, nine hours. Prerequisites: courses 51B or equivalent. Basic principles of physical chemistry for geologic applications. Thermodynamics and kinetics of reactions among minerals, natural waters, and magmas; nucleation and relationship of phase diagrams; case studies of important geochemical and environmental issues. Concurrently scheduled with course C206. P/NP or letter grading.

117. Geochemistry. (Formerly numbered 131.) Lecture, three hours; discussion, one hour. Prerequisite: junior, senior, or graduate standing in physical sciences or consent of instructor. Origin and abundance of the elements and their isotopes; distribution and chemistry of the elements in Earth and its environment. Concurrently scheduled with course C207. Prerequisite: junior grading. (Alternates yearly with courses C109/C209.)

119. Continental Drift and Plate Tectonics. Lecture, three hours. Prerequisites: upper division standing in physical sciences or consent of instructor. Classical concepts of seismotectonics and plate tectonics. Alps and the theory of continental drift. fenced to encourage multidisciplinary efforts leading toward the resolution of major problems in geology. Mr. Runnegar (W)

120. Ruby Colloquium: Major Advances in Earth Science. Lecture, three hours. Prerequisite: upper division standing. 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.

121A-121B. Advanced Field Geology (6 units each). Fieldwork, four weeks each. Prerequisites: courses 61, 103B, 111. Problems in field geology; preparation of geologic maps and cross-sections; preparation of written geologic reports in the field and a final written summary geologic report of selected areas. Mr. Reed (Sum)

126. Advanced Igneous Petrology. (Formerly numbered C132.) Lecture, three hours; laboratory, three hours; field trips. Prerequisite: course 103A or consent of instructor. Petrologic study of igneous rocks based on geochemical, tectonophysi- cal, and other geologic evidence and principles. Concurrently scheduled with course C226. P/NP or letter grading.

C107. Geochemistry. (Formerly numbered 131.) Lecture, three hours; discussion, one hour. Prerequisite: junior, senior, or graduate standing in physical sciences or consent of instructor. Origin and abundance of the elements and their isotopes; distribution and chemistry of the elements in Earth and its environment. Concurrently scheduled with course C207. Prerequisites: upper division standing in physical sciences or consent of instructor. Origin and abundance of the elements and their isotopes; distribution and chemistry of the elements in Earth and its environment. Concurrently scheduled with course C207. Prerequisite: junior grading. (Alternates yearly with courses C109/C209.)

C109. Isotopic Geochemistry. (Formerly numbered C130.) Lecture, three hours; discussion, one hour. Prerequisite: junior, senior, or graduate standing in physical sciences or consent of instructor. Principles of isotopic behavior: stable and radiogenic isotopes. Principles of geochronology. Use of isotopes as tracers in crust and mantle processes. Stable isotopes as indicators of environmental and paleoclimate. Concurrently scheduled with course C209. P/NP or letter grading. (Alternates yearly with courses C107/C207.) Ms. Reid (Sp)

111. Stratigraphic and Field Geology (6 units). Lecture, two hours; laboratory, three hours; fieldwork, one day per week. Prerequisite: course 61 or consent of instructor. Principles of stratigraphy; geologic mapping of a selected area; preparation of a geologic report. Mr. Hall (W)

115. Field Geology (2 to 4 units). Prerequisite: upper division standing or consent of instructor. Geologic mapping, principles of stratigraphy, structural geology, and map interpretation. Mr. Hall (W)

112. Structural Geology. Lecture, three hours; laboratory, three hours; field trips. Prerequisite: Biology 5 or consent of instructor. Review of major groups of fossil organisms and their significance in paleontology and biology. Mr. Runnegar (W)

116. Paleontology. Lecture, three hours; laboratory, three hours; field trips. Prerequisite: Biology 5 or consent of instructor. Principles of stratigraphy; geologic mapping of a selected area; preparation of a geologic report. Mr. Hall (W)


120. Ruby Colloquium: Major Advances in Earth Science. Lecture, three hours. Prerequisite: upper division standing. 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.

121A-121B. Advanced Field Geology (6 units each). Fieldwork, four weeks each. Prerequisites: courses 61, 103B, 111. Problems in field geology; preparation of geologic maps and cross-sections; preparation of written geologic reports in the field and a final written summary geologic report of selected areas. Mr. Reed (Sum)

126. Advanced Igneous Petrology. (Formerly numbered C132.) Lecture, three hours; laboratory, three hours; field trips. Prerequisite: course 103A or consent of instructor. Petrologic study of igneous rocks based on geochemical, tectonophysi- cal, and other geologic evidence and principles. Concurrently scheduled with course C226. P/NP or letter grading.

129. Hydrogeology. (Formerly numbered 129A-129B.) Lecture, three hours. Prerequisites: course 1 or 1H or 100 or equivalent, upper division standing. Hydrologic cycle; movement, quality, and management. Hydrologic equation, groundwater/surface water relationships, water wells, pumping tests, pollution, artificial recharge of aquifers, yield of ground- water basins, groundwater models. Mr. Hallinger (Sp)

133. Regional Geology. Lecture, three hours; discussion, two hours. Prerequisites: courses 61 and 111, or consent of instructor. Application of geologic, structural, and palynologic data to interpret clastic and sedimentary rocks in specific areas of the state and other areas of the world. Mr. Davison (Sp)

134. Computing in Earth and Space Sciences. Lecture, three hours; laboratory, three hours. Prerequisite: Program in Computing 3 or 10A or consent of instructor. Original programming and application of software to generate and test hypotheses with non- idial or incomplete data sets. Interpolation/extrapolation with graphics to generate hypotheses; forward modeling from fundamental equations to explore implications; probabilistic testing of models against data. Examples and exercises from the Earth and space sciences. Introduction to software tools for numerical search and industry. Mr. Bird (F)

135. Introduction to Applied Geophysics. Lecture, three hours; laboratory, one hour. Prerequisites: Physics IA, IB, 8C or 6B, Mathematics 31A, 31B, 32A, and Program in Computing 3 or 10A. Not open for credit to students with credit for course 136A. Prerequisite and techniques of gravimetric, seismic, magnetic, and other geophysical methods. Exploration for ores, petroleum, and other economic minerals. Mr. Jackson (Sp)

136A. Applied Geophysics. Lecture, three hours; laboratory/field trips, three hours. Prerequisites: Physics 6A, 6B, 8C, 8D, Mathematics 32A, Program in Computing 3 or 10A. Not open for credit to students with credit for course 135. Seismic reflection and refraction, Fourier analysis and deconvolution, vibro- seismics, synthetic seismograms, marine seismics, seismic interpretation, gravity and magnetic fields, inversion uniqueness and depth rules. Mr. Davis (Sp)

136B. Applied Geophysics. Lecture, three hours; laboratory/field trips, six hours. Prerequisites: course 136A and Program in Computing 3 or 10A. Not open for credit to students with credit for course 135. Seismic reflection and refraction, Fourier analysis and deconvolution, vibro- seismics, synthetic seismograms, marine seismics, seismic interpretation, gravity and magnetic fields, inversion uniqueness and depth rules. Mr. Davis (Sp)

136C. Field Geophysics (6 units). Lecture, three hours; discussion, one hour; laboratory, two hours; fieldwork, 10 hours. Prerequisites: course 135 or 136A, consent of instructor. 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 (weekend field trips). Mr. Davis (Sp)

136D. Advanced Field Geophysics (6 units). Lecture, six hours; laboratory, six hours; fieldwork, 12 hours. Prerequisites: course 135 or 136A, consent of instructor. Application of seismic reflection, seismic refractor, gravity, magnetic, electrical, and electromagnetic methods to geologic problems. Planning, data collection, data reduction, and interpretation. Use of computer in applied geophysics. Mr. Davis, Mr. Jackson (Sum, six weeks)

137. Petroleum Geology. Lecture, three hours. Prerequisite: Program in Computing 3 or 10A or consent of instructor. Geology applied to exploration for and production of natural gas and petroleum; techniques of surface and subsurface geology; problems of petroleum geology. Mr. Hallinger (Sp)
Graduate Courses

200A. Introduction to Geophysics and Space Physics I: The Solid Earth and Planeta. Lecture, three and one-half hours. Prerequisites: junior, senior, or graduate standing in physical sciences or consent of instructor. Origin and abundance of the elements and their isotopes; distribution of elements and minerals in Earth and its environment. Concurrently scheduled with course C202. Additional homework and class presentation required of graduate students. S/U or letter grading. (Alternates yearly with course C109/C209.)


201. Classical Mechanics. Lecture, three hours. Kinematics of point particles. Lagrangian and Hamiltonian dynamics. Hamilton equations of motion, linear and nonlinear perturbation theory, applications to solar system. Mr. Schubert (Sp)


203. Electrodynamic Theory. Prerequisite: upper division electromagnetic theory course or consent of instructor. Maxwell equations and boundary conditions; momentum, angular momentum, and energy of electromagnetic fields; plasma electromagnetic and magnetohydrodynamic waves; wave guides, simple radiating systems, and diffraction.

204. Time-Series Analysis and Spectral Estimation. Lecture, three hours. Prerequisites: intermediate courses in calculus including linear algebra, division and logarithms, and Fortran (including FORTRAN). Basic methods in time-series analysis, including spectral estimation, prediction, and signal detection, in application to problems in geophysics, astrophysics, and atmospheric sciences. Topics include the following: Fourier transforms (continuous, discrete, FFT), time series (Z-transforms, deconvolution), maximum entropy spectral analysis, autoregressive and moving average methods (AR, MA, ARMA), and multichannel prediction and spectral analysis. Mr. Newman (Sp)

205. Inverse Theory and Data Interpretation. Lecture, three hours. Prerequisites: Mathematics 115A, M150A-150B, and 151, or consent of instructor. Inverse modeling problems in geophysics. Determination of model parameters consistent with experimental data, considering effects of random errors and nonlinearity. Emphasis on linear and non-linear inversion, analytical and numerical solutions. Examples include geophysical and geologic applications. Mr. Bowdidge (F)

219. Planetary and Orbital Dynamics. Planetary rotations, satellite orbits, and tidal dissipation; planetary orbital system; resonance effects and chaos; spin-orbit and orbit-orbit coupling; planetary rings. Mr. Kaula (W)

220. Principles of Paleobiology. Lecture/discussion, three hours. Prerequisite: graduate standing in a science. Open to qualified undergraduates in biological and physical sciences with consent of instructor. Current and classic problems in paleobiology, with emphasis on interdisciplinary problems involving aspects of biology, geology, organic geochemistry, and cosmochemistry. Content varies from year to year. May be repeated for credit. Mr. Merriam

221. Field Geology. Lecture, one hour; discussion, one hour; fieldwork, 10 days. Prerequisites: courses 121, 122, and consent of instructor. Planning, execution, and presentation of geologic mapping projects at professional level. Resolution of problems in Southern California geology from synthesis of new and published research. Field area varies from year to year. Mr. Yerkes

222. Introduction to Seismology. Lecture, three hours. Types of seismic waves; travel-time seismology; epicenter location; amplitude variations; seismograph theory; explosion seismology; seismicity; fault conditions; surface wave analysis; microseisms and tsunamis. Mr. Davis

M224A. Elastodynamics. (Same as Mechanical, Aerospace, and Nuclear Engineering M257A) Lecture, one hour; discussion, one hour. Prerequisites: Mechanical, Aerospace, and Nuclear Engineering 255A and 256B, or consent of instructor. Equations of linear elasticity, Cauchy equation of motion, constitutive relations, boundary and initial conditions, principal of energy. Sources and waves in bounded isotropic, anisotropic, and dissipative solids. Half-space problems. Guided waves in layered media. Applications to dynamic fracture, nondestructive evaluation (NDE), and mechanics of earthquake faults. Mr. Knopoff (F)

M224B. Elastic Wave Propagation II. (Same as Mechanical, Aerospace, and Nuclear Engineering M257B) Prerequisite: course M224A. Diffraction and scattering of elastic waves by isolated cracks and inhomogeneities; normal mode theories for vibration of finite elastic bodies; dynamic theories of fracture; representative applications in engineering and seismology. Mr. Manning
Classes for Nonmajors
The department offers the following courses in which knowledge of Asian languages is not required: Chinese 50, 150, 151, 160, 175, 190, East Asian Languages and Cultures 60, 61, 88, 161, 162, Indic 175, Japanese 50, 88, 90, 150, 151, 160, 161, 175, M182, Korean 50, 150, 151, 160, 175, 180A, 180B, 180C.

Buddhist Courses

Bachelor of Arts in Chinese
Preparation for the Major
Required: Chinese 1, 2, 3, 4, 5, 6, 50, History 9C, and 11A or 11B. Recommended: Anthropology 9, Chinese 110A, and English 4.

The Major
Required: A total of 11½ courses, of which seven must be upper division language courses, including at least two vernacular language courses from Chinese 100A, 100B, 100C, 101A, 101B, 101C, and at least four classical language courses from Chinese 110A, 110B, 110C, 140A, 140B, 140C, 165.

Bachelor of Arts in Japanese
Preparation for the Major
Required: Japanese 1, 2, 3, 4, 5, 6, 50, History 9C, and 11A or 11B. Recommended: Anthropology 9 and English 4.

The Major
Required: A total of 12½ courses, of which seven must be upper division language courses selected from Japanese 100A, 100B, 100C, 130A, 130B, 140A, 140B, 140C, C149. The seven courses must include 100B and 130A or 130B.

Ph.D. Degree
Admission
An M.A. degree in the field or in a related field is required. Selection among qualified applicants from outside the department is based on (1) prior or scholastic performance, (2) three letters of recommendation, (3) score on the Graduate Record Examination (GRE), (4) statement of purpose focusing on research interests, and (5) an undergraduate term paper or comparable writing sample in English.

Major Fields or Subdisciplines
M.A. students may specialize in Chinese language and culture, Japanese language and culture, or Korean language and culture. A comparative or interdisciplinary field may be incorporated into an area of specialization.

Language Requirements
Students majoring in Chinese must have completed one year of Japanese or Korean with a grade of S or better. This requirement may be fulfilled before admission to the M.A. program.

Course Requirements
Nine courses (36 units minimum) are required for the degree, of which six (24 units minimum) must be graduate courses. Chinese 200 is required for the Chinese major; Japanese 200 is required for the Japanese major; Korean 200 is required for the Korean major. With departmental consent, up to two courses (eight units) taken outside the department (S/U grading is acceptable) may be applied toward the nine courses. No more than two 500-series courses (four units) may be applied toward the nine courses required for the degree; only one 500-series course may be applied toward the minimum graduate course requirement. Courses taken to meet admission standards and language requirements may not be applied toward the total course requirement. You must take at least one seminar in each of your comprehensive examination fields.

International students may also be required to take English as a Second Language 33A, 33B, 33C, 34, 36, or other ESL courses.
Record Examination (GRE), (4) statement of purpose focusing on research interests, and (5) a recent research paper in English. Students with an M.A. in the department are judged on their M.A. record.

International students are encouraged to complete an M.A. in the department before proceeding to the Ph.D. program.

**Major Fields or Subdisciplines**

The department emphasizes four major fields at the Ph.D. level: (1) Chinese language and literature with the subdisciplines of poetry, drama, fiction, and modern literature; (2) Japanese language and literature with the subdisciplines of ancient, medieval, early modern, and modern literature; (3) Korean language and literature with the subdisciplines of culture, Buddhism, classical poetry and fiction, and modern literature; (4) Buddhist studies with the subdisciplines of Chinese Buddhism, Japanese Buddhism, and Korean Buddhism. A comparative or interdisciplinary field may be incorporated into an area of specialization. In addition, a program in ancient Chinese civilization or Japanese linguistics may be arranged by petition.

**Foreign Language Requirement**

You must demonstrate reading knowledge of French or German by passing (1) a reading examination administered by the department's foreign language examination committee, (2) the Graduate School Foreign Language Test (GSFLT) with a score of 500 or better, or (3) a level five course with a grade of B or better or S. With the consent of the department, Russian may be substituted.

**Course Requirements**

Students entering the program with an M.A. in a different field, or in the same field but from another institution, must meet the standards of the department's M.A. coursework in addition to fulfilling Ph.D. course requirements. A minimum of five graduate courses (not including courses taken to meet the language requirements listed below) beyond the M.A. degree is required. In addition, students majoring in Chinese must take two years of modern Japanese with grades of S and a written examination testing their ability to translate Japanese studies in their field; those majoring in Japanese must take two years of modern Chinese, classical Chinese, or modern Korean with grades of S and a written examination testing their ability to translate Chinese or Korean studies in their field; those majoring in Buddhist studies are encouraged to take appropriate courses in Sanskrit and/or Pali. A grade of B or better or S is required for all language courses.

**Qualifying Examinations**

You must take written examinations as follows:

For the major in Chinese literature — (1) a general examination in Chinese literature covering modern Chinese literature, traditional fiction and drama, and Chinese poetry; (2) examinations in three approved fields to be selected from at least two of the following groups: (a) Chinese poetry, Chinese fiction and drama, modern Chinese literature, (b) ancient Chinese civilization, Chinese Buddhism, (c) an outside field from within the department, (d) a field offered in another department or interdepartmental program.

For the major in Japanese literature — (1) a general examination in Japanese literature; (2) examinations in two of the following approved fields (which cannot be from the same group): (a) ancient, medieval, early modern, or modern Japanese literature, (b) Japanese Buddhism, another field of Japanese thought or religion, (c) Chinese or Japanese literature, (d) a field offered in another department or interdepartmental program.

For the major in Korean literature — (1) a general examination in Korean literature; (2) examinations in three approved fields to be selected from at least two of the following groups: (a) Korean poetry, Korean fiction, modern Korean literature, (b) Korean Buddhism, Korean thought, (c) Chinese or Japanese literature, (d) a field offered in another department or interdepartmental program.

For the major in Buddhist studies — (1) a general examination in your major field; (2) an examination in an approved subfield within your major field; (3) a general examination in another approved field inside or outside the department.

The written qualifying examinations must be taken within a four-week period after satisfying all language and course requirements. With consent of the department, you may repeat the qualifying examinations once only. You must also take a translation examination in your area of specialization.

After successful completion of the written examinations, the department appoints a doctoral committee whose chair serves as your dissertation adviser. Preferably within six months, but no more than a year after your written examinations, you must pass the University Oral Qualifying Examination on the dissertation proposal. With department consent, you may repeat the examination once.

**Candidate in Philosophy Degree**

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

**Dissertation/Final Oral Examination**

Within three years after you have advanced to candidacy, you must present a dissertation embodying the results of independent investigation. If you fail to meet the five-year time limit for the completion of the dissertation, you are required to take the written qualifying examinations again.

A final oral defense of the dissertation is optional at the discretion of the doctoral committee.

**Chinese**

**Lower Division Courses**

No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition.

1. Elementary Modern Chinese. Lecture, two hours; discussion, three hours. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Introduction to fundamentals of Chinese, including pronunciation, grammar, and Chinese characters, with emphasis on all four basic language skills — speaking, listening, comprehension, reading, and writing.

   Ms. Wang (F)

2. Elementary Modern Chinese. Lecture, two hours; discussion, three hours. Continuation of course 1.

   Ms. Wang (F)

2A. Elementary Modern Chinese for Advanced Beginners (2 units). Lecture, two hours; discussion, two hours; outside study, two hours. Preparation: ability to speak and listen to Mandarin Chinese at elementary level. Designed for students who already have listening and speaking skills at elementary level but cannot read and write characters. Training in standard Mandarin pronunciation, grammar, and reading and writing skills. P/NP or letter grading.

   Ms. Wang (F)

3. Elementary Modern Chinese. Lecture, two hours; discussion, three hours. Continuation of course 2.

   Ms. Wang (F)

3A. Elementary Modern Chinese for Advanced Beginners (2 units). Lecture, two hours; discussion, two hours; outside study, two hours. Continuation of course 2A. P/NP or letter grading.

   Ms. Wang (F)

4. Intermediate Modern Chinese. Lecture, two hours; discussion, three hours. Enforced requisite: course 3. Designed to strengthen communicative skills of listening, speaking, reading, and writing. Grammar reviews, knowledge of idiomatic expressions, and both traditional and simplified characters.

   Ms. Wang (F)


6. Intermediate Modern Chinese. Lecture, two hours; discussion, three hours. Enforced requisite: course 5. Continuation of course 5.

50. Chinese Civilization. Lecture, three hours; discussion, one hour. Knowledge of Chinese not required. Survey of development of Chinese culture from prehistoric times to modern times.
Upper Division Courses

100A-100B-100C. Advanced Modern Chinese. Lecture, three hours; discussion, two hours. Prerequisite: course 100A or consent of instructor. Materials selected from contemporary Chinese publications, with emphasis on social sciences. Texts analyzed for their linguistic features and social and cultural background. Readings, compositions, informal debates on topical issues, and oral presentations. P/NP or letter grading. Ms. Wang

101A-101B-101C. Readings In Modern Expository Chinese. Lecture, three hours. Prerequisite: course 100C or consent of instructor. Selected readings in modern essays taken from literary texts. In addition, students work with material in the area of their professional interests.

110A-110B-110C. Introduction to Classical Chinese. Lecture, three hours. Prerequisite: course 3 or consent of instructor. Grammar and readings in selected texts. Mr. Chou, Mr. Strassberg

120. Introduction to Chinese Linguistics. Lecture, three hours. Prerequisite: course 6 or 3-credit introductory course in phonology. Discussion of major topics in the field. Mr. Huters

140A-140B-140C. Readings in Classical Chinese Literature. (Formerly numbered 140A-140B-140C, 143A-143B, 145A-145B.) Readings and discussion, three hours. Prerequisite: course 110C. Readings and discussion of works of classical Chinese literature. 140A. Poetry, 140B. Tang and Sung Prose, 140C. Fiction. Mr. Saussy, Mr. Strassberg

150. Chinese Literature in Translation: Classical Literature. (Formerly numbered 150, 151.) Lecture, three hours; discussion, one hour. Prerequisite: English 3 or one course from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Readings from English translations of masterpieces of the Chinese literary tradition, including major genres (historical, narrative, fiction, essay, and calligraphy). Mr. Saussy

151. Chinese Literature in Translation: Modern Literature. (Formerly numbered 152.) Lecture, three hours; discussion, one hour. Prerequisite: English 3 or one of the above courses from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Readings and discussion of key works from the 20th century. Mr. Saussy

152. Topics in Contemporary Chinese Literature and Culture. Lecture, two hours; discussion, one hour; outside study, nine hours. Investigation of various topics in contemporary Chinese literature and culture, including politics and poetics of Chinese postmodernism, nationalism, feminism, mass culture, and media. Ms. Shih

150. Chinese Buddhism. Lecture, three hours. Knowledge of Asian languages not required. Introduction and development of Buddhism in China, interrelation between Buddhism and Chinese culture, rise of Chinese schools of Buddhism such as Pure Land and Zen, contributions to Chinese culture. Mr. Buswell

165. Introduction to Chinese Buddhist Texts. Lecture, three hours; discussion, two hours. Prerequisite: course 100C or Korean 100A or Japanese 100A. Readings in Buddhist texts written in literary Chinese and taken from translated Indian sutras, indigenous exegetical materials, Chinese apocryphal scriptures, and Chan writings. Problems in translation from Indo-European languages into Chinese; evolution of Chinese Buddhist terminology. Coverage varies. May be repeated for credit with consent of instructor. Mr. Buswell

170. Readings in Chinese Philosophical Texts. Lecture, three hours. Prerequisite: course 110C or consent of instructor. May be repeated for credit with consent of instructor. Mr. Saussy

175. Introduction to Chinese Thought. Lecture, three hours. Knowledge of Asian languages not required. General survey of indigenous Chinese thought from the Chou period to circa 1800, covering Confucianism, Taoism, Moism, Zhuism, and key Buddhist movements. Development of neo-Confucianism. Mr. Chou

190. Archaeology in China. (Formerly numbered 190A-190B.) Lecture, three hours. Early Chinese study of their own past, types of artifacts, beginnings of scientific archaeology, and surveys of major civilizations of all periods. Mr. Chou

195. Chinese Etymology and Calligraphy. Lecture, three hours. Prerequisite: one year of classical Chinese or consent of instructor. Covers (1) development of the Chinese writing system from the "Potters' Incriptions" 6,000 years ago to modern "Simplified Forms" and the studies of Six Scripts principles which were used to form Chinese characters and (2) aesthetic theories of calligraphy and its appreciation, with focus on ways of recognizing and interpreting the "Cursive Style," a common form of handwriting. Mr. Chou

Graduate Courses

200. Bibliography and Methods of Research in Chinese. Required of all graduate students in Chinese. Lectures and discussions on research methodology and dealing with traditional Chinese materials, with emphasis on bibliography training (including most up-to-date indexes in Chinese studies), punctuation practice, knowledge of textual criticism, and paper presentations. Mr. Chou

245A-245B. Seminars: Traditional Chinese Narrative and Drama. Seminar, three hours. Prerequisite: reading knowledge of colloquial and literary Chinese. Seminar on narrative and dramatic literature in pre-modern China, with focus on narrative and dramatic works in classical Chinese and their intercultural influence. May be repeated for credit with consent of instructor. In Progress grading. Mr. Buswell

255A-265B. Seminars: Chinese Buddhist Texts. Seminar, three hours. May be repeated for credit with consent of instructor. In Progress grading. Mr. Buswell

290A-290B. Seminars: Selected Topics in Chinese Archaeology. Seminar, three hours. Prerequisite: course 130 or consent of instructor. Discussion and research on major problems about Chinese archaeology and different interpretations to the most important archaeological finds, with emphasis on studies of the Xia and Shang cultures and Xia and Shang dynasties. May be repeated for credit. In Progress grading. Mr. Chou

295A-295B. Seminars: Selected Topics in Chinese Cultural History. Seminar, three hours. Prerequisite: consent of instructor. Discussion and research on major problems about Chinese cultural history, such as the beginnings of the Chinese civilization and Chinese dynastic history. Other topics include cultural developments of ancient and medieval China. May be repeated for credit. In Progress grading. Mr. Chou

East Asian Languages and Cultures

Lower Division Courses

60. Introduction to Buddhism. Lecture, three hours; discussion, one hour. Knowledge of Asian languages not required. General survey of development of Buddhist thought in India, focusing on those religious doctrines and meditative practices most essential to various Asian traditions of the religion. Mr. Bodiford, Mr. Buswell

61. Introduction to Zen Buddhism. Lecture, three hours; discussion, one hour. Knowledge of Asian languages not required. Introduction to Zen traditions and Zen texts and practices from Japan, China, Korea, and Vietnam. Mr. Bodiford

88. Cross-Cultural Understanding in the Pacific Rim: Case Study of U.S., Japan, and Thailand. Seminar, three hours. Development of skills to analyze intercultural communications through readings, discussions, lectures, interviews, and films, with focus on three countries of the Pacific Rim region—U.S., Japan, and Thailand. Mr. Iwasaki

Upper Division Courses

151. Buddhist Literature in Translation. Readings, three hours. Prerequisite: prior course on Buddhism or traditional Asian religions. Readings from a 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. Mr. Bodiford, Mr. Buswell

152. Buddhist Meditation Traditions. Lecture, three hours. Knowledge of Asian languages not required. Study of the history and practice of meditation within Buddhism, with emphasis on Theravada 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 practices. Mr. Buswell
Graduate Courses

230A-230B. Seminars: Theoretical Topics in East Asian Literature. Seminar, three hours. Prerequisite: reading knowledge of at least one East Asian language. Concerns of literary theory which are brought to the 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 grading. Mr. Saussy

240A-240B. Seminars: Topics in East Asian Literary History. Seminar, three hours. Prerequisite: reading knowledge of at least one East Asian language. Critical issues common to literary historiography in East Asia, including periodization, canon, ideology, interaction between high and low culture, the written and the oral, etc. In Progress grading. Mr. Lee

245A-245B. Seminars: Position of Modernity in East Asian Literature. Seminar, three hours. Prerequisites: graduate standing, at least five years of an East Asian language. 245A geared toward conceptual architecture and architecture of modernity, with readings largely from European sources. In-class debate probes relevance of these readings for works of Asianists. Focus on Asian writings in course 245B. In Progress grading. Mr. Mr. Huters, Mr. Saussy

265A-265B. Seminars: Selected Topics in Buddhist Studies. Seminar, three hours. Coverage varies. May be repeated for credit. In Progress grading. Mr. Bodiford, Mr. Buswell

299. Independent Study (2 to 6 units). (Formerly numbered 299A-299B.) Prerequisite: graduate standing. Guided research and writing of a research paper. May be repeated, but only four units may be applied toward M.A. degree. May not be applied toward Ph.D. degree. S/U or letter grading. Mr. Lee (F,W,Sp)

301. Teaching an East Asian Language as a Foreign Language.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a training faculty member. Each quarter of a three-quarter apprenticeship program consists of a language seminar, one hour. Participation in peer observations and workshops required. Students receive unit credit toward full-time equivalence but not toward any degree requirements. S/U grading.

495C. Teaching Chinese at College Level (2 to 4 units). Prerequisite: appointment as teaching assistant in Chinese. Study in team-teaching, teaching methodology, developing course materials, and testing. Participation in peer observations and workshops required. Students receive unit credit toward full-time equivalence but not toward any degree requirements. S/U grading. Ms. Wang

495J. Teaching Japanese at College Level (2 to 4 units). Prerequisite: appointment as teaching assistant in Japanese. Study in team-teaching, teaching methodology, developing course materials, and testing. Participation in peer observations and workshops required. Students receive unit credit toward full-time equivalence but not toward any degree requirements. S/U grading. Ms. Akatsuka, Mr. Iwasaki

495K. Teaching Korean at College Level (2 to 4 units). Prerequisite: appointment as teaching assistant in Korean. Study in team-teaching, teaching methodology, developing course materials, and testing. Participation in peer observations and workshops required. Students receive unit credit toward full-time equivalence but not toward any degree requirements. S/U grading. Ms. Sohn

501. Cooperative Program (2 to 8 units). Prerequisite: 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.


598. Research and Preparation of M.A. Thesis (4 to 8 units). Prerequisite: consent of instructor. Maximum of eight units may be applied toward M.A. degree requirements. S/U grading.


Indic

Upper Division Courses

110A. Elementary Sanskrit. Lecture, three hours. Introduction to script and grammar, with reading exercises and attention to significance of Sanskrit for the understanding of other Indo-European languages. Mr. Scharfe

110B. Intermediate Sanskrit. Lecture, three hours. Prerequisite: course 110A or equivalent. Advanced aspects of grammar and reading of literary texts. Mr. Scharfe

110C. Advanced Sanskrit. Lecture, three hours. Prerequisite: course 110B or equivalent. Reading of entire Bhagavadgita or comparable amount of other Sanskrit literature. Mr. Scharfe

115. Readings in Sanskrit. Lecture, three hours. Prerequisite: course 110C or equivalent. Extensive reading in such texts as best serve students' needs. Mr. Scharfe

117. Introduction to Indic Philosophy. Lecture, three hours. Survey of main trends in Indic philosophy from ancient to modern times. Mr. Scharfe

Graduate Courses

M222A-M222B. Vedic. (Same as Iranian M222A-M222B.) Lecture, three hours. Prerequisite: knowledge of Sanskrit equivalent to course 110C. Characteristics of Vedic dative and readings in Rig-Vedic hymns. Only course M222B may be repeated for credit. Mr. Schmidt

230A-230B. Introduction to Panini's Grammar. Lecture, three hours. Prerequisite: course 110C or equivalent. Reading of selected passages of the text, with introduction to Panini's technique. S/U or letter grading. Mr. Scharfe

236A-236B. Pali and Prakrits. Lecture, three hours. Prerequisites: knowledge of Sanskrit equivalent to course 110B, consent of instructor. Grammatical studies and reading of texts. Comparative considerations. S/U or letter grading. 236A, Pali; 236B, Prakrits. Mr. Scharfe

Japanese

Lower Division Courses

No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition.

1. Elementary Modern Japanese. Lecture, two hours; discussion, three hours. Continuation of course 1. Ms. Akatsuka, Mr. Iwasaki

2. Elementary Modern Japanese. Lecture, two hours; discussion, three hours. Continuation of course 1. Ms. Akatsuka, Mr. Iwasaki

3. Elementary Modern Japanese. Lecture, two hours; discussion, three hours. Continuation of course 2. Ms. Akatsuka, Mr. Iwasaki


6. Intermediate Modern Japanese. Lecture, three hours; discussion, one hour. S/U or letter grading. Mr. Plutschow

7. Japanese Civilization. Lecture, three hours; discussion, one hour. Knowledge of Japanese not required. Survey of development of Japanese culture and its relationships to the Asiatic mainland and PNP or letter grading. Mr. Plutschow

8. Personalities in Japanese Civilization. Seminar, three hours. Introduction to Japanese civilization through study of important personalities. Mr. Plutschow

9. Japanese Aesthetics and Tea Ceremony. Lecture, three hours. Introduction to Japanese aesthetics in theory and practice, including study of ritual and specific trends in Japanese aesthetics such as imperfection, asymmetry, suggestions, miniturization, indirectness, wabi, sabi, hie-kare, yugen, especially as reflected and practiced in the tea ceremony. Mr. Plutschow

Upper Division Courses

100A-100B-100C. Advanced Modern Japanese. Lecture, two hours; discussion, three hours (100A-100B), and one hour (100C). Prerequisite: course 100B. Emphasis on comprehension, structure, and proficiency in reading, composition, and conversation in modern Japanese. 3. Elementary Modern Japanese. Lecture, two hours; discussion, three hours (100A-100B), and one hour (100C). Prerequisite: course 100B. Emphasis on comprehension, structure, and proficiency in reading, composition, and conversation in modern Japanese. 4. Intermediate Modern Japanese. Lecture, three hours; discussion, two hours. Enforced requisites: course 3. Continuation of course 4.


7. Personalities in Japanese Civilization. Seminar, three hours. Introduction to Japanese civilization through study of important personalities. Mr. Plutschow

8. Japanese Aesthetics and Tea Ceremony. Lecture, three hours. Introduction to Japanese aesthetics in theory and practice, including study of ritual and specific trends in Japanese aesthetics such as imperfection, asymmetry, suggestions, miniturization, indirectness, wabi, sabi, hie-kare, yugen, especially as reflected and practiced in the tea ceremony. Mr. Plutschow


10. Intermediate Modern Japanese. Lecture, three hours; discussion, one hour. S/U or letter grading. Mr. Plutschow

11. Introduction to Classical Japanese. Lecture, three hours; outside study, nine hours. Prerequisite: course 100C or consent of instructor. Introduction to fundamentals of classical Japanese. Grammar and reading of selected texts. Mr. Marr

12. Introduction to Japanese Linguistics. Lecture, three hours. Prerequisites: course 3 or equivalent. Introduction to Japanese grammar and sociolinguistics through reading, discussion, and problem solving in phonology, syntax, semantics, and discourse pragmatics. Ms. Akatsuka, Mr. Iwasaki

CM122. Structure of Japanese I. (Same as Linguistics M175A.) Lecture, three hours. Prerequisites: course 120 or equivalent or consent of instructor, two years of Japanese. Discussion of many seemingly idiosyncratic characteristics of Japanese syntax and semantics in light of word-order typology and universal grammar, often in form of a contrastive analysis of Japanese and English. Concurrently scheduled with course C222. Ms. Akatsuka

CM123. Structure of Japanese II. (Same as Linguistics M176B.) Lecture, three hours. Prerequisites: two or more years of Japanese language study or consent of instructor. Survey of Japanese language at three different levels of organization: (1) word level — word class, verbal morphology and semantics; (2) clause level — clause structure, aspect, modality; (3) discourse level — point of view, ellipsis, topicalization. Concurrently scheduled with course C223. Mr. Iwasaki
150. Japanese Literature in Translation: Classical. Lecture, three hours; discussion, one hour. Prerequisite: English 3 or one course from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Knowledge of Japanese not required. Survey of Japanese literature from the beginning to 1600, emphasizing Chinese, Buddhist, and Western influences. Mr. Marra

151. Japanese Literature in Translation: Modern. Lecture, three hours; discussion, one hour. Prerequisite: English 3 or one course from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Knowledge of Japanese not required. Survey of Japanese literature from the 16th century to post-World War II. Mr. Pinscus

152. Postwar Japanese Culture through Literature. Lecture, three hours; discussion, one hour. Out-of-study, eight hours. Prerequisite: English 3 or one course from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Use of fiction and film to explore Japanese culture in postwar era in a broad cross-disciplinary and cross-cultural context. Prerequisite: English 3 or one course from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Knowledge of Japanese not required. Survey of Japanese literature from the 16th century to post-World War II. Mr. Pinscus

153. Japanese Buddhism. Lecture, three hours. Knowledge of Asian languages not required. Development of Buddhism in Japan in its cultural context, with emphasis on key ideas and teachings. Mr. Bodiford

154. Religious Life in Modern Japan. Lecture, three hours. 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/family/religious ties. Mr. Bodiford

155. Introduction to Japanese Buddhist Texts. Lecture, three hours. Prerequisite: course 140B or 149 or Chinese 165 or consent of instructor. Readings in Buddhist texts written by Japanese in literary Chinese, Kambun, and mixed Japanese-Chinese literary styles concerning textual commentaries, doctrinal treatises, hagiographies, temple histories, etc. Coverage varies. May be repeated for credit with consent of instructor. Mr. Bodiford

175. Introduction to Japanese Thought. Lecture, three hours. Knowledge of Asian languages not required. General survey of Japanese thought from early to modern times, including analyses of Shinto mythology, forms of Confucianism, Buddhism, nationalism, and modern Japanese thought. Mr. Bodiford

180. Readings in Japanese Literary Thought. Discussion, three hours; outside study, nine hours. Prerequisite: consent of instructor. In Progress grading. Mr. Marra

185. Introduction to Japanese Aesthetic. Lecture, three hours; outside study, nine hours. Knowledge of Japanese not required. Introduction to field of modern and premodern Japanese aesthetics, with focus on helminetrics of literary arts. Analysis of metalinguistic formulation of aesthetic judgment. PNP or letter grading. Mr. Marra

190. Introduction to Japanese Aesthetic. Lecture, three hours; outside study, nine hours. Knowledge of Japanese not required. Introduction to field of modern and premodern Japanese aesthetics, with focus on helminetrics of literary arts. Analysis of metalinguistic formulation of aesthetic judgment. PNP or letter grading. Mr. Plutschow

210. Issues in Modern Japanese Literature. Lecture, three hours. Introduction to issues in the field of modern Japanese literature, including modern and secondary sources. Topics vary. Prerequisite: course 140A or 140B or consent of instructor. Mr. Plutschow

212. Kyoto through Classical Japanese Literature. Lecture, three hours; outside study, nine hours. Prerequisite: course 140A or 140B or consent of instructor. Mr. Plutschow

220. Fundamentals in Discourse Data Analysis. Lecture, three hours. Prerequisite: two or more years of Japanese or Korean, one introductory linguistics course. May be repeated for credit with consent of instructor. In Progress grading. Mr. Plutschow

221. No and Kyogen. (Formerly numbered 243A-243B.) Lecture, three hours. Prerequisite: one year of classical Japanese. Readings of selected No and Kyogen texts from Muromachi and Edo periods, as well as readings of critical writings and discussion of theories. May be repeated for credit with consent of instructor. Mr. Marra

224. Functioanls in Discourse Data Analysis. Lecture, three hours. Prerequisites: two years of Japanese or Korean, one introductory linguistics course. May be repeated for credit with consent of instructor. Mr. Marra

225A-225B. Seminars: Selected Topics in Japanese Literature. Seminar, three hours. Prerequisite: consent of instructor. In Progress grading. Mr. Ikawa

228. Graduate Courses

228A. Bibliography and Methods of Research in Japanese Literature. Lecture, three hours. Prerequisite: two or more years of Japanese or Korean, one introductory linguistics course. May be repeated for credit with consent of instructor. In Progress grading. Mr. Ikawa

230. Introduction to Kambun and Other Literary Styles. (Formerly numbered 149.) Lecture, three hours; discussion, one hour. Prerequisite: course 140A or 140B or consent of instructor. Introduction to Kambun, the Japanese literary and religious language, with readings in primary Chinese, and Sorobon, the epistolary style. Ms. Akatsuka

235A-235B. Seminars: Selected Topics in Modern Japanese Fiction. Seminar, three hours. May be repeated for credit with consent of instructor. In Progress grading. Mr. Ikawa

238. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

240A-240B. Seminars: Selected Topics in Japanese Literature. Seminar, three hours. May be repeated for credit. In Progress grading. Mr. Ikawa

241A-241B. Seminars: Japanese Classics. Seminar, three hours. Prerequisite: early times to 1686. May be repeated for credit with consent of instructor. In Progress grading. Mr. Ikawa

245A-245B. Seminars: Medieval Japanese Literature. Seminar, three hours. Prerequisite: one year of classical Japanese. Selections of travel literature, 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 grading. Mr. Ikawa

256A-256B. Seminars: Japanese Buddhist Texts. Seminar, three hours. Prerequisite: consent of instructor. In Progress grading. Mr. Ikawa

260. Reading and Discussion of Selected Current Research Papers in Modern Japanese Law. Seminar, three hours. Concurrently scheduled with course CM227. Mr. Plutschow

262. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

264. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

267. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

270. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

273. Introduction to Kambun and Other Literary Styles. (Formerly numbered 149.) Lecture, three hours; discussion, one hour. Prerequisite: course 140A or 140B or consent of instructor. Introduction to Kambun, the Japanese literary and religious language, with readings in primary Chinese, and Sorobon, the epistolary style. Ms. Akatsuka

274. Introduction to Kambun and Other Literary Styles. (Formerly numbered 149.) Lecture, three hours; discussion, one hour. Prerequisite: course 140A or 140B or consent of instructor. Introduction to Kambun, the Japanese literary and religious language, with readings in primary Chinese, and Sorobon, the epistolary style. Ms. Akatsuka

275. Introduction to Kambun and Other Literary Styles. (Formerly numbered 149.) Lecture, three hours; discussion, one hour. Prerequisite: course 140A or 140B or consent of instructor. Introduction to Kambun, the Japanese literary and religious language, with readings in primary Chinese, and Sorobon, the epistolary style. Ms. Akatsuka

276. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

278. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

280. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki

284. Seminar: Comparative Japanese Law and American Law. Seminar, three hours. Concurrently scheduled with course CM127. Mr. Iwasaki
Korean

Lower Division Courses

No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition.

1. Elementary Modern Korean. Lecture, two hours; discussion, three hours. Not open to students who, from whatever source, already know the language. Introduction to standard spoken Korean and Korean writing, with emphasis on conversation.

Mr. Cho, Ms. Sohn

2. Elementary Modern Korean. Lecture, two hours; discussion, three hours. Continuation of course 1.

Mr. Cho, Ms. Sohn

3. Elementary Modern Korean. Lecture, two hours; discussion, three hours. Continuation of course 2.

Mr. Cho, Ms. Sohn


Mr. Cho, Ms. Sohn


Mr. Cho, Ms. Sohn


Mr. Cho, Ms. Sohn

50. Korean Civilization. Lecture, three hours; discussion, one hour. Knowledge of Korean not required. General survey of development of Korean culture within the context of political, social, and economic history.

Mr. Duncan

Upper Division Courses

100A-100B-100C. Advanced Modern Korean. Lecture, two hours; discussion, three hours. Prerequisite: course 6 or equivalent. Course 100A or consent of instructor is prerequisite to 100B, which is prerequisite to 100C. Continuation of course 6. Readings of modern prose and poetry, with emphasis on grammar and Sino-Korean.

101A-101B-101C. Advanced Readings in Modern Korean. Lecture, three hours. Prerequisite: course 100C or equivalent. Advanced readings and discussion for students planning to do advanced coursework or work on a thesis. Topics are drawn from magazines, journals, and books related to humanities and social sciences.

CM120. Structure of Korean. (Same as Linguistics M177.) Lecture, three hours. Prerequisites: two years of Korean, or one year of Korean and some knowledge of linguistics. Discussion of major syntactic, semantic, and pragmatic characteristics of Korean in light of linguistic universals, with brief introduction to formation, typological features, and phonological structure of Korean. Concurrently scheduled with course C220.

Mr. Sohn

CM127. Contrastive Analysis of Japanese and Korean. (Same as Japanese CM127 and Linguistics M178.) Lecture, three hours. Prerequisites: two years of Japanese or Korean, or completion of course 110A of the introductory linguistics course. Critical reading and discussion of selected current research papers in syntax, pragmatics, discourse, and sociolinguistics from the perspective of contrastive study of Japanese and Korean. May be repeated for credit with consent of instructor. Concurrently scheduled with course CM227.

Ms. Akatsuka, Ms. Sohn

130A-130B. Readings in Modern Korean Literature. Lecture, three hours. Prerequisite: course 101A or consent of instructor. Readings and discussion of major modern Korean literary texts.

Mr. Lee (W,Sp)

150. Korean Literature in Translation: Classical. Lecture, three hours. Prerequisite: English 3 or one course from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Knowledge of Korean not required. Survey of Korean literature from the beginning to the present day, with all readings from English translations. Poetry and prose to the end of the 19th century.

Mr. Lee

151. Korean Literature in Translation: Modern. Lecture, three hours. Prerequisite: English 3 or one course from Humanities 1A, 1B, 1C, 1D, 2A, 2B, 2C. Knowledge of Korean not required. Survey of Korean literature from the beginning to the present day, with all readings from English translations. Literature of the 20th century.

Mr. Lee


Mr. Buswell

165. Introduction to Korean Buddhist Texts. Lecture, three hours. Prerequisites: course 100A and/or Chinese 110C. Introduction to reading early Buddhist texts written in Sino-Korean and taken from indigenous doxographic materials and philosophical writings, Korean Buddhist apocryphal scriptures, native exegetical commentaries, and Son (Zen) texts. Coverage varies. May be repeated for credit with consent of instructor.

Mr. Buswell

175. Introduction to Korean Thought. Lecture, three hours. Prerequisite: course 110C or consent of instructor. Representations of Korean thought from the earliest records to the 20th century, including shamanism, Daoism, Confucianism, Christian and neo-Confucianism. Korean traditions and those found in India, China, Japan, and the West.

Mr. Lee

176. Introduction to Korean Confucian Texts. Lecture, three hours. Prerequisite: course 100C or equivalent. Reading in Koryo and Choson texts on politics, society, and culture. Coverage varies. May be repeated for credit with consent of instructor.

Mr. Buswell

Graduate Courses

200. Bibliography and Methods of Research in Korean. Lecture, three hours. Prerequisites: graduate standing, reading knowledge of Korean and Chinese. Review of basic Western and modern Korean reference books, with concentration on Korean literature and study of bibliographical and bibliographical material. In addition, introduction to most important primary sources in student’s field of specialization.

Mr. Lee

210. Thought and Society in Korea. (Formerly titled 209A-209B.) Readings discussion, three hours. Prerequisites: graduate standing, reading knowledge of Korean. Readings 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.

Mr. Duncan (W,Sp)

C220. Structure of Korean. Lecture, three hours. Prerequisites: two years of Korean, or one year of Korean and some knowledge of linguistics. Linguistic analysis of Korean for those who concentrate on Korean language. Discussion of major syntactic, semantic, and pragmatic characteristics of Korean in light of linguistic universals. Concurrently scheduled with course CM120.

Ms. Sohn

CM227. Contrastive Analysis of Japanese and Korean. (Same as Japanese CM227.) Lecture, three hours. Prerequisites: two years of Japanese or Korean, one introductory linguistics course. Critical reading and discussion of selected current research papers in syntax, pragmatics, discourse, and sociolinguistics from the perspective of contrastive study of Japanese and Korean. May be repeated for credit with consent of instructor. Concurrently scheduled with course CM127.

Ms. Akatsuka, Ms. Sohn

290A-290B. Seminars: Literary Translation from Korean. Seminar, three hours. Prerequisite: reading knowledge of Japanese. Enforced requisite: course 3. Enrolled students select works to be translated. Devoted to skill of producing accurate and readable translations, with emphasis on problems and techniques unique to postmodern and contemporary literature. May be repeated once with consent of instructor. In Progress grading.

Mr. Lee

295A-295B. Seminars: Topics in Modern Korean Literature. Seminar, three hours. Prerequisite: graduate standing or at least five years of Korean. Recommended: reading knowledge of Chinese or Japanese. Study of a selected period, movement, theme, or author in 20th-century Korean literature, with critical review of secondary works in Western and Korean languages. May be repeated for credit with consent of instructor. In Progress grading.

Mr. Lee


Mr. Lee

297A-297B. Seminars: Literature from Humanities 1A, 1B, 1C, ID, 2A, 2B, 2C. Lecture, three hours; discussion, one hour. Reading and discussion of selected current research papers in syntax, pragmatics, discourse, and sociolinguistics from the perspective of contrastive study of Japanese and Korean. May be repeated for credit with consent of instructor. Concurrently scheduled with course CM127.

Ms. Akatsuka, Ms. Sohn

Related Courses in Other Departments

Art History 114A. Early Art of India

114C. Japanese Art
East Asian Studies (Interdepartmental)

B316 Murphy Hall, (310) 206-8235

Professors
Robert E. Buswell, Ph.D. (East Asian Languages and Cultures)
Lucie C. Chang, Ph.D. (Sociology)
Benjamin A. Elman, Ph.D. (History)
Philip C. Huang, Ph.D. (History)
Nazir A. Jairazbhoy, Ph.D. (Ethnomusicology and Systematic Musicology)
Peter H. Lee, Ph.D. (East Asian Languages and Cultures)
Donald F. McCallum, Ph.D. (Art History)
Fred G. Nottebohm, Ph.D. (History)
Herman Ooms, Ph.D. (History)
Herbert E. Pietschow, Ph.D. (East Asian Languages and Cultures), Administrative Director
Richard E. Strassberg, Ph.D. (East Asian Languages and Cultures)

Associate Professors
John B. Duncan, Ph.D. (East Asian Languages and Cultures)
Miriam Silverberg, Ph.D. (History)
Richard von Glahn, Ph.D. (History)

Assistant Professor
Leslie Pincus, Ph.D. (East Asian Languages and Cultures)

Lecturers
Ikuko Yuge, B.A. (Ethnomusicology and Systematic Musicology)
Taun Y. Lui Emeritus (Ethnomusicology and Systematic Musicology)

Visiting Assistant Professor
Danny Lee (Ethnomusicology and Systematic Musicology)

Scope and Objectives
This undergraduate major is an area studies program of the East Asian region which is divided into three areas of concentration — China, Japan, and Korea. It offers a social science approach, combined with language study and work in the humanities.

Bachelor of Arts Degree
Two years of language and a total of 13 upper division courses, including courses in the social sciences, culture, and language, must be taken for graduation. You must take a minimum of nine courses in the area of your choice. The remaining courses must be taken in another area of concentration within the major. More than eight courses may be from a single department. You 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. At the discretion of the adviser, you may be advised to take theory courses applicable to the major requirements.

China Concentration
Preparation for the Major: Chinese 1, 2, 3, 4, 5, 6, History 11A-11B, Sociology 1.

Japan Concentration
Preparation for the Major: History 9C, Japanese 1, 2, 3, 4, 5, 6, Sociology 1.

Korea Concentration
Preparation for the Major: Korean 1, 2, 3, 4, 5, 6, 50, Sociology 1.


Economics
2263 Bunche Hall, (310) 825-1011

Professors
William R. Allen, Ph.D. (Distinguished Teaching Award)
Masanao Aoki, Ph.D.
Costas Azariadis, Ph.D.
Harold Demsetz, Ph.D. (Arthur Andersen and Company Alumni Professor of Business Economies)
Sebastian Edwards, Ph.D. (Henry Ford II Professor of International Management)
Bryan C. Ellickson, Ph.D. (Distinguished Teaching Award)
Roger E. Farmer, Ph.D.
Arnold C. Harberger, Ph.D.
Werner Z. Hirsch, Ph.D.
William R. Allen, Ph.D. (Distinguished Teaching Award)
Roger E. Farmer, Ph.D.
Arnold C. Harberger, Ph.D.
Werner Z. Hirsch, Ph.D.

*Courses on East Asia in general.
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. A Master of Arts program is also offered, which involves coursework and comprehensive examinations designed for the Ph.D. student.

Bachelor of Arts in Economics

Prewecomics Major

While you are completing the lower division preparation courses for the major, you may be classified as a prewecomics major. When you have completed the preparation courses for the major and one 12-unit term in residence at UCLA, you must petition to enter the major at the undergraduate counselor's office in 2553 Bunche Hall by the time you attain 135 quarter units.

Preparation for the Major

Required: Economics 1, 2, 11, 40 (or Statistics 50 as a substitute for course 40); English 4 or 100W or 129; Mathematics 31A, and 31B or 31E. All courses must be taken for a letter grade. A 2.0 (C) grade is required in each pre-major course. To enter the major, you must have a 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.

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 credit for any of the above is subject to department approval; consult the undergraduate counselor before enrolling in any courses for the major.

The Major

Required: Nine upper division courses in economics which must include Economics 101, 102, and at least one course in three different fields in economics selected from the list below (all courses must be taken for a letter grade). Economics 100, 110, and 190 may not be included among the nine upper division courses. One or two of the nine courses may include Management 120A, 120B, 130A, 130B, and/or 133 (Learning Center courses or courses transferred from other institutions may not be applied toward this option).

A grade of C – or better is required in each of courses 101 and 102. In addition, you must have a 2.0 grade-point average in your upper division major courses to graduate. All upper division courses for the major must be taken for a letter grade. Transfer credit for any of the above is subject to department approval; consult the undergraduate counselor before enrolling in any courses for the major.

Major Fields

Economic theory (courses 101, 102, 103A-103Z, 104, 105AH, 105BH, 107); economic development (courses 111, 112); regional economics (courses 120, 121); public finance (courses 130, 133, M135, M136); statistics, mathematical economics, and econometrics (courses 141, 142, 143, 144, 145, 146, 147A, 147B); labor economics (courses 150, 151, 152); money and banking (courses 160, 161); government and industry (courses 170, 171, 172, 173, 174, 175, 176, 177); economic institutions (courses 180, 181A, 181B, 182, 183, 184); international economics (courses 191, 192).

Bachelor of Arts in Business Economics

This program offers students a business orientation in their undergraduate studies and is designed to prepare students for careers in business and 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

Students who did not qualify for admission to the major by the last day of Spring Quarter 1992 must follow the premajor and major requirements listed below.

Enrollment in the program is limited. Applications for admission are handled exclusively by the Department of Economics. To apply you must have completed at least 72 quarter units (but no more than 135 quarter units), one 12-unit term in residence in regular session at UCLA, and all courses listed under "Preparation for the Major." In addition, you must (1) be enrolled in UCLA regular session at the time of application, (2) have a 2.0 (C) minimum grade in each preparation course, (3) have a 3.0 (B) overall average in all preparation courses except English, and (4) have a 2.0 (C) grade-point average in your upper division courses taken for the major before applying (excluding Economics 101).

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 you are completing the preparation courses for the major, you may be classified as a prebusiness economics major. 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.) When you have completed all of the required preparation courses and have at least 72 quarter units (but no more than 135 quarter units), you must petition to...
enter the major at the business economics counselor's office in 2250B Bunche Hall.

Preparation for the Major

Required: Economics 1, 2, 11, 40 (or Statistics 50), 101; English 4 or 100W or 129; 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 credit for any of the above is subject to department approval; consult the business economics counselor before enrolling in any courses for the major.

The Major

Required: Economics 102 and at least two courses from 104, 173, 174, 177, 184; four other upper division courses in economics in at least two different fields (no more than two may be taken in the government and industry field); four upper division courses from Management 108, 120A, 120B, 122, 123, 124, 127, 130A, 130B, 133, 140, 175. Transfer credit for any of the major courses is subject to department approval. In addition, some graduate courses from the Anderson Graduate School of Management may be applied toward the major with department consent prior to taking the courses. Consult the business economics counselor before enrolling in any courses for the major.

All upper division major courses must be taken for a letter grade. A grade of C- or better is required in each upper division major course (except for Economics 101 which is part of the premajor), and you must have a 2.0 GPA in your upper division major courses to graduate in this major.

Bachelor of Arts in Economics/ International Area Studies

This 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

Students who did not qualify for admission to the major by the last day of Spring Quarter 1992 must follow the premajor and major requirements listed below.

Qualified students must submit written applications to the undergraduate counselor in 2253 Bunche Hall to be admitted. To apply you must have completed at least 72 quarter units, one 12-unit term in residence in regular sessions at UCLA, and all courses listed under "Preparation for the Major" (except for the second year of your foreign language). In addition, you 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 2.5 GPA in the economics and mathematics courses. You must also have a 2.0 (C) grade-point average in your 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 193. Your program as a whole must be approved by the Economics Department counselor before you are admitted to the major; you must apply before you reach 135 quarter units.

Preeconomics/ International Area Studies Major

While you are completing the preparation courses for the major, you may be classified as a preeconomics/international area studies major.

When you have completed the required mathematics and economics preparation courses and at least the first year of foreign language, and have at least 72 quarter units (but no more than 135 quarter units), you must petition to enter the major at the undergraduate counselor's office.

Preparation for the Major

Required: Economics 1, 2, 11, 40 (or Statistics 50), 101, 102; Mathematics 31A, and 31B or 31E. You also must complete the sixth quarter course (or equivalent) of any modern foreign language spoken in the geographical area of your 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 credit for any of the above is subject to department approval; consult the undergraduate counselor before enrolling in any courses for the major.

Concentrations for the Major

When you declare your major, you must also select a concentration that includes a geographical area where the foreign language you have taken is spoken, and you must complete four of the approved noneconomics courses listed, including courses from at least two different departments. You may not use courses that are not on your concentration list unless you have petitioned and received approval in advance.

When you declare your major, you must also select a concentration that includes a geographical area where the foreign language you have taken is spoken, and you must complete four of the approved noneconomics courses listed, including courses from at least two different departments. You may not use courses that are not on your concentration list unless you have petitioned and received approval in advance.

(1) East Asia

Languages: Chinese, Japanese, Korean


(2) Europe

Languages: French, German, Italian, Portuguese, Spanish


(3) Latin America

Languages: Portuguese, Spanish


(4) Middle East

Languages: Arabic, Hebrew, Iranian, Turkish

Graduate Study

Admission
Applicants for graduate study who satisfy the University minimum requirements are eligible to apply. It is strongly recommended that you have undergraduate training in economics, mathematics, and statistics. You must also submit a full record of prior university experience, three letters of reference, and your scores on the Graduate Record Examination (GRE) General Test and the Subject Test in Economics. International applicants must also submit scores for the Test of English as a Foreign Language (TOEFL).

The Department of Economics (2263 Bunche Hall, UCLA, Los Angeles, CA 90024-1477) admits students only for Fall Quarter of each academic year. The deadline for submitting the admissions/fellowship application is December 15.

Major Fields or Subdisciplines
Economic theory; econometrics; information and uncertainty; mathematical economics; monetary theory; economic history; public finance; labor economics; industrial organization; international economics; development economics.

Master of Arts Degree
Course Requirements
The department requires nine upper division and graduate-level courses in economics completed in graduate standing at UCLA. At least five of the nine courses must be graduate-level courses in the department, one of which must be either Economics 207 or 241 or 24A. Each course must be completed with a grade of B or better.

With prior consent of the vice chair for graduate studies, you may offer a maximum of two courses from outside the department; however, you must still take five graduate economics courses.

Four units of course 596 may be applied toward the total course requirement and the minimum graduate course requirement with prior consent of the vice chair for graduate affairs.

Comprehensive Examination Plan
The comprehensive examination requirement for the master's degree consists of passing two examinations and may be met in one of the following three ways:

(1) Master's-level (M) passes in comprehensive examinations for two of the three first-year sequences and a grade of B or better in all three courses in the remaining sequence OR

(2) Master's-level (M) passes in the comprehensive examination for one of the three first-year sequences and in one doctoral field examination OR

(3) Master's-level (M) passes in two doctoral field examinations.

Examinations are graded H (Ph.D. honors pass), P (pass at the Ph.D. level), M (pass at the M.A. level), or F (fail).

Ph.D. Degree
The standard first-year core sequences are defined as the first-year graduate courses in microeconomic theory (Economics 201A-201B-201C), macroeconomic theory (courses 222A-222B-222C), and quantitative methods (courses 203A, 203B, 203C).

Qualifying Examinations
All Ph.D. qualifying examinations are intended to determine competency in the overall field and are not restricted solely to the material presented in course lectures or assigned exercises. Written qualifying examinations are offered in the following areas (with preparatory courses in parentheses):

Core Sequences — Microeconomic theory (Economics 201A-201B-201C); macroeconomic theory (courses 222A-222B-222C); quantitative methods (courses 203A, 203B, 203C).

Elective Doctoral Fields — Econometrics (Economics 203B, 203C, 211A, 211B, M232A, 232B); information and uncertainty (courses 211A-211B, 212A); mathematical economics (courses 213A-213B, 214A); monetary theory (courses 221A-221B); economic history (courses 241, 242); public finance (courses 241A, 241B, 252); labor economics (courses 261A-261B); international organization (courses 271A-271B, 271C); international economics (courses 281A, 281B, 281C); development economics (courses 286A, 286B, 287A, 287B).

Written examinations are graded H (honors pass), P (pass at the Ph.D. level), M (pass at the M.A. level), or F (fail). They can be repeated, but you may sit for no more than seven in total.

You must pass (with a P or better) the qualifying examinations for two of the first-year core sequences — microeconomic theory, macroeconomic theory, and/or quantitative methods — by the end of Spring Quarter of your second year. You must satisfy an additional requirement in the remaining first-year core sequence by either earning a Ph.D. pass on the corresponding qualifying examination or earning a grade of B or better in all three courses.

You must also pass (with a P or better) qualifying examinations in three doctoral elective fields, usually by the end of your second year, even if you passed all three first-year core sequence qualifying examinations. Contact the graduate adviser for details on a breadth option (substituting three graduate courses for one of the three elective fields).

A written paper, ideally related to your doctoral dissertation, must be completed by the end of your third year. Material from the paper may be used as the basis for your presentation in a departmental workshop (see below), as well as the basis for your dissertation proposal.
In order to be advanced to candidacy, you are required to present a paper in a departmental workshop. It is recommended that this be completed by the end of your third year.

The University Oral Qualifying Examination, administered by your doctoral committee, is scheduled after successful completion of all written qualifying examinations, course requirements, written paper and workshop requirements, and submission of a written dissertation proposal. The examination focuses on, but is not limited to, the dissertation proposal.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree in advancement to candidacy for the Ph.D.

Final Oral Examination
A final oral examination on the doctoral dissertation is required unless it is waived by the committee that supervises the dissertation.

Lower Division Courses
1. Principles of Economics. Lecture, three hours; discussion, one hour. Not open to students with credit for course 100. Introduction to principles of economics, economic analysis, economic institutions, and issues of economic policy. Emphasis on allocation of resources by price mechanism and distribution of income through the price system.

2. Principles of Economics. 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 aggregative economics, including national income, monetary and fiscal policy, and international trade.

3. Introductory Economics. 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. (Formerly numbered 101A.) Lecture, three hours; discussion, two hours. Enforced requisites: courses 1, 2, 100. Principles of economic theory and analysis. Topics include demand and supply, consumer behavior, production and costs, and output determination in different market situations.

40. Introduction to Statistical Methods. Lecture, three hours; discussion, one hour. Not open to students with credit for Mathematics M150A-150B, 151, Statistics 50, M152A, or 152B. 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.

Mr. Potter, Mr. Ryu

88A. Lower Division Research Seminar: Microeconomics. Discussion, three hours. Enforced requisites: course 1. Limited to 10 freshmen/sophomores. Seminar in which students do intensive research project under guidance of regular faculty. Students select topics in consultation with instructor (topics limited to material covered in course 1), write papers, and present them at the seminar.

88B. Lower Division Research Seminar: Macroeconomics. Discussion, three hours. Enforced requisites: course 2. Limited to 10 freshmen/sophomores. Seminar in which students do intensive research project under guidance of regular faculty. Students select topics in consultation with instructor (topics limited to material covered in course 2), write papers, and present them at the seminar.

99. Lower Division Seminar (2 or 4 units). Enforced requisites: courses 1 and 2 (B or better). Preparation: overall 3.0 grade-point average. Designed to provide an instructional environment for small groups of students working on research projects. May not be used to fulfill entrance requirements for any Economics Department major.

Upper Division Courses
Courses 1 and 2, or 100 are prerequisite to all upper division courses in economics.

100. Economic Principles and Problems. Lecture, three hours. Prerequisite: upper division standing. Not open to students with credit for courses 1, 2, or 100. 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. (Formerly numbered 101B.) Lecture, three hours; discussion, one hour. Prerequisite: course 1. Theory of factor pricing and income distribution; general equilibrium; implications of pricing process and allocation of resources; interest and capital.

102. Macroeconomic Theory. Lecture, three hours; discussion, one hour. Prerequisites: two calculus courses or consent of instructor. Theory of income, employment, and price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy.

Mr. Farmer, Mr. Hansen, Mr. Thompson

103A-103Z. Upper Division Research Seminars: Applications of Economic Theory. Lecture, three hours; discussion, one hour. Enforced requisites: two calculus courses or consent of instructor. Topics selected in consultation with instructor.

M103A. Political and Economic Issues in the Proletariat Control of Nuclear Power. (Formerly numbered 55.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Interdisciplinary approach to the problem of nuclear proliferation. Economic aspects of acquisition of nuclear weapons and economic aspects of nuclear energy treating technological, bargaining, and stability issues. Mr. Invligator (alternate years)

103B. Economics of Energy. Prerequisites: courses 11, 100, and 102. Topics are divided into nonexhaustible resources, interactions between energy and the economy, institutions such as OPEC and oil price controls, oil debt and balance of payments, energy conservation, and recycling.


Mr. Riley

105AH. Topics in Microeconomics (Honors). Lecture, three hours. Prerequisites: courses 11, 101, and departmental honors program standing or consent of instructor. Introduction to Walrasian and Nash equilibrium. Analysis of applied topics such as peak load pricing, pricing of externalities, strategic play, and industrial organization.

Mr. Wayne

105BH. Topics in Macroeconomics (Honors). Lecture, three hours. Prerequisites: courses 11, 101, and departmental honors program standing or consent of instructor. Imperfect information-based models of monetary business cycles. Animal spirits, money illusion, and New business cycle models: role of shocks and interindus-

trial technology structure in explaining fluctuations. Policy analysis and policy intervention in a world with rational maximizing agents: recent perspectives.

Mr. Hansen

107. History of Economic Theory. Lecture, three hours. Prerequisite: course 1 or 100. Survey of economic analysis from Grecian antiquity to the early 20th century, concentrating on the 18th and 19th centuries; special attention to selected writers, including Aristotle, mercantilists, Physiocrats, Hume, Smith, Malthus, Ricardo, Marx, marginalists, and Marshall.

110. Economic Problems of Underdeveloped Countries. Lecture, three hours. Prerequisite: course 1 or 100. Limited to non-Economics Department majors. Not open 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. Lecture, three hours. Prerequisites: course 110 or 112. Suggested strategies for economic development: inflation, balanced growth, industry vs. agriculture, import substitution, export-oriented expansion, foreign aid, and others. Selected case studies.

Mr. Lafl

120. Introduction to Urban and Regional Economics. Lecture, three hours. Prerequisite: course 11 or consent of instructor. Survey of broad range of policy and theoretical issues that are raised when economic analysis is applied in an urban setting. Topics include urbanization and urban growth, housing markets, locational decisions of firms, transportation, urban labor markets, and local public sector.

121. Urban Economic Analysis. Lecture, three hours. Prerequisites: courses 11, 100. Urban economic analysis requires development of analytical tools that can be used to study urban problems. Use of econometric and regression methodology presented in courses 11 and 101. Construction and implementation of these tools, with applications to urban location decisions, housing, transportation, labor markets, and local public sector.


Mr. Potter, Mr. Ryu

M135. Economic Models of Political Conflict and Conflict Resolution. (Same as Political Science 135.) Lecture, three hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: course 11, any lower division political science course, and junior/senior standing, or consent of instructor. 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 public bargaining.

Mr. Wallerstein

M136. Economic Models of Political Conflict and Conflict Resolution. (Same as Political Science 136.) Lecture, three hours or discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: course 11, any lower division political science course, and junior/senior standing, or consent of instructor. 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 public bargaining.
142. Probabilistic Microeconomics. Lecture, three hours. Prerequisites: courses 11, 101. Combination of basic probability introduced in course 40 with microeconomic models presented in courses 11 and 101 in order to explain phenomena such as search, and stock market behavior. Optimal production and consumption under uncertainty. Review of probability and introduction to alternative measures of risk and risk aversion. Mr. McCall

144. Introduction to Mathematical Methods in Economics. Lecture, three hours. Prerequisites: courses 11, 101, or consent of instructor. Introduction to the basic tools of mathematics in economic analysis. Topics include partial differentiation, optimization, integration, and differential and difference equations, with applications to the theory of the household and the firm, capital theory, and economic dynamics. Mr. Ellickson, Mr. Intriligator, Mr. Riley

145. Topics in Mathematical Economics. Lecture, three hours. Prerequisite: course 144. Possible topics include game theory, contract and equilibrium analysis; examination of market failure and role for market intervention. Mr. Ellickson, Mr. Ostroy

146. Linear Models in Economics. Lecture, three hours. Prerequisite: one linear or matrix algebra course (e.g., Mathematics M152A, 152B) or consent of instructor. Introduction to econometrics, including review of matrix algebra and statistical theory; linear regression model; model specification; data collection; estimation and hypothesis testing; introduction to simultaneous equations models. Emphasis on practical experience with regression analysis and interpretation; matrix algebra not required. Mr. Cameron

147A. Introduction to Econometrics. Lecture, three hours. Prerequisites: two calculus courses and course 143 (or Mathematics M150A-150B or Statistics M151A, 151B), or consent of instructor. Introduction to econometrics, including review of matrix algebra and statistical theory; linear regression model; model specification; data collection; estimation and hypothesis testing; introduction to simultaneous equations models. Major original econometric paper re-examined. Mr. Demsetz, Mr. Klein

147B. Applications of Econometrics. Lecture, three hours. Prerequisite: course 147A. Econometric models illustrated with data from field research, comparative behavior of unions and professional associations; criteria for wage maximization; quantification of gains; analysis of legal framework applying to such organizations. Mr. Ellickson


151. Labor, Wages, and Income. Lecture, three hours. Prerequisite: course 150 or consent of instructor. Selected topics in labor theory: income distribution; business cycles and unemployment; investments in human capital and life cycles; migration; human fertility; marriage and divorce, etc.

152. Trade Unions and Professional Associations. 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.

160. Money and Banking. Lecture, three hours. Recommended prerequisite: course 102. Principles of money and banking in the U.S.; legal and institutional framework; money supply process; instruments of monetary policy. Mr. Stanczak

161. Monetary Theory. Lecture, three hours. Prerequisite: course 160. Nature of money and monetary exchange; level and term structure of interest rates; level and growth rate of money; transmission of monetary shocks; theory and practice of monetary policy. Mr. Stanczak


171. Industrial Organization: Theory and Tactics. Lecture, three hours. Prerequisite: course 11. Study of pricing and output decisions of firms under conditions of less than perfect competition or monopoly; theories of oligopoly and monopolistic competition; information costs and advertising; examination of pricing practices such as price discrimination, tie-in selling, predatory pricing, and resale price maintenance. Mr. Demsetz


173. Centralized Markets. Lecture, three hours. Prerequisite: course 11. Enrollment priority to business economics students. Organization and function of stock, bond, commodity, and foreign exchange markets. Theory and evidence related to efficiency of these markets in evaluating information, to their role in facilitating risk-bearing and capital allocation. Interrelatedness among business finance and organized capital markets. Mr. Demsetz, Mr. Williams

174. Organization of the Firm. Lecture, three hours. Prerequisite: course 11. Enrollment priority to business economics students. Role of the firm in tradition and economic theory. Theories of organization and the theory of the firm. Functions of ownership and management in face of risk and opportunism. Internal organization of the firm. Problem of separation of ownership from control in the modern corporation. Determinants of firm size, vertical integration, and degree of specialization of activities of firms. Decision making within the firm in a democratic setting. Mr. Demsetz, Mr. Dick

175. Economics of Transportation. Lecture, three hours. Prerequisite: course 11. Economic characterics of transport; functions of the different agencies; pricing and resource allocation in transport; public regulation of transport; urban transport; modern transport control. Mr. Demsetz

176. Business and Government. Lecture, three hours. Prerequisites: courses 11, 101. Several aspects of interaction between business and government, including regulation of prices, entry, working conditions, natural resource use, pollution control, and subsidy of business. Mr. Demsetz


183. Development of Economic Institutions in the U.S. Lecture, three hours. Study of changing economic structures in the U.S. from Colonial times to the early 20th century and effects of these changes on American society. Mr. Sokoloff

184. History of Enterprise and Entrepreneurship in the American Economy. Lecture, three hours. Enrollment priority to business economics students. Study of role of innovation in history of American enterprise. Examination of specific episodes of salient entrepreneurial innovation, as well as general theoretical and empirical treatments. Mr. Sokoloff

190. International Economics. Lecture, three hours. Prerequisite: course 1 or 100. Limited to non-Economics Department majors. Not open to students with credit for course 191 or 192. General introduction to and theoretical basis for international economic relations. Emphasis on theory of trade and the means and significance of balance of payments adjustments, 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.

191. International Trade Theory. Lecture, three hours. Prerequisite: course 101. Not open to students with credit for course 190. Theory of international trade: bases, direction, terms, volume, and gains of trade. Effects of tariffs, quantitative restrictions, and international integration. Effects of free and restricted trade on economic welfare and political stability. Mr. Stanczak

192. International Finance. Lecture, three hours. Prerequisite: course 102. Not open to students with credit for course 190. Emphasis on interpretation of the balance of payments and adjustment to national economic shocks through changes in price levels, exchange rates, and national income. Other topics include measuring international payments, determination of exchange rates between various monetary standards, capital controls, exchange controls, and international monetary organization. Mr. Ozler, Mr. Sturzenegger

193. Research in International Area Studies Seminar. Lecture, three hours. Limited to Economics seniors. Students prepare a research paper on economy of the country or region of specialization. Mr. Sturzenegger
Graduate Courses

Foundations of Economics

201A-201B-201C. Microeconomics. Lecture, three hours. 
203A. Probability and Statistics for Econometrics. Lecture, three hours. Provides statistical tools neces- sary to understand econometric techniques. Random variables, distribution and density functions, sam- pling, estimators, estimation techniques, hypothesis testing, and statistical inference. Use of economic problems and examples. SU or letter grading. 
204A-204Z. Applications of Econometric Theory. Lecture, three hours. 
204A. Single Equation Models. Seminars: Pharmacological Economics and Policy (1 unit, 1 unit, 2 units). (For- merly numbered M204A.) (Same as Health Services Management M204A.) Seminar, three hours every other week for three terms. Prerequisites: courses 201A-201B-201C or equivalent, Health Services 229A or equivalent, or consent of instructor, graduate standing in public health or economics. Various topics in economics of pharmaceutical industry, including rates of innovation, drug regulation, and economic impact of pharmaceuticals. In Progress grading. 
205. Economic Modeling. Lecture, three hours. De- velopment of modeling skills by considering a se- quence of economic issues (e.g., peak load pricing, regulation, monopoly, capital asset pricing, Pareto ef- ﬁciency). Emphasis on multivariate constrained opti- mization. SU or letter grading. 
207. History of Economic Thought. 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 contro- versy, and history of welfare economics. SU or letter grading. 
208. Economic Theory. 
211A-211B. Economics of Uncertainty, Informa- tion, and Games. Lecture, three hours. Prerequisites: course 201C, introductory probability Theory of individual decision making under uncertainty, applied to topics such as asset pricing models, adverse se- lection, moral hazard, bargaining, signaling, auc- tions, and search. SU or letter grading. 
212A-212Z. Topics in Advanced Theory. Lecture, three hours. Content varies. Courses in this sequence not or- dinarily given every year. May be repeated for credit. 
212A. Search Theory. Prerequisites: calculus, intro- ducory probability. Price searching, queueing. Brown- ian motion, martingales, and applications to the the- ory of the firm. 
212B. Applied Game Theory. Prerequisites: calculus, introductory probability. Use of theory of Bayesian games to study bargaining, monetary policy, and oli- gopoly. Use of theory of mechanisms to study auction design and imperfectly competitive markets. 
213A-213B. General Equilibrium and Game The- ory. Lecture, three hours. Prerequisite: course 201C or consent of instructor. Selected advanced theoretical- topics of current interest and introduction to mod- ern mathematical economics, including general equi- librium theory and game theory. SU or letter grading. 
214A-214Z. Topics in Mathematical Economics. Lecture, three hours. Prerequisite: course 213B or consent of instructor. Current research in mathematical economics, constant interest rates. Ordinarily only two courses in this sequence given every year. May be repeated for credit. SU or letter grading. 
214A. General Equilibrium Theory. Prerequisite: course 201C or equivalent or consent of instructor. Core concepts of general equilibrium, completeness and princi- ple, set operations in the solution of the problem of allocating goods. 
214B. Game Theory. (Same as Political Science M206A.) Prerequisites: course 213A or suitable mathematics courses. Game theory, the core, the value, other solution concepts. Applications to oligopoly, general equilibrium, and production economics. 
214C. Large Economies. (Same as Political Science M208C.) Prerequisites: course 213A or suitable mathematics courses. Consideration of economics with a continuum of consumers and with a continuum of goods. Basic models and applications, perfectly competi- tive equilibrium, the core, location models, and other models with nonconvex preferences and/or technol- ogy. 
221B. Prerequisite: course 221A. Emphasis on theo- retical aspects of monetary economics. Financial intermediation, monetary policy, interest rates, asset prices volatility, contract theory, game theoretic mod- els of policy, and Keynesian models with monopolistic competition, search, and coordination failures. 
222A-222Z. Topics in Monetary Economics. Lecture, three hours. Current research in monetary eco- nomics. Content varies. May be repeated for credit. S/U or letter grading. 
222A. Control and Coordination in Economics. (Same as Management M222.) Prerequisites: graduate standing in economics or engineering or consent of instructor. Recommended: appropriate mathematics course. Stabilization policies, short- and long-run dynamics and stability analysis; decen- tralization, coordination in teams; certain economic models; Bayesian approach to price and output rate adjustment. 
229A-229B. Topics in Economic Theory. 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. SU or letter grading. 
230A. Probability and Statistics for Econometrics. Lecture, three hours. Provides statistical tools neces- sary to understand econometric techniques. Random variables, distribution and density functions, sam- pling, estimators, estimation techniques, hypothesis testing, and statistical inference. Use of economic problems and examples. SU or letter grading. 
230C. Introduction to Econometrics: Econometric Theory. Lecture, three hours. Linear regression model, speciﬁcation error, functional form, autocorrelation, nonin- ear estimation, distributed lag, nonnormality, un- nit root time series, qualitative dependent variables, aggregation, structural change, and errors-in-vari- ables. SU or letter grading. 
231B. System Models. Lecture, three hours. Multi- variate regression, errors-in-variables, simultaneous equations, identiﬁcation, proxy variables, latent vari- ables, factor analysis of panel data, asymptotic distribu- tion theory. SU or letter grading. 
239A (advanced topics in fi- nance), 239X-239Y-239Z (finance workshops)
232A-232Z. Topics in Econometrics. Lecture, three hours. Prerequisites: courses 231A, 231B. Current research in econometrics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.

233A. Bayesian Econometrics. (Same as Political Science 233B.) Introduction to decision theory, Bayesian analysis of regression, sensitivity analysis, simplification of models, criticism.

Mr. Leamer


239A-239B-239C. Workshops: Econometrics. Lecture, three hours. Prerequisite: consent of instructor. Workshops for dissertation and predissertation writers. Research in progress presented, discussed, and criticized by visiting experts, UCLa faculty members, advanced graduate students. Research paper required. S/U grading.

Economic History

241. Economic History of Western Europe. Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Seminar on European economic history, with emphasis on evolution of institutions and long-term development. Subjunctive and agricultural history, and the agricultural revolution, demographics, industrial revolution, imperial expansion, and decline of Britain. S/U or letter grading.

Mr. Rosenthal, Mr. Sokoloff


Mr. Sokoloff


249A-249B-249C. Von Gremp Workshops: History of Entrepreneurship in the U.S. Economy. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Workshops for advanced graduate students. Research in progress presented, discussed, and criticized by visiting experts, UCLa faculty members, graduate students. S/U grading.

Mr. Sokoloff

Public Finance

251A. Theory and Policy of Taxation. Lecture, three hours. Examination of influence of taxation on economic efficiency and incidence of taxation in first part of course. Topics include tax equivalences, Ramsey rules, and alternative forms of taxation. Special tax provisions, tax incentives, and progressivity in taxation in second part of course. S/U or letter grading.

Mr. Harberger

251B. Cost-Benefit Analysis of Public Projects and Programs. Lecture, three hours. Prerequisite: course 251A. Presentation of those aspects of applied economics relevant in decision concerning investment projects in first part of course. Differences between social and private benefits and costs (shadow prices) for foreign exchange, capital, and growth. Sentiment, and applications to public investment decisions, in second part of course. S/U or letter grading.

Mr. Harberger

252. Economics of Federalism. 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.

Mr. Thompson

253A-253Z. Topics in Public Finance. Lecture, three hours. Prerequisites: course 253A. Current research in public finance. Content varies. Topics include Social Security taxes and programs, unemployment insurance, public provision of medical care, theory of public goods, and theory of public choice. May be repeated for credit. S/U or letter grading.

254A-254B-254C. Workshops: Public Economics. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Workshops for advanced graduate students. Research in progress discussed by graduate students, UCLa faculty members, visiting experts. S/U grading.

Labor Economics


261B. Prerequisite: course 261A. Models of life-cycle learning and work behavior, with particular emphasis on recent literature examining labor force behavior and experience of women. Ms. Currie

262A-262Z. Topics in Labor Economics. Lecture, three hours. Current research in labor economics. Content varies. May be repeated for credit. S/U or letter grading.

Industrial Organization


271A. Major economic aspects of property rights system. The firm and the market compared from perspective of alternative arrangements for allocating resources. Traditional problems of competition, monopoly, and industrial concentration. Brief analysis of those portions of antitrust policy bearing on industrial structure.

Mr. Demsetz

271B. Prerequisite: 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.

Mr. Dick


Mr. Dick


International Economics


Mr. Harberger


Mr. Edwards

Development Economics

286A. Economic Development. Lecture, three hours. Prerequisites: courses 201C, 202C. Study of theoretical and empirical problems related to developing countries. Emphasis on relation between international trade and development, dynamism, aspects of commercial policies, inflation, stabilization, structural adjustment, growth and migration. S/U or letter grading.

Mr. Edwards

286B. Analysis and Appraisal of Development Projects. Lecture, three hours. Prerequisite: 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.

Mr. Harberger

International Economics

287A-287Z. Topics in Development Economics. 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.


Mr. Edwards

287B. Economic Development in East Asia. Recent economic history of East Asia, focusing on postwar development. Emphasis on political and economic policies, and theories of economic growth, in East Asia. Emphasis on role of international investment and trade, especially with the U.S., in area's economic development.
Urban Economics
291A-291B. Urban Economics. Lecture, three hours. Course 291A is prerequisite to 291B. Implications of urbanization for economic analysis. Development of theory in course 291A: emphasis on policy in 291B. Use of monocentric model of urban land use to introduce location and transportation costs. Examination of housing, transportation, and local public services. Ms. Cameron
293A-293Z. Topics in Urban Economics. 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. Ms. Cameron

Special Studies
294A-299B-299C. Workshops: Preparing a Dissertation Proposal. Lecture, three hours. Workshops for third-year graduate students who are preparing for oral qualifying examination. Presentation of journal articles for critical analysis to develop students' analytical skills. Presentation of students' own research for critical analysis by fellow students and faculty. Workshops open to research in all fields of economics. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

405. Teaching College Economics (2 units). Discussion, one hour; laboratory, three hours. Prerequisite: graduate standing. 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.

406. Individual Study (2 to 8 units). Directed individual study or research. S/U grading.


Economics/System Science (Interdepartmental)
2263 Bunche Hall, (310) 825-1011

Professors
Masanao Aoki, Ph.D. (Economics)
Bryan C. Ellickson, Ph.D. (Economics; Distinguished Teaching Award)
Michael D. Intriligator, Ph.D. (Economics)
Stephen E. Jacobsen, Ph.D. (Economics)

Scope and Objectives
The major is an alternative to the regular departmental major in economics and combines work in the School of Engineering and Applied Science with preparation in economic theory and in those aspects of mathematics and statistics necessary for the study of quantitative aspects of economics and systems theory. The major is appropriate for students with interests in such areas as economic theory, mathematical economics, econometrics, feedback and control systems, optimization, computing techniques, and the modeling and analysis of various socioeconomic systems.

Bachelor of Science Degree
Admission
This interdepartmental major is in the process of being disestablished as there is no longer a system science department in the School of Engineering and Applied Science. Therefore, students admitted to the University for Fall Quarter 1993 and thereafter cannot enter this major. You can pursue one of the alternate programs available in mathematics/applied science (see Mathematics later in this chapter).

Students admitted to the preeconomics/system science major prior to Fall Quarter 1993 can apply for admission to the economics/system science major or to one of the alternate programs. All preeconomics/system science students applying for admission to the major are subject to the minimum entrance requirements as listed in the 1992-93 UCLA General Catalog.

Preparation for the Major
Required: Economics 1, 2, 11; Computer Science 10C or 10F or Program in Computing 3 or 10A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B. All courses must be completed for a letter grade of C- or better.

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 credit for any of the above is subject to department approval; consult the undergraduate counselor in 2253 Bunche Hall before enrolling in any courses for the major.

The Major
Required: Thirteen upper division courses as follows: five courses in economics selected from Economics 101 and above, including 101, 102, and one course from 141, 142, 144, 145, 146, 147A, 147B; six courses in system science selected from Electrical Engineering 102, 103, 131A, 131B, 136, 141, 142, including 131A (or Mathematics M150A or Statistics M152A) and 131B (or Mathematics 151 or Statistics 152B); two courses in mathematics selected from Mathematics 110A and above (such mathematics courses may not also be applied toward the system science requirements).

Recommended courses include Electrical Engineering 141 and 142 in the area of dynamic systems analysis and Electrical Engineering 136 in the area of optimization.

All upper division major courses must be completed for a letter grade of C- or better, with an overall 2.0 GPA.

Education
1009 Moore Hall, (310) 825-8327

Professors
Helen S. Astin, Ph.D.
Nicholas Blarton Jones, Ph.D.
James E. Bruno, Ph.D.
Sol Cohen, Ph.D.
Carollee Howes, Ph.D.
Val D. Rust, Ph.D.
Carlos A. Torres, Ph.D.

Associate Professors
Robert M. Hodapp, Ph.D.
James W. Trent, Ph.D.
Concepcion Valadez, Ph.D.
Wellford Wilms, Ph.D.

Assistant Professors
Daniel G. Solorzano, Ph.D.
Amy S. Wells, Ph.D.

Lecturer
Edward (Chips) Anderson, Ph.D.

Scope and Objectives
The undergraduate specialization in education is designed to (1) allow students to learn more about the multitude of professional and research issues in the field of education and to understand the complex interactions between social, political, and economic forces which influence and shape educational policies in America, (2) provide an introductory educational sequence for students who wish to pursue careers in education either as teachers or researchers, and (3) present an information base in the area of education by which UCLA students can become better consumers of educational services as future parents, taxpayers, and citizens.

The teaching philosophy is governed by a need to address these objectives with a logical and time-efficient course structure — lower division courses that provide an introduction to educational policy, upper division social and behavioral sciences courses (sociology, political science, history, philosophy, anthropology, economics, psychology) taught in the Graduate School of Education and Information Studies, upper division elective courses in which students can pursue their own specific interests in the area of education, and a special studies research experience. The specialization must be taken in conjunction with a departmental or interdepartmental major.

Special Undergraduate Program
Enrollment is limited but includes sophomores and upper division students. To enter the specialization you must submit a formal application to the Office of Student Services in the Graduate School of Education and Information...
English

2225 Rolfe Hall, (310) 825-4173

Professors
Michael J. B. Allen, Ph.D., D.Litt. (Distinguished Teaching Award)
Paula Gunn Allen, Ph.D.
Martha Banta, Ph.D.
Calvin B. Bedient, Ph.D. (Luckman Distinguished Teaching Award)
Charles A. Berst, Ph.D. (Distinguished Teaching Award)
A.R. Braunmiller, Ph.D. (Distinguished Teaching Award)
Frederick L. Burwick, Ph.D.
Michael J. Colacurcio, Ph.D.
James E. Goodwin, Ph.D.
Christopher W. Grose, Ph.D.
N. Katharine Hayles, Ph.D.
Henry Andreas Kelly, Ph.D.
Gordon L. Kipling, Ph.D.
V.A. Kolve, Ph.D. (The UCLA Foundation Professor)
Richard D. Lehan, Ph.D. (Distinguished Teaching Award)
Kenneth R. Lincoln, Ph.D. (Distinguished Teaching Award)
Anne K. Mellor, Ph.D.
Donka Minkova, Ph.D.
Michael A. North, Ph.D.
Maximilian E. Novak, Ph.D., Ph.D.
Jonathan F.S. Post, Ph.D.
Paul D. Sheats, Ph.D.
Deborah K. Shuger, Ph.D.
Eric Sundquist, Ph.D., Chair
Georg B. Tenneyson, Ph.D.
Robert N. Watson, Ph.D.
Samuel Weber, Ph.D.

Thomas R. Wortham, Ph.D., Vice Chair
Stephen Yenser, Ph.D. (Distinguished Teaching Award)

Professors Emeriti
Robert Martin Adams, Ph.D.
Vinton A. Dearing, Ph.D.
Robert W. Dent, Ph.D.
John J. Espey, B.Litt., M.A.
Robert P. Falk, Ph.D.
Reginald A. Foakes, Ph.D.
Patrick K. Ford, Ph.D.
Robert A. Georges, Ph.D.
Gerard J. Goldberg, Ph.D.
George R. Guesty, Ph.D. (Distinguished Teaching Award)
Charles V. Hartung, Ph.D.
Paul A. Jorgensen, Ph.D.
Jacinta Kessler, Ph.D.
Robert S. Kinsman, Ph.D.
Richard A. Lamham, Ph.D.
Blake R. Nevius, Ph.D.
Ada B. Niblet, Ph.D.
Waldo W. Phelps, Ph.D.
Florence Ridley, Ph.D.
Alan Roper, Ph.D.
George S. Roush, Ph.D.
William D. Schaefer, Ph.D.
Paul R. Sellin, Ph.D.
Peter L. Thorslev, Jr., Ph.D.
Alexander Welch, Ph.D.

Associate Professors
Walter E. Anderson, Ph.D.
Charles L. Batten, Jr., Ph.D. (Distinguished Teaching Award)
King-Kok Cheung, Ph.D.
Edward I. Condren, Ph.D.
Donald J. Cosentino, Ph.D.
Albert D. Huffer, Ph.D. (Distinguished Teaching Award)
Jack Kolb, Ph.D.
Robert M. Maniquis, Ph.D.
Joseph F. Nagy, Ph.D.
Barbara L. Packr, Ph.D. (Luckman Distinguished Teaching Award)
Raymond A. Paredes, Ph.D.
Vincent P. Pecora, Ph.D.
Karen E. Rowe, Ph.D. (Distinguished Teaching Award)
Gregory M. Samis, Ph.D.
Valene A. Smith, Ph.D., Vice Chair
Richard A. Yarborough, Ph.D. (Distinguished Teaching Award)

Assistant Professors
Robert D. Aguirre, Ph.D.
Blake Allman, Ph.D.
All Behdad, Ph.D.
Christopher Cannon, Ph.D.
Lowell Environment, Ph.D.
Deborah M. Garfield, Ph.D.
Jayne E. Lewis, Ph.D.
Jim Jing, Ph.D.
Arthur L. Little, Jr., Ph.D.
David W. Louie, M.F.A.
Catherine McEachern, Ph.D.
Kenneth Reinhard, Ph.D.
Judith A. Rosen, Ph.D.
Sonia Saldizar-Hull, Ph.D.
Jenny Sharpe, Ph.D.

Senior Lecturers
David Stuart Rodes, Ph.D. (Distinguished Teaching Award)
Jerome Cushman, A.B., B.L.L.S., Emeritus

Adjunct Professor
Carolyn See, Ph.D.

Scope and Objectives
An interest in English and American literature draws many students to the Department of English, which also offers courses in other fields, including the history and structure of the English language itself. Although committed to no single method or approach, the department encourages an emphasis on literary history and requires of its undergraduate majors a firsthand acquaintance with such influential writers as Chaucer, Milton, and Shakespeare. Students may range outward from this core to a rich variety of other fields — literary criticism, for example, or the ethnic literatures and popular culture of America, or the relation of literature to such complementary disciplines as history, sociology, psychology, and philosophy. Qualified students may elect a concentration in creative writing or an interdisciplinary program in American studies.

An understanding and appreciation of literature can furnish lifelong rewards. In addition to such personal benefits, the department seeks to impart the capacity to make balanced critical judgments and the ability to write the English language persuasively, with point and effect. Such skills are essential to success in a variety of professions for which the major in English can provide excellent preparation, including law, administration, business, and teaching.

A graduate program leading to the Master of Arts degree is available for students who wish to continue the study of literature at an advanced level. A parallel program continues to the Ph.D. degree. Because the Ph.D. program may require five years or more, it is intended only for qualified students who are seriously committed to advanced literary scholarship and, in some cases, to a career in college or university teaching.

Bachelor of Arts Degree

Admission to Courses in English
You must have completed the Subject A requirement before taking any courses in English (other than English A or 2). For further information regarding Subject A, see “Undergraduate Degree Requirements” in Chapter 2.

Preparation for the Major

Required: English 3, 4, 10A, 10B, 10C taken in the stated sequence (each course is a prerequisite for the next course).

Extra-Departmental Requirement in Foreign Literature or Foreign Language: All English majors must have completed either (1) level five or equivalent in any one foreign language or (2) level three or the equivalent of one foreign language and two additional courses in foreign language or foreign literature, including foreign literature in translation (see course listings later in this chapter). Italian 46 may not be applied. The courses may be taken on a P/NP grading basis.
The Major

Required: Twelve upper division English courses, including 141A or 141B, 142A, 142B, 143, at least one course from each of the 150 and 180 series, and six additional courses of which four must be selected from 140A, 140B, 142C, or 150 through M197.

You are encouraged to choose additional electives from courses 140A through M197. English 140A is especially recommended if you plan graduate work in literature. You may wish to select several courses in the relevant classical and postclassical foreign literatures and think.

Special Programs

The department offers special programs in American studies, creative writing, and general literature, and one 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.

American Studies — This program consists of nine upper division courses in English and six related upper division courses taken in other departments. The nine English courses must include 178; one course from M102 through M107A or 109; two courses from 142A, 142B, 143; three courses from the 170 series, with at least one course from 170, 171, or 172; and no more than one course from 176 or 177; and one course pertaining to American studies selected from 187, 188, or 189, taken preferably in the senior year. Of the six upper division courses in other departments, four must be in a selected discipline (history, political science, sociology, etc.). One of the four courses must deal with the methodology of the discipline, while the other three must explicitly treat American culture. The courses must be selected in consultation with the English departmental counselor.

General Literature — This program consists of nine upper division courses in English or American literature and six upper division courses in foreign literatures (at least one of which must be taught in the original language). The nine English courses must include 141A, 141B, or 143; 142A and 142B; at least one course from the 150 series; and four electives selected from courses 140A through M197 (students intending graduate work in literature are especially encouraged to take English 140A). A listing of acceptable courses may be obtained from the department.

Creative Writing — This program consists of English 142A and 142B and a minimum of 10 additional upper division English courses: three creative writing courses from the 133A through 134C series, taken in a single genre (poetry or short story); three literature courses paralleling the creative writing specialization, and four electives selected from courses 140A through M197. You may declare this program as a concentration only after you have completed three creative writing workshops in a single genre. If you are planning to select this program, you are encouraged to take course 20; for further details, contact the departmental counselor.

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, you must satisfy all requirements listed under "Preparation for the Major"; you may fulfill the departmental foreign language requirement with your own native language. The following 12 courses are required for the program itself: English as a Second Language 103, 106, 109; two courses from English 100 through 199; 122, 142A, 142B; and four additional courses from those numbered 140A through M197. If you complete this program and wish to pursue graduate study, you should consult the departmental counselor about programs of study and requirements for admission.

National Teachers Examination

On request the department will provide a letter asking for a waiver of the National Teachers Examination (NTE) to qualified graduating English majors. To qualify, you must complete either English 120A and 130A (elementary school) and at least one American literature course selected from 170 through 174, or English 120B and 130B (secondary school) and at least one American literature course selected from 170 through 174, as part of or in addition to the major. If you are interested in elementary school education, you are strongly urged to participate in the Diversified Liberal Arts Program (DLAP), administered by the College Counseling Service, A316 Murphy Hall. You are also encouraged to select additional courses in language, children's literature, literature for adolescents, American literature, and literature for minorities as some of your electives. The NTE is only one requirement in obtaining an instructional credential. For additional information on courses leading to the credential, consult the Graduate School of Education and Information Studies at (310) 825-8328.

Honors Program

Admission — The honors program is open to English majors with a 3.5 departmental and a 3.25 overall grade-point average. If you have a lower GPA, you may petition for admission to the program; these grade-point averages must be achieved before graduation in order to qualify for honors. You should apply by Spring Quarter of your junior year. For application forms and further information, contact the departmental counselor.

Requirements — All honors students are required to take English 140A during the junior year and one seminar from the English 180 through 189 sequence, preferably before the senior year. In Fall Quarter of your senior year, you must take course 199HA. During Winter and Spring Quarters, you take courses 199HB and 199HC, in which you write a thesis under the direction of a faculty member. The thesis determines whether you receive high honors, honors, or no honors.

Bachelor of Arts in English/Greek

See Classics

Bachelor of Arts in English/Latin

See Classics

M.A. and Ph.D. Degrees

All students admitted into the UCLA English graduate program with a B.A. must enter the M.A. course of study, which also serves as the first phase of the doctoral program. The M.A. degree may be obtained either by passing the first qualifying examination (which also grants admission into the second phase of the doctoral program) or by writing a thesis. Students admitted with a master's degree may waive some course requirements but must pass the first qualifying examination.

Admission

Admission to the program is based on a thorough review of the student's academic record. Ordinarily, students holding the B.A. are expected to meet these minimum requirements: an undergraduate major or program that provides preparation for advanced study of literature; a grade-point average in all English courses and in the junior and senior years of at least 3.5; and a recent (within the last five years) score on the Graduate Record Examination (GRE) of 650 on both the verbal section of the General Test and the Literature in English Subject Test or a combined score of 1,300. Applicants holding the M.A. are expected to have a grade-point average of at least 3.7 in all graduate courses and a correspondingly higher score on the Literature in English Subject Test. A minimum of three letters of recommendation attesting to your ability to succeed in graduate study and a writing sample are also required. Care should be taken with the statement of purpose and the writing sample, since the quality of thought and argument they exhibit, as well as their style, weigh significantly in admissions decisions. For a descriptive brochure, write to the Graduate Assistant, Department of English, 2225 Rolfe Hall, UCLA, Los Angeles, CA 90024-1530.

If you elect the M.A. thesis option, you may, on completion of that course of study, petition to enter the doctoral program provided you have maintained a grade-point average of at least 3.7 in your graduate studies and are recommended by your thesis committee. Such peti-
tions are not automatically approved and should be accompanied by appropriate sup-
or materials.

**Foreign Language Requirement**

If you are pursuing only the M.A. degree, you may fulfill the language requirement by demonstra-
ting reading knowledge of any foreign language. This requirement should be satis-
fied at the beginning of your first term in resi-
dence, but in any event no later than the mid-
point of the term in which you complete all degree requirements.

If you are pursuing the Ph.D., you are expected to have reading knowledge of two foreign lan-
guages or to demonstrate superior proficiency in a single language (which must have prior
approval of the vice chair of graduate studies). The departmentally approved languages are
French, German, Italian, Spanish, Latin, and Greek, but other languages may be substitut-
ed by petition on the basis of a special re-
search interest.

**Course Requirements**

Nine letter-graded English courses from the
200 series are required for the M.A. If you enter
the program with an M.A. in English, some of
your prior coursework may be accepted by pet-
tion. An additional five letter-graded courses
are required for the Ph.D.

**Teaching Experience**

Although teaching experience is not required,
most students in the Ph.D. program have the
opportunity to serve as teaching assistants af-
ter passing English 495A and being in the pro-
gram for at least one year. Teaching assistant-
ships are awarded on the basis of merit.

**Qualifying Examinations**

The doctoral program is divided into three
stages, the first two of which culminate in the
first and second qualifying examinations.

**First Stage**

First Qualifying Examination Option — If you
are pursuing the Ph.D. degree, you take the
first qualifying examination sometime early in
your third year in the program. The examina-
tion consists of two substantial essays, which
may be seminar papers, and a two-hour oral
test in three historical periods or in two histori-
cal periods and one genre. The graduate fac-
ulty decides in each case whether to grant an
M.A. and whether you will be admitted to the
second stage of the Ph.D. program. Further
details on breadth and philology requirements
are available from the department.

Terminal M.A. Thesis — Students electing to
take a terminal M.A. must request a thesis
committee (three faculty members) from the
graduate counselor at least two terms before
completing the program. The committee then
meets with you to consider your thesis propos-
al. Your thesis should not be less than 40 nor
more than 60 pages in length.

**Second Stage**

In this stage of the program, you are encour-
aged to take as many seminars as possible
(any graduate seminar may be repeated for
credit), as well as suitable courses in other
departments. When sufficiently well prepared and
after satisfying the second language re-
quirement, you take the second qualifying ex-
amination.

Second Qualifying Examination — The Uni-
versity Oral Qualifying Examination, at least
two hours in length, deals with your prospec-
tus, a substantially researched paper which
has been approved by the committee chair and
distributed to the doctoral committee at least
two weeks before the scheduled examination.
The committee must certify that the prospec-
tus has been approved. If you fail the examina-
tion, you may, at the discretion of the committee,
repeat it once only.

**Third Stage/Candidate in Philosophy**

Once you have passed the second qualifying
examination, you may advance to candidacy
and, on application, receive the Candidate in
Philosophy (C.Phil.) degree. You may then proceed with the writing of the dissertation.

**Final Oral Examination**

A final oral defense of the dissertation is op-
tional with the doctoral committee but is usual-
ly not required.

**Lower Division Courses**

A. Introduction to University Discourse (No cred-
It). See listing under "English Composition."

2. Approaches to University Writing. See listing
under "English Composition."

3. English Composition, Rhetoric, and Language.
See listing under "English Composition."

3H. English Composition, Rhetoric, and Lan-
guage (Honors). See listing under "English Com-
sition." 

4. Critical Reading and Writing (Enforced require-
te). course 3. Preparation: satisfaction of Subject A
requirement. Introduction to literary analysis, with
close reading and carefully written exposition of
selections from one or more of the principal modes of
literature: poetry, prose fiction, and drama. Minimum of
six pages (three to five pages each).

4H. Critical Reading and Writing (Honors). Discus-
sion, three hours. Enforced requisite: course 3. Prepa-
ration: satisfaction of Subject A requirement. Intro-
duction to literary analysis, with close reading and
carefully written exposition of selection from one or
more of the principal modes of literature: poetry, prose
fiction, and drama. Minimum of six pages (three to five pages each).

10A. English Literature to 1660. Enforced requi-
ts: courses 3, 4, 10A, Preparation: satisfaction of Sub-
ject A requirement. Study of selected works of the
period, beginning with selections from Old English
poetry and including writings by Chaucer, Spenser,
Spenser, Shakespeare, Donne, and Milton. Minimum of three
pages (three to five pages each) or equivalent.

10B. English Literature, 1660-1833. Enforced requi-
ts: courses 3, 4, 10A, Preparation: satisfaction of Sub-
ject A requirement. Study of selected works of the
period, including writings by Dryden, Pope, Swift,
Wordsworth, and Keats. Minimum of three papers
(three to five pages each) or equivalent.

Mr. Batten, Mr. Burwick, Mr. Novak

10C. English Literature, 1832 to the Present. En-
forced requisites: courses 3, 4, 10A, 10B, Prepare-
ation: satisfaction of Subject A requirement. Study of
selected works of the period, including writings by
Tennyson, Arnold, Browning, Yeats, Joyce, and Eliot.
Minimum of three papers (three to five pages each)
or equivalent.

Mr. Aguirre, Mr. Berst, Mr. Koh

20. Introduction to Creative Writing. Enforced re-
quisite: course 3. Preparation: satisfaction of Subject A
requirement, submission of creative or expository
writing for possible use as a screen play. Designed to
introduce fundamentals of creative writing. Empha-
sis either on poetry, fiction, or drama, depending on
wishes of instructor(s) during any given term. Read-
ings from assigned texts and weekly writing assign-
ments required.

70. Major British Authors before 1800. Preparation,
satisfaction of Subject A 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, Mil-
ton, Swift, Pope, Johnson, and Fielding.

75. Major British Authors, 1800 to the Present.
Preparation: satisfaction of Subject A requirement.
Not open for credit to English majors or students with
credit for course 10B or 10C. Study of selected mas-
terpieces of English literature from 1800 to the present,
including works of such writers as Words-
worth, Coleridge, Keats, Tennyson, Dickens, Brown-
ing, Yeats, Joyce, and Eliot.

Mr. Berst, Mr. Hutter, Mr. Koh

80. Major American Authors, Preparation: satisfac-
tion of Subject A requirement. Not open for credit to
English majors or students with credit for any courses in
the 170 series. Introduction to the chief American au-
thors, with emphasis on poetry, narrative prose, and
short fiction of such writers as Poe, Dickinson, Emerson,
Twain, Frost, and Hemingway.

Ms. Galardi, Mr. Goodwin, Mr. Worthan

85. The American Novel. Preparation: satisfaction of
Subject A requirement. Not open for credit to English
majors or students with credit for course 171, 172, or
174. Development, with emphasis on form, of the
American novel from its beginning to the present day.
Includes works of such novelists as Hawthorne,
James, Fitzgerald, and Faulkner.

Mr. Allemendinger, Ms. Saldivar-Hull

88A-88Z. Lower Division Seminars: Special Top-
ics in English. Seminar, three hours. Limited to 15
students. Content varies; see departmental counsel-
or for information: 88A-88Z. Enforced requisite: 88B.
Introduction to British Literature: 88C. 17th-Century Litera-
ture; 88D. 18th-Century Literature; 88E. Romantic Litera-
ture; 88F. Victorian Literature; 88G. 20th-Century British Literature; 88H. Conte-
tial American Literature; 88I. 19th-Century American Literature; 88J. 20th-Century American Literature;
88K. History of English Language; 88L. Folklore and Mythology; 88M. Literature and Society;
88N. Introduction to English Anatomy. Limited to
freshmen. Historical sources of English word roots
and affixes; linguistic rules governing phonetic and
prosodic changes in native and borrowed vocabulary;
and ways in which English words have changed their
meaning through time.

Ms. Minkova

88L. Poetics of Myth. Limited to freshmen. Explora-
tion of categories of myth/mythology as they have
been formulated, applied, and expanded in both
Western and non-Western literary traditions, from
time of ancient Sumer to our own time.

Mr. Nagy

88M. When Myth Systems Collide: 20th-Century Lit-
erature and Culture Confront Traditional Myths. Lim-
lited to freshmen. Exploration of how 20th-century lit-
erature and culture challenge traditional ways of
viewing life. Four oral presentations and a 10-page
paper required.

Mr. Batten
90. Shakespeare. Preparation: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 142A or 142B. Survey of Shakespeare's plays, including comedies, tragedies, and histories, selected to represent Shakespeare's breadth, artistic progress, and total dramatic achievement.

Mr. Little, Mr. Rodes, Ms. Rowe, Mr. Watson

95A. Introduction to Poetry. Preparation: satisfaction of Subject A requirement. Recommended for instructional credential candidates. Study of critical issues (metrics, diction, figurative language, symbolism, irony and ambiguity, form and structure) and aesthetic issues (including literary criteria, followed by close critical analysis of a selection of representative poems. P/NP or letter grading.

Mr. Grose, Mr. Sheats, Mr. Thorisve

95B. Introduction to Drama. Preparation: satisfaction of Subject A 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, setting, narrative voice, and dramatic methods of evaluation. P/NP or letter grading.

Mr. Berst, Mr. Rodes

95C. Introduction to Fiction. Preparation: satisfaction of Subject A requirement. Introduction to prose narrative, dramatic short and long narratives and of critical issues such as plot, characterization, setting, narrative voice, and nonrealistic forms. P/NP or letter grading.

Mr. Anderson

96. The Short Story in England and America. Preparation: satisfaction of Subject A requirement. History and description of the short story as a genre, from the 19th century to the present. P/NP or letter grading.

Mr. Anderson

97H. Honors Seminar for Freshmen and Sophomores. (Formerly numbered 197H.) Seminar, three hours. Enforced requisites: courses 3, 4. 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.

Mr. Batten

Upper Division Courses

100. Introduction to Special Topics and Genres. Prerequisite: satisfaction of Subject A requirement. Study of a particular topic, genre, or subgenre in literature such as satirical literature, American literature, women's literature, and specialized classification of literature. May be repeated for credit. P/NP or letter grading.

Mr. Anderson, Mr. Tennyson

100W. Intensive Writing. See listing under "English Composition."

100WH. Intensive Writing (Honors). See listing under "English Composition." 

101. Gay and Lesbian Literature. Prerequisite: satisfaction of Subject A requirement. Introduction to particular period, genre, or subgenre in literature such as gay and lesbian literature. May be repeated for credit. P/NP or letter grading.

Mr. Anderson, Mr. Tennyson

105A. Asian American Literature. (Same as American Studies 105A.) Prerequisite: satisfaction of Subject A requirement. Study of literature by and about Asian Americans. Myths and legends as well as oral and written forms. May be repeated for credit. P/NP or letter grading.

Ms. Cheung, Ms. Smith

106. Native American Literary Studies. Prerequisite: satisfaction of Subject A requirement. Study of Native American cultural oral cultures translated through documentation, oral poetry, fiction, poetry, and folklore. P/NP or letter grading.

Mr. Paredes, Ms. Saldivar-Hull

105B. American Women Writers. (Same as Women's Studies M105.) Prerequisite: satisfaction of Subject A requirement. Study 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 works by women. P/NP or letter grading.

Ms. Banta, Ms. Rowe

107A. British Women Writers. (Same as Women's Studies M107A.) Prerequisite: satisfaction of Subject A requirement. 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 works by British women. P/NP or letter grading.

Ms. Lewis, Ms. Melior

107C. Special Topics in Women's Literature. (Same as Women's Studies M107C.) Prerequisite: satisfaction of Subject A requirement. Variable specialized studies in women's literature, with emphasis on period, genre, particular theme, or nonwestern world. May be repeated for credit. P/NP or letter grading.

Ms. Allen, Ms. Cheung, Ms. Smith

108A-108B. The English Bible as Literature. Prerequisite: satisfaction of Subject A requirement. Study of the Bible in English literature. May be repeated for credit. P/NP or letter grading.

Mr. Aguirre, Mr. Batten, Mr. Post

108C. The English Bible as Literature: Special Topics. Prerequisite: satisfaction of Subject A requirement. Study of particular literary themes, motifs, 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.

Mr. Aguirre

109. Interdisciplinary Approaches to Literature. Prerequisite: satisfaction of Subject A requirement. Study of British or American literature in relation to other disciplines such as history, politics, philosophy, psychology. May be repeated for credit. P/NP or letter grading.

Mr. Brescik, Mr. Manigus

110. Students in Individual Authors. Prerequisite: satisfaction of Subject A requirement. Specialized study of the work of a single poet, dramatist, prose writer, or novelist. May be repeated for credit.

110A. The Literature of Myth and Oral Tradition. (Same as Folklore M110.) Prerequisite: satisfaction of Subject A requirement. Study of myth, dramatic origins, oral epic, folklore, and ballad, emphasizing Indo-European and Semitic examples.

Mr. Cortesino, Mr. Nagy

111B. Anglo-American Folk Song. (Same as Ethnomusicology M124 and Folklore CM106.) Survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values.

Mr. Porter

111C. British Folklore and Mythology. (Same as Folklore M121.) Prerequisite: satisfaction of Subject A requirement. Study of British folklore, with emphasis on folklore of the peoples of Britain, with attention to their history, function, and regional differences.

Mr. Nagy, Mr. Porter

111D. Celtic Mythology. (Same as Folklore M122.) Lecture, three hours; discussion, one hour. Survey of early material, characteristic literature, for study of mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales.

Mr. Nagy

111E. Survey of Medieval Celtic Literature. (Same as Folklore M112.) Prerequisite: satisfaction of Subject A requirement. Knowledge of Irish or Welsh not required. General course dealing with Celtic literature from earliest times to the 14th century.

Mr. Burwick, Mr. Nagy

111F. Celtic Folklore. (Same as Folklore M127.) Prerequisite: Folklore 101 or consent of instructor. Folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloric research.

Mr. Nagy

111G. Old Traditions in Africa. (Same as Folklore M155.) Prerequisite: upper division survey. Survey of African folk traditions: folktales, epic, heroic poems, and folk tales.

Mr. Cortesino

112. Children's Literature. Prerequisite: satisfaction of Subject A requirement. Study of historical backgrounds and development of types of children's literature, folklore, and oral tradition, levels of interest, criticism, illustration, and bibliography.

Mr. Abbott

113. Literature for Adolescents and Young Adults. Prerequisite: satisfaction of Subject A requirement. Analysis and evaluation of literature intended mainly for students in junior and senior high schools. Review of mature books that are popularly suggested for this age group; study of interests and reading habits of young adults.

Mr. Cosentino, Mr. See

115A. American Popular Literature. Prerequisite: satisfaction of Subject A requirement. Analysis of current American popular and cultural taste as reflected in such genres as dime novels, detective fiction, and Western stories.

Mr. Nagy, Mr. Paredes

115B. British Popular Literature. Prerequisite: satisfaction of Subject A requirement. Readings in the literature of British folk songs, broadsides to contemporary films, comparisons with social functions of literature.

Mr. Nagy

116. Science Fiction. Prerequisite: satisfaction of Subject A requirement. Study of science fiction and speculative literature.
117. Detective Fiction. Prerequisite: satisfaction of Subject A requirement. Study of British and American detective fiction and the literature of deter-
Mr. Hutter
118. Film and Literature. Prerequisite: satisfaction of Subject A requirement. Study of the multidisciplinary relationship between film and literature, including theme and structure, and focusing on criticism and adap-
Mr. Goodwin
119. Literature of California and the American West. Prerequisite: satisfaction of Subject A requirement. Study of literature in English dealing with explo-
Mr. Allmendinger, Mr. Wortham
120A. Language Study for Teachers: Elementary School. See listing under "English Composition."
120B. Language Study for Teachers of English: Secondary School. See listing under "English Composition."
120C. Language Study for Teachers of Subjects Other Than English: Secondary School. See listing under "English Composition."
121. History of the English Language. Prerequisite: satisfaction of Subject A requirement. Study directed toward English majors of main features in grammatical, lexical, and phonetic condition of the English lan-
Mr. Condren, Ms. Minkova
122. Introduction to Structure of Present-Day English. Prerequisite: satisfaction of Subject A requirement. Introduction to techniques of linguistic description as applied to pronunciation, grammar, and vocabulary, including the study of the principles of English phonology, syntax, and semantics. Ms. Minkova
129H. Intermediate Exposition. See listing under "English Composition."
129H. Intermediate Exposition (Honors). See listing under "English Composition."
130A. Composition for Teachers: Elementary School. See listing under "English Composition."
130B. Composition for Teachers: Secondary School. See listing under "English Composition."
131A-131J. Advanced Exposition. See listing under "English Composition."
132. Composition and Society. See listing under "English Composition."
133A-133B. Creative Writing: Poetry. Prerequi-
133A-133B. Creative Writing: Short Story. Prerequi-
134A-134B-134C. Creative Writing: Poetry, Prose, Po-
134A-134B-134C. Creative Writing: Drama. Prerequi-
135A-135B-135C. Creative Writing: Stage, Radio, and TV. Prerequi-
136A-136B-136C. Practical Writing and Editing. See listing under "English Composition."
137. Advanced Computer Techniques for Stud-
140A. Criticism: History and Theory. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, and Program in Computing and 1 or consent of instruc-
140A. Criticism: Special Topics. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of some major historical docu-
141A. Chaucer: The Canterbury Tales. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Introductory study of Chaucer's language, versification, and historical and literary background, including analysis and discussion of his long major poem, The Canterbury Tales. Satisfies de-
141B. Chaucer: Troilus and Criseyde and Selected Minor Works. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Intensive study of Troilus and Criseyde and selected major works of Chaucer, such as The Book of the Duchess, The House of Fame, The Parliament of Fowls, etc. Satisfies department's Chaucer requirement.
141B. Chaucer: Troilus and Criseyde and Selected Minor Works. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Introductory study of Chaucer's language, versification, and historical and literary background, including analysis and discussion of his long major poem, The Canterbury Tales. Satisfies de-
142A. Shakespeare: Poems and Early Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Intensive study of selected poems and dramatic comedies, histori-
142B. Shakespeare: Later Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Intensive study of representa-
142C. Shakespeare: Selected Topics. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Designed for stu-
142D. Shakespeare: Later Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Intensive study of representa-
143. Milton. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Study of major works of Milton, with emphasis on Paradise Lost and the individual concept of the word and thought, as well as the effect of Milton's writing on Elizabethan literature. Ms. McLaughlin, Mr. Rodes
145. Milton. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 10D, 10E. Study of major works of Milton, with emphasis on Paradise Lost and the individual concept of the word and thought, as well as the effect of Milton's writing on Elizabethan literature. Ms. McLaughlin, Mr. Rodes
150. Later Medieval Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Reading and historical explication of major works of the 14th and 15th centuries (e.g., the Ga-
Mr. Condren, Mr. Kipling, Mr. Kolb
151. Elizabethan Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of English literature of the 16th century, with special emphasis on development and interrelations of poetry, prose, fiction, and literary theory and criticism. Cannot be taken with 141B. Mr. Kipling, Ms. McEachern, Mr. Watson
152A. Drama from the Beginning to 1576. Prerequisites: courses 3, 4, 10A, 10B, 10C. English drama from its Latin and Anglo-Norman roots to opening of first public playhouse. P/NP or second-year standing. Mr. Kipling, Mr. Kolve
152B. Drama, 1576-1642. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Non-Shakespearean English drama from opening of Shakespeare's theaters to closing of the theaters. P/NP or letter grading. Mr. Braumuller, Mr. Little
153. Literature of the Early 17th Century, 1600-
154. Literature of the Restoration and Earlier 18th Century, 1660-1730. Prerequisite: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of major works as literary documents and as products of the Restoration and earlier 18th-century thought. Mr. Lewis, Mr. Novak
155. Literature of the Later 18th Century, 1730-
156. Drama, 1640-1842. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Survey of English drama from the Restoration to the Licensing Act. Mr. Batten, Mr. Novak, Mr. Rodes
157. The Novel to 1832. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Survey of works of major English novelists from Defoe through Scott.
Mr. Batten, Mr. Lehan, Mr. Pousseau
158. Earlier Romantic Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Intensive study of writings of Blake, Woll-
Mr. Burwick, Mr. Maniquis, Mr. Sheats
161. Later Romantic Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Intensive study of writings by Byron, Keats,
Mr. Burwick, Mr. Maniquis
162. Earlier Victorian Poetry and Prose. Prerequi-
163. Earlier Victorian Poetry and Prose. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of poetry and prose of the Victorian age from passage of the first Reform Bill through the high Victorian period, including such au-
Mr. Bedient, Mr. Kolb, Mr. North
164. The Novel, 1832-1900. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Survey of major English novelists from Dickens through Hardy.
Mr. Bedient, Mr. Hutter
165. 20th Century British Poetry. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Survey of major British poets, including Yeats, Eliot, Auden, and Hughes, from 1900 to the present.
Mr. Bedient, Mr. Kolb, Mr. North
180. Specialized Studies in Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of major British novelists and short story writers, including Conrad, Joyce, Woolf, and Lawrence, from 1900 to the present.
Mr. Kolb, Mr. Lincoln, Mr. Pecora

187. Drama, 1842-1945. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C (for theatre and film and television majors, courses 10A, 10B, 10C prerequisites are waived). Survey of British and American drama, with its principal continental influences, from 1842 through World War II.
Mr. Miller, Mr. Goodwin

188. Drama, 1945 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of British and American drama, with its principal continental influences, since World War II.
Mr. Berst, Mr. Braunmuller, Mr. Goodwin

170. American Literature to 1800. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Historical survey of American literature through the Colonial and early national periods.
Mr. Colacurcio, Ms. Packer, Ms. Rowe

171. American Literature, 1801-1865. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Historical survey of American literature, including fiction, from beginning of the 19th century to end of the Civil War.
Mr. Colacurcio, Mr. Bedient, Mr. Yenser

172. American Literature, 1866-1912. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Development of American poetry from 1812 through World War II, including works of Frost, Eliot, Pound, Williams, and Stevens.
Mr. Bedient, Mr. Yenser

Mr. Bedient, Mr. Yenser

Mr. Goodwin, Mr. Lehman, Mr. Yarborough

175. American Poetry, 1945 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of contemporary American poetry.
Mr. Yenser

176. American Fiction, 1945 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Study of contemporary novel and short story.
Mr. Smith

178. Perspectives in Study of American Culture. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Interdisciplinary study of American culture in its relationships to other disciplines, including art, architecture, film, history, music, politics, and various social sciences, with emphasis on application of literary methodology to historical survey of American culture.
Mr. Goodwin, Mr. Paredes

Courses 180 through 189 are designed to permit a small number of students (normally 15) to engage in concentrated study in an area in which they have a particular interest and in which they have taken adequate upper division background courses. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Consult Schedule of Classes for area, period, genre, or subject to be studied in a specific term. For further details, see the departmental counselor. Courses may be repeated for credit.

180. Specialized Studies in Literature.

181. Specialized Studies in Renaissance Literature.


183. Specialized Studies in 18th-Century Literature.


188. Specialized Studies in 19th-Century American Literature.


190. Literature and Society. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Intensive study of some aspect of relationship between literature and social, economic, or political history. May be repeated for credit.
Ms. Smith, Mr. Yarborough

197F. Rhetoric in Modern American Culture. See listing under "English Composition."

199. Special Studies in English (2 to 4 units). Prerequisite: consent of instructor. Intensive directed research project. To enroll or obtain information, see departmental counselor.

199HA. Honors Seminar. Prerequisite: course 140A. Introduction to research techniques and study of various approaches and applications of critical methodology as it relates to interpretation and evaluation of texts.
Ms. Banta, Mr. Wortham

199HB-199HC. Honors Tutorial. Prerequisites: course 199HA, consent of instructor. Tutorial in which students write theses under direction of a faculty member. In Progress grading.

199I. Independent Studies for Internships (2 to 4 units). Prerequisite: consent of instructor. Study of major British novelists and short story writers, including Conrad, Joyce, Woolf, and Lawrence, from 1900 to the present.
Mr. Kolb, Mr. Lincoln, Mr. Pecora

199M197. Topics in Afro-American Literature. (Same as Africana Studies M197.) Variable specialized studies course in Afro-American literature. Topics include the Harlem Renaissance, Afro-American Literature in the Nadir, 1900-1914, Contemporary Afro-American Fiction. May be repeated for credit.
Ms. Smith, Mr. Yarborough

201A. History of Literary Criticism. Study of major documents in Western literary theory from Plato through T.S. Eliot.
Mr. Lehman, Mr. Goodwin

201B. Modern Literary Criticism. Study of developments and trends in 20th-century literary criticism.
Mr. Pecora

202. Enumerative and Descriptive Bibliography. Problems in bibliography, texts, and editions, with practical application in compiling bibliographies, editing texts, and approaching literature through textual criticism.

203. Computers and Literary Research. 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. 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.

M205. Perspectives in American Folklore Research. (Same as Folklore CM205.) Lecture, three hours. Prerequisite: Folklore 101 or consent of instructor. Examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis on major conceptual schemes and research orientations employed in study of folklore in American society.

210. History of the English Language. Detailed study of history, characteristics, and changing forms of the language from its origin until about 1900.
Ms. Minkova

211. Old English. Study of Old English grammar, lexicography, phonology, and pronunciation to enable students to read the literature silently and aloud. Reading and analysis of changes in the language in relation to intellectual, political, and social characteristics of the period.
Ms. Minkova

212. Middle English. Prerequisite: course 211. Detailed study of linguistic aspects of Middle English and representative examples of the better prose and poetry.
Ms. Minkova

213. Early Modern English. Detailed study of phonology, morphology, syntax, and vocabulary of English between 1450 and 1750. Description and analysis of changes in the language in relation to intellectual, political, and social characteristics of the period.
Ms. Minkova

214. Modern English. Description and analysis of modern English phonology, grammar, and vocabulary, with special emphasis on areas of contemporary linguistics. Survey of the evolution of American English and account of characteristic phonological and grammatical features of major regional varieties of English around the world.
Ms. Minkova

Mr. Nagy


218. Celtic Linguistics. Prerequisite: consent of instructor. 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 units). Prerequisite: course 140A. Consent of instructor. (following 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 or any of the five courses required for second qualifying examination.

Mr. Yenser

Ms. Mertenson

238. Colloquium (2 to 4 units). Special topics from various fields in lecture, proseminar, or seminar format. S/U grading.

Seminar courses (240 to the end of the 200 series) are open to all graduate students with adequate preparation and may be repeated for credit. Students must preenroll with the graduate counselor. Continuing students must sign up for seminars before the end of the preceding term. A prospectus announcing topics for all seminars is available in the department office in early summer for the ensuing academic year.

240. Studies in History of the English Language. 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.
Ms. Minkova
M241. Studies in Structure of the English Language. Prerequisite: consent of instructor. Topics in various aspects of structure of modern English, especially syntax and semantics. Ms. Minkova

M242. Language and Literature. 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. Mr. Grose

M243A. The Ballad. (Same as Folklore M243A.) Prerequisite: consent of instructor. Study of English and Scottish popular ballads and their American derivatives, with some attention to European analogues. Ms. Allen, Mr. Braumuller, Mr. Watson

M243B. Problems in Ballad Scholarship. (Same as Folklore M243B.) Prerequisite: course M243A or consent of instructor. Intensive investigation of a problem or problems in study of the popular ballad.

M244. Old and Medieval English Literature. Studies in poetry and prose of Old and medieval English literature; limits of investigation set by individual instructor. Mr. Kelly, Mr. Kolve

M245. Chaucer. Mr. Kelly, Mr. Kolve

M246. Renaissance Literature. Studies in poetry and prose of Renaissance English literature, exclusive of Shakespeare; limits of investigation set by individual instructor. Mr. Gallagher, Mr. Kipling, Ms. Shuger

M247. Shakespeare. Mr. Allen, Mr. Braumuller, Mr. Watson


M249. Milton. Studies in poetry and prose of John Milton; limits of investigation set by individual instructor. Mr. Grose, Mr. Post

M250. Restoration and 18th-Century Literature. Studies in English poetry and prose, 1660 to 1800; limits of investigation set by individual instructor. Mr. Novak

M251. Romantic Writers. Mr. Burwick, Ms. Mellor, Ms. Sheats

M252. Victorian Literature. Studies in English poetry and prose, 1800 to 1900; limits of investigation set by individual instructor. Mr. Koli, Mr. Tennyson

M253. Contemporary British Literature. Mr. Bedient, Mr. North

M254. American Literature to 1900. Studies in Colonial and 19th-century American literature; limits of investigation set by individual instructor. Ms. Banta, Mr. Colacurcio, Ms. Packer

M255. Contemporary American Literature. Studies in contemporary American poetry and prose; limits of investigation set by individual instructor. Ms. Hayles, Mr. Lehan, Mr. Yenser

M256. Studies in the Drama. Studies in drama as a genre from its beginning to the present; limits of investigation set by individual instructor. Mr. Belst, Mr. Braumuller

M257. Studies in Poetry. Studies in various themes and forms of poetry from Old English to the present; limits of investigation set by individual instructor. Mr. Belst, Mr. Yenser

M258. Studies in the Novel. Studies in evolution of the genre from its beginning to the present; limits of investigation set by individual instructor. Mr. Lehan, Mr. Novak

M259. Interdisciplinary Studies in the 17th and 18th Centuries. (Same as History M298.) Topics vary according to participating faculty. Mr. Brewer, Mr. Novak

M260. Topics in Asian American Literature. (Same as Asian American Studies M260A.) Lecture, three hours. Seminar that examines and critically evaluates writings of Asian Americans.

M260A. Topics in Asian American Literature. (Same as Asian American Studies M260A.) Lecture, three hours. Seminar that examines and critically evaluates writings of Asian Americans. Ms. Cheung

M262. Studies in Afro-American Literature. (Same as Afro-American Studies M262.) Prerequisite: consent of instructor. Intensive research and study of major themes, issues, and writers in African-American literature. Discussions and research on aesthetic, cultural, and social backgrounds of Afro-American writing. May be repeated for credit. Ms. Smith, Mr. Yarborough

M263. Celtic Literature. Lecture, three hours. Prerequisite: course M243A or consent of instructor. Studies in poetry and prose of ancient and modern Celtic languages. Studies in poetry and prose of early and modern Celtic literatures, chiefly Irish and Welsh; limits of investigation set by individual instructor. Mr. Nagy

M264. Studies in Rhetoric. Discussion, three hours. Special topics in classical and modern rhetoric, including substantial practice in rhetorical analysis of literary texts.

M265. Seminar: Literary Data Processing. Prerequisites: courses 200, 203. Subjects alternate between (1) team writing of a large program to solve or help solve a research problem proposed by a faculty member (who usually joins in supervising the seminar) and (2) composition and interpretation of literary statistics (with cooperation of a member of Statistical/Biomathematical Consulting Clinic.).

M266. Cultural World Views of Native America. (Same as American Indian Studies M266.) 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 methodologies approaches taken from literary analysis, structural anthropology, folklore, linguistics, and ethnomusicology.

Ms. Allen, Mr. Lincoln, Mr. Sarris

M270A-270B. English for the Two-Year College. Prerequisite: course 120B or 275. Discussion and practice of essential college instruction in reading and composition. In Progress grading.

M272. Current Issues in Teaching English. Focus on one of a variety of topics of special current interest. Mr. Novak

M275. Styletistics and the Teaching of English. Strongly recommended for teaching assistants. Introduction to study of language and style and its application to teaching English, including rhetoric, linguistics, and grammar.

M298. Interdisciplinary Studies in the 17th and 18th Centuries. (Same as History M298.) Topics vary according to participating faculty.

M300. Teaching English. See listing under "English Composition." Mr. Belst, Mr. Yenser

M301. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a faculty member responsible for production and instruction in the University. May not be substituted for any departmental enrollment requirements. May be repeated for credit. S/U grading.

M305A-305B. Supervised Teacher Preparation (2 to 4 units each). See listing under "English Composition." Mr. Belst, Mr. Yenser

M305C. Supervised Teacher Preparation (2 units). See listing under "English Composition."
Upper Division Courses

104W. Intensive Writing. Prerequisite: satisfaction of Subject A and English Composition requirements. Students must concurrently enroll in a course offered in conjunction with English 100W (consult Schedule of Classes for courses so designated). Writing assignments use materials from adjacent course and develop analytical reading and writing skills needed for work in its discipline.

104WH. Intensive Writing (Honors). Prerequisite: satisfaction of Subject A and English Composition requirements. Students must concurrently enroll in an honors course offered in conjunction with English 100WH (consult Schedule of Classes for courses so designated). Writing assignments use materials from adjacent course and develop analytical reading and writing skills needed for work in its discipline.

120A. Language Study for Teachers: Elementary School. Prerequisite: satisfaction of Subject A and English Composition requirements. Survey of topics in English linguistics of special interest to elementary school teachers. Subjects include approaches to 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.

120B. Language Study for Teachers of English: Secondary School. Prerequisite: satisfaction of Subject A and English Composition requirements. Review of terminology of English grammar and survey of development of modern grammars, with special attention to transformational-generative grammar. Introduction to basic concepts in sociolinguistics, dialectology, and stylistics, especially as applied to analysis and evaluation of writing assigned in secondary school.

120C. Language Study for Teachers of Subjects Other Than English: Secondary School. Prerequisite: satisfaction of Subject A and English Composition requirements. Introduction for teachers of subjects other than English to basic concepts in language acquisition, dialectology, sociolinguistics, and composition.

128W. Intermediate Exposition. Prerequisites: satisfaction of Subject A and English Composition requirements, sophomore standing. Intermediate course in academic writing suitable for both lower and upper division students. Teaches students how to write longer papers built on more complex, demanding texts. Readings include at least two books dealing with issues central to humanities, social sciences, or life sciences. Writing assignments include a research project appropriate to students' majors.

129H. Intermediate Exposition (Honors). Prerequisites: satisfaction of Subject A and English Composition requirements, sophomore standing. Honors course parallel to course 129.

130A. Composition for Teachers: Elementary School. Prerequisite: satisfaction of Subject A and English Composition requirements. Preparation for future elementary school teachers of English composition in writing and criticism of the kinds of prose discourse usually taught in primary schools. P/NP or letter grading.


Lower Division Courses

A. Introduction to University Discourse (No credit). Lecture, five hours. Preparation: appropriate score on Subject A Examination. English A displaces four units on student's Study List but yields no credit toward a degree. First course in reading university-level texts and framing written responses that employ a range of rhetorical strategies from paraphrase to analysis. Emphasis on revision, developing syntactic variety and academic vocabulary, and editing for grammar and style. Completion of this course with a grade of C or better or demonstration of minimum competence on Subject A Examination is requisite to English 2.

2. Approaches to University Writing. Prerequisite: English A (C or better) or appropriate score on Subject A Examination. Second course in university-level discourse, with analysis and critique of university-level texts. Emphasis on revision for argumentative coherence and effective style. Completion of this course with a grade of C or better meets Subject A requirement.

3. English Composition, Rhetoric, and Language. Lecture, three hours. Preparation: satisfaction of Subject A requirement by examination or by completion of course 2 (C or better). Rhetorical techniques and skillful argument. Analysis of varieties of academic prose and writing of a minimum of five formal papers (three to five pages each). Completion of this course with a grade of C or better satisfies English Composition requirement.

3H. English Composition, Rhetoric, and Language (Honors). Lecture, three hours. Preparation: satisfaction of Subject A requirement. Rhetorical techniques and skillful argument. Analysis of varieties of academic prose and writing of a minimum of five formal papers (three to five pages each).

Environmental Science and Engineering (Interdepartmental)

This interdisciplinary graduate program, which leads to the Doctor of Environmental Science and Engineering (D.Env.) degree, provides scientific training in the enlightened management of the environment through a broad range of environmental disciplines. For details on this
Folklore and Mythology
(Interdepartmental)

1041 Anderson Graduate School of Management, (310) 825-3962

Professors
Shirley L. Arora, Ph.D. (Spanish and Portuguese)
Marianna D. Bimbaum, Ph.D., in Residence
(Germanic Languages)
Jesse L. Byock, Ph.D. (Germanic Languages)
Marga Costino-Jones, Ph.D. (Italian)
Jacqueline C. Djoko, Ph.D. (Ethnomusicology and Systematic Musicology)
Elese Dunin, M.A. (Dance)
Nazir A. Jairazbhoy, Ph.D. (Ethnomusicology and Systematic Musicology)
Michael O. Jones, Ph.D. (History)
James R. Massengale, Ph.D. (Scandinavian Languages)
Herbert E. Pietschow, Ph.D. (East Asian Languages and Cultures)
James W. Porter, M.A. (Ethnomusicology and Systematic Musicology)
Jaan Puhvel, Ph.D. (Classics)

Professors Emeriti
Kees W. Bolle, Ph.D. (History)
Patrick K. Ford, Ph.D. (English)
Robert A. Georges, Ph.D. (English)
Vladimir Markov, Ph.D. (Slavic Languages and Literatures)
Philip L. Newman, Ph.D. (Anthropology)
Douglas H. Price-Williams, Ph.D. (Anthropology)
Allegre Fuller Snyder, M.A. (Dance)
Donald J. Ward, Ph.D. (Germanic Languages)
Johannes Wilbert, Ph.D. (Anthropology; Distinguished Teaching Award)

Associate Professors
Donald J. Cosentino, Ph.D. (English), Chair
Steven Lattimore, Ph.D. (Classics)
Joseph F. Nagy, Ph.D. (English)
Beverly J. Robinson, Ph.D. (Theater)

Assistant Professor
Colin Quigley, Ph.D. (Dance)

Scope and Objectives
The interdisciplinary Folklore and Mythology Program, which leads to the Master of Arts and Ph.D. degrees, provides coordinated study of the traditional lifestyles of specific societies and culture areas, on the one hand, and systematic training in the research methods and investigative techniques of cross-cultural study, on the other. Courses focus on the nature, history, and functions of such traditional forms as narrative, music, art, dance, religion, festival, and speech and consider the part they play in human development and cultural existence. The program examines the ways in which human traditions both reflect and contribute to continuity and consistency in thought and life.

Trained folklorists pursue careers in teaching, research, governmental agencies, museum work and administration, performing groups and arts management, social work, the medical and legal professions, and business. Their responsibilities include documenting cultural and ethnic traditions, introducing traditional artists and their works to interested audiences, describing transformations of traditional processes and forms, and preserving on tape and film the customs and mores of social groups and individuals.

Although no undergraduate degree program is offered in folklore and mythology, students majoring in world arts and cultures may select folklore and mythology as their area of concentration. A variety of undergraduate courses offered by departments or by faculty participating in the interdepartmental program is also available to all University students. Those with undergraduate preparation in folklore and mythology studies may continue their work on the graduate level. For planning coursework, you should consult departmental counselors and the chair of the committee which administers the interdepartmental program.

Master of Arts Degree
Admission
Two letters of recommendation from former instructors or other comparable references are required and should be sent to the Chair, Folklore and Mythology Program, 1041 AGSM, UCLA, Los Angeles, CA 90024-1459.

Foreign Language Requirement
Reading knowledge of French, German, or Spanish is required; other languages may be substituted by petition to the program faculty. You have the option of demonstrating proficiency either by
(1) Passing the fifth quarter or fourth semester course in the selected foreign language at a college or university with a grade of B or equivalent no more than five years before graduate enrollment OR
(2) Successfully completing the Graduate School Foreign Language Test (GSFNT) with a score of 550 or better OR
(3) Passing a reading examination administered and evaluated by members of the program faculty (or by outside faculty for languages not familiar to the program faculty).

Course Requirements
All degree candidates, whether electing the thesis or comprehensive examination plan (see below), must complete the following courses: Folklore and Mythology 200A and 200B (in sequence) and at least one course from each of the following groups:
Group 1 — One course in folk song, folk music, or folk dance (e.g., C206, M243B, M258, or M284).
Group 2 — One course in the folklore and mythology of a specific culture or culture area.
Group 3 — One course in folktale, legend, or myth (e.g., 215 or 216).
Group 4 — One additional form/genre-based graduate course in folklore and mythology studies (e.g., 213, M214, 217, 218, or C275).
Group 5 — One graduate seminar in an area of folklore and mythology (e.g., 228, M235, 259).

Only eight units of course 596 may be applied toward the minimum course requirements.

Thesis Plan
If you select this plan, you must complete a minimum of 10 courses (six in the 200 series; two 596 courses may be included) and submit an acceptable thesis. Prepared under the direction of a member of the program faculty. Submission of the thesis is followed by an oral examination covering the fields of folklore and mythology studies. You must complete all degree requirements in a maximum of six regular academic terms. The thesis committee is appointed no later than the term before you expect to complete the requirements.

Comprehensive Examination Plan
If you plan to pursue a Ph.D. degree in Folklore and Mythology, you must elect this plan and must complete a minimum of 10 courses (six in the 200 series; two 596 courses may be included). After completion of the coursework, you are expected to demonstrate competence in written and oral examinations (the latter only if requested by M.A. committee members or by you) requiring a grasp of (1) theoretical bases, major documents, and research methods and techniques of folklore and mythology studies, (2) two forms of folklore and mythology, and (3) the folklore and mythology of a specific country, continent, or geographical area. You must complete all degree requirements in a maximum of six regular academic terms.

Ph.D. Degree
Admission
Requirements for admission to the doctoral program include completing the requirements for the M.A. degree in Folklore and Mythology (or equivalent) and the written comprehensive examination. You are admitted to the doctoral program on the recommendation of the interdepartmental committee (you may secure provisional admission in order to complete the admission requirements).

Major Fields or Subdisciplines
You must develop competency in (1) a major field of folklore and mythology and (2) an area of concentration within a related discipline. These areas are selected with the approval of the guidance committee.

Foreign Language Requirement
Reading knowledge of two foreign languages approved by the guidance committee is required. You may demonstrate proficiency by any method appropriate to your needs.
of the three methods described above under "Foreign Language Requirement" for the master's degree.

The foreign language examinations must be completed before you attempt the qualifying examinations.

Course Requirements

Before attempting the qualifying examinations, you must complete a minimum of nine courses or seminars in the 200 series (or substitutes recommended by the guidance committee) in (1) folklore and mythology and (2) an area of concentration within a related discipline. At least five of the nine courses must be selected from Folklore and Mythology 200A through M268B, and at least two of the nine are to be folklore seminars (e.g., courses 228, M235, M258, 259, M270A, M270B). No more than two 596 courses may be applied toward the minimum graduate course requirement.

Qualifying Examinations

After the required preparation, you complete a written examination covering (1) your specialization in folklore and mythology and (2) your related area of concentration. The examination is administered by a committee appointed with approval of the interdepartmental committee.

The written examination is followed by the University Oral Qualifying Examination covering the same two areas listed above, which you must pass in order to be advanced to candidacy. The oral examination is administered by the doctoral committee, which also considers and approves your dissertation topic.

Final Oral Examination

An oral defense of the dissertation may be required, after determination by your doctoral committee, to complete the oral qualifying examination.

Lower Division Course

15. Introduction to American Folklore Studies. Lecture/discussion. Cultural/historical survey of role of folklore in development of American civilization and of influence of the American experience in shaping folklore in American society; attention also to representative areas of inquiry and analytical procedures.

Upper Division Courses

101. Introduction to Folklore. Survey of various forms of folklore and examination of their historical and social significance.

105. Perspectives in American Folklore Research. Lecture, three hours. Prerequisite: course 101 or consent of instructor. Examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis on principal conceptual schemes and research orientations employed in study of folklore in American society. Concurrently scheduled with course CM205.

CM106. Anglo-American Folk Song. (Same as English M111B and Ethnomusicology M124.) Survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. May be concurrently scheduled with course C206.

C107. Folklore in Urban Environments. Lecture, three hours. Prerequisites: course 15 or 101 and/or consent of instructor. Exploration of expressive and symbolic dimensions of complex urban life, focusing on how immigrants, migrants, residents, and workers shape their experiences through dynamic interplay of community, ethnicity, culture, and religion. Concurrently scheduled with course C207.


M111. Literature of Myth and Oral Tradition. (Same as English M111A.) Prerequisite: satisfaction of Subject A requirement. Study of myth, dramatic origins, oral epic, folklore, and ballad, emphasizing Indo-European and Semitic examples.

M112. Survey of Medieval Celtic Literature. (Same as English M111E.) Prerequisite: satisfaction of Subject A requirement. Study of the development of the oral tradition and its influence on early literature.

113. The Arthurian Tradition. Prerequisite: consent of instructor. Survey of traditions related to King Arthur from medieval to the present day. Course includes both oral traditions and written texts; attention also to modern versions of Arthurian material in other mediums (e.g., opera, film).

118. Folk Art, Folklore, and Material Culture. Prerequisite: junior standing. General course concerned with folk art, folklore, and the material culture and with theoretical concepts and methodologies utilized in their analysis.

M121. British Folklore and Mythology. (Same as English M111F.) Prerequisite: satisfaction of Subject A requirement, junior standing. Survey of folklore and mythologies of the peoples of Britain, with attention to their history, function, and regional differences.

M122. Celtic Mythology. (Same as English M111D.) Lecture, three hours; discussion, one hour. Survey of early myths, chiefly literary, for study of mythic traditions of the Celtic peoples, ranging from ancient Gaul to Ireland and Wales.

124. Finnish Folk Art and Technology. Material manifestations of Finnish folklore: village layout and architecture, folk technology, arts and crafts, textiles, costumes, and design.

126. Baltic and Slavic Folklore and Mythology. (Same as Slavic M111.) Lecture, three hours. General course for students interested in folklore and mythology and for those interested in Indo-European mythic antiques.

M127. Celtic Folklore. (Same as English M111F.) Prerequisite: course 101 or consent of instructor. Folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research.

M128. Hungarian Folklore and Mythology. (Same as Hungarian M111.) General course for students in folklore and mythology, with emphasis on types of folklore and varieties of folklore research.

M129. Folklore and Mythology of the Ugric Peoples. (Same as Hungarian M130.) Lecture, three hours. General course on traditions of the smaller Ugric nationalities (Voguls, Ostyaks, etc.).

130. North American Indian Folklore and Mythology Studies. Prerequisite: course 101 or consent of instructor. Examination of Indian folklore and mythological data recorded from various North American Indian peoples within contexts of principal ideological frameworks which have been evolved historically for analysis of such data.

131. Folklore of India. Prerequisite: course 101 or consent of instructor. Survey of folklore of India, with special reference to content and dissemination of oral epics, ballads, legends, and beliefs.

CM132. Celtic Folk Music. (Same as Ethnomusicology CM132.) Prerequisite: consent of instructor. Survey and analysis of indigenous traditional music in lands where a Celtic language is or was spoken into modern times. Inspiral genres, context and performance, social value and ideology. Concurrently scheduled with course CM232. P/NP or letter grading.

M140. From Boucicaut to Basile (in English). (Same as Italian M140.) Lecture, three hours. Study of origins and development of the Italian novella in its themes, structure, historical context, and European ramifications. Designed for students in other departments who wish to become acquainted with either the premises or growth of similar literary genres. Also intended for students majoring in folklore and mythology, who are given insight into Italian popular tales with special reference to content and dissemination of orally-derived material in highly sophisticated literary forms, as well as when (as in the case of Basile) they become embedded into the folk tradition of the Western world.

Mrs. Cosentino-Jones

M142. Introduction to Jewish Folklore. (Same as Jewish Studies M143.) Nature of Jewish folklore; narrative, folk song, folk art, folk religion, and methods and perspectives used in their analysis.

C145. Applied Folkloristics. Prerequisite: junior standing. The role of folklore in modern society. Applications of folklore to such studies as education, health, museums, organization development, tourism, environmental planning, and community development. Study of the role of folklore and folklife. Concurrently scheduled with course C245.

M149. Folk Literature of the Hispanic World. (Same as Spanish M149.) Lecture, three hours. Study of the nature and present dissemination of principal forms of folklore throughout the Hispanic countries.

Ms. Arora

M150. Russian Folk Literature. (Same as Russian M150.) Lecture, three hours. Lectures and readings in Russian.

M154A-M154B. The Afro-American Musical Heritage. (Same as Ethnomusicology M110A-M110B.) Lecture, three hours. Prerequisite: consent of instructor. Study of African music and its impact on the Americas; survey of development of various Afro-American musical genres from slave era to the present, including traditions in the West Indies and Central and South Americans.

Ms. DjeDe


Mr. Cosentino

163. Folklore and Oral History. Prerequisite: junior standing. Examination of relationships between folk tradition and oral history; how history may be derived from tradition; how traditions are embedded in historical sources; how the folk traditionize history to reflect their point of view.

C165. Film and Folklore. Prerequisite: junior standing. 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 C265.

M170. Russian Folklore. (Same as Russian M170.) Lecture, three hours. Lectures and readings in English. General introduction to Russian folklore, including survey of genres and related folkloric phenomena.

172. Folklore in Ethnic Context. Prerequisite: course 15 or 101 or consent of instructor. Role of folklore in ethnic relations; processes by which ethnic folklore is generated, transmitted, and maintained by immigrant groups and subsequent generations.
C175. Food Customs and Symbolism. Prerequisites: junior standing. Introduction to foodways, with particular attention to food and diet in America. Topics include sensory realm, child rearing practices, foodsharing, food and identity, food and its emotional significance, aversions and taboos, advertising, changing food habits, and the American diet. Concurrently scheduled with course C175.

Mr. Jones

M180. Analysis of Traditional Music. (Same as Ethnomusicology M180.) Prerequisite: consent of instructor. Intensive study of methods and techniques necessary to understand traditional music.

Mr. Porter

M181. Folk Music of Western Europe. (Same as Ethnomusicology M126.) Prerequisite: consent of instructor. Introduction to forms and styles of traditional music in Western Europe. Historical and ethnographical perspectives on this music combined with numerous recorded examples from major cultural subdivisions of the region.

Mr. Porter

M182. Japanese Folklore. (Same as Japanese M182.) Lecture, three hours. Knowledge of Japanese not required. Lectures/discussions on native religious rituals (festivals) and observances of the Japanese, with special emphasis on artistic behavior. Discussion of Shinto, Shinto/Buddhist syncretism, and other non-Buddhist beliefs and symbols.

Mr. Plutschow


CM184. Dance in European and Euro-American Cultures. (Formerly numbered CM184D.) (Same as Dance CM164.) Survey of social, ceremonial, and ritual European-based dances considered in terms of dance in society, its cultural significance, and historical background. Emphasis on various European and Euro-American regional and national dance traditions. Concurrently scheduled with course C230.

Mr. Quigley


190. Selected Topics in Folklore and Mythology Studies. Prerequisites: courses 15 or 101 or consent of instructor. Proseminar focusing on selected problems, data, or themes in folklore and mythology studies. May be repeated twice for credit.

199. Special Studies in Folklore (2 to 4 units). Prerequisites: senior standing, consent of instructor.

Graduate Courses

200A. Folklore Bibliography, Theory, and Research Methods. (Formerly numbered 200A.) Lecture, three hours; discussion, one hour. Prerequisite: graduate standing in folklore and mythology or consent of instructor. Basic course in theory, current trends, and bibliography for folklore graduate students, including research techniques in contemporary folkloristics.

200B. Folklore Collecting and Field Research. (Formerly numbered 200C.) Lecture, three hours; discussion, one hour. Prerequisite: graduate standing in folklore and mythology or consent of instructor. Coursework in Celtic studies. Preparation for advanced study of and research in important areas of Irish oral tradition and folklore/mythology scholarship. Possible topics include pagan Celtic British/Ireland, comparative Celtic traditions of Europe and other cultures, folklore and literature of the Irish and Scottish Ossianic tradition of ballads (laideach/duain) and prose tales; "fairy" beliefs, collecting and archiving methods of the Irish Folklore Commission; folklore studies and nationalism.

Ms. Nagy

M230A-M230B. Folk Tradition in Italian Literature. (Same as Italian M230A-M230B.) Lecture, two hours. Prerequisite: course C232. First course in the study of folk traditions in Italian literature through the ages. Emphasis on oral literary forms and the way in which they have been used by various authors in Italy.

Mr. Porter

C205. Perspectives in American Folklore Research. (Same as English M205.) Lecture, three hours. Prerequisite: course 101 or consent of instructor. Examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis on principal conceptual schemes and research orientations employed in study of folklore in American society. Concurrently scheduled with course C105.

Mr. Jones

C206. Anglo-American Folk Song. Survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical form. May be concurrently scheduled with course CM106.

Mr. Porter

C207. Folklore in Urban Environments. Lecture, three hours. Prerequisites: course 200A and/or consent of instructor. Exploration of expressive and symbolic dimensions of complex urban life, focusing on how immigrants, migrants, residents, and workers shape their experiences through dynamic interplay of community, ethnicity, culture, and religion.

Mr. Cosentino

208. Afro-American Folklore and Culture. Prerequisite: graduate standing. Theoritical and methodological constructs which have contributed to the body of black cultural expression in the U.S.

Mr. Robinson

213. Folk Belief and Custom. Prerequisites: course 101 and one course from 118, M121, M122, 124, M126, M128, M149, M150, Anthropology 156, German 134, 240A, 240B, 240C. Study of beliefs and customs in the folk community: life cycle, calendrical and agricultural customs, and legal antiquities.

Mr. Cosentino

M214. Ethnography of Humor. (Same as Anthropology M233.) Lecture, three hours. Prerequisite: graduate standing. Historical survey of folklore scholarship in the study of humor within cultural units, with emphasis on major psychological and sociocultural influences on the element of humor in the folkloric tradition.

M215. Popular Legend. Prerequisite: course 200A or consent of instructor. Study of categories of legendry and their relation to myth, custom, ritual, popular beliefs, and ballads.

Mr. Jones

217. Folk Speech. Lecture, three hours. Study of ethnography of communication and its relevance to study of social and regional dialects, proverbs, riddles, sayings, folklore, folk poetry and verse, and traditional humor.

218. Folk Art, Craft, and Aesthetics. Lecture, three hours. Prerequisite: course 200A. Examination of research orientations and findings in regard to what has been called folk art, craft, and aesthetics. Major perspectives and areas of inquiry from late 19th to mid-20th century to the present.

Mr. Jones

228. Seminar: Topics in Celtic Folklore and Mythology. Lecture, three hours. Prerequisites: course 200A. Advanced study of research in important areas of Irish oral tradition and folklore/mythology scholarship. Possible topics include pagan Celtic British/Ireland, comparative Celtic traditions of Europe and other cultures, folklore and literature of the Irish and Scottish Ossianic tradition of ballads (laideach/duain) and prose tales; "fairy" beliefs, collecting and archiving methods of the Irish Folklore Commission; folklore studies and nationalism.

Ms. Nagy

M232C. Celtic Folk Music. (Same as Ethnomusicology CM232.) Prerequisite: consent of instructor. Survey and analysis of traditional music in countries where a Celtic language is spoken, and how it has been spoken into modern times. Instrumental and vocal genres, context and performance, social value and ideology. Concurrently scheduled with course C132. S/U or letter grading.

Mr. Porter

M235. African Myth and Ritual. (Same as English M235.) Prerequisite: consent of instructor. Seminar on one of the African and African Diaspora myth and ritual. Concurrently scheduled with course C243.

Mr. Cosentino

240. Introduction to Jewish Folk Literature. Prerequisites: upper division standing and consent of instructor, or graduate standing. Examination of both historic and generic methods used in study of Jewish folklore literature.

Mr. Jones

M241. Folklore and Mythology of the Near East. (Same as Near Eastern Languages M241.) Prerequisite: course 101 or equivalent.

M243A. The Ballad. (Same as English M243A.) Prerequisite: consent of instructor. Study of English and Scottish popular ballads and their American derivatives, with some attention to European analogues.

M243B. Problems in Ballad Scholarship. (Same as English M243B.) Prerequisite: course M243A or consent of instructor. Intensive investigation of a problem or problems in study of the popular ballad.

M245. Applied Folkloristics. Prerequisite: graduate standing. Introduction to methods and issues in application of folklore studies to various socialized research orientations and findings in regard to what has been called folk art, craft, and aesthetics. Major perspectives and areas of inquiry from late 19th to mid-20th century to the present.

Mr. Nagy

248. Theory and Method in Latin American Folk Studies. Historical survey of folklore scholars in Latin America, with emphasis on theoretical bases, methods, and techniques employed in study and analysis of traditional tales, songs, music, linguistic expression.

M249. Folk Literature of the Spanish and Portuguese Worlds. (Same as Portuguese M249 and Spanish M249.) Lecture, three hours. Intensive study of folklore literature of the Spanish and Portuguese cultures as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech.

Ms. Aron

251. Seminar: Finno-Ugric Folklore and Mythology. Advanced studies in folk traditions and mythologies of the Finno-Ugric speaking nations.

M261. South American Folklore and Mythology Studies. (Same as Anthropology M261.) Prerequisite: Anthropology 174P or consent of instructor. Examination of oral traditions and related ethnological data from various South American Indian societys organized around the background of the religious systems of these people.

M258. Seminar: Folk Music. (Same as Ethnomusicology M258.) Seminar, three hours. Prerequisite: consent of instructor. Not open to students with credit for former course M258.

M259. Seminar: Folklore. Prerequisite: course 200A or consent of instructor. Seminar focusing on selected topics in folklore and mythology. May be repeated for credit.

M260. Organizational Folklore, Culture, and Symbolism. Prerequisite: graduate standing. Folklore as organizational settings (stories, rituals, rites, metaphors, etc.) and role of folklore in organization development. Use of folklore as diagnosis, and intervention to improve individual performance, climate, and leadership.

Mr. Jones

M261. Alternative Perspectives in Italian Culture: Studies of Folk Tradition in Italian Literature. (Same as Italian M261.) Lecture, two hours; outside study, 18 hours. Open to undergraduates and graduate students. Prerequisite: consent of instructor. The conspicuous diversity animating Italian society articulated through, class, gender, and ethnic groups to be studied across a range of topics. Some selected from the literary canon, but others purely oral (tales, songs, proverbs, curses and curses, secular and ritual drama).

C265. Film and Folklore. Prerequisite: graduate standing. Seminar on how films have influenced folkloric and folklore methodology. Topics include specific 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 C165.

Mr. Jones
Concurrently scheduled with course C175.

Practicals, foodsharing, food and identity, food and its America. Topics include sensory realm, child rearing practices, foodsharing, food and identity, food and its emotional significance, aversions and taboos, advertising, changing food habits, and the American diet. Concurrently scheduled with course C175.

Mr. Jones

CM284. Dance in European and Euro-American Cultures. (Formerly numbered CM284D.) (Same as Dance CM284.) Survey of social, ceremonial, and ritual European-based dance; consideration of role of dance in society, its cultural significance, and historical background. Emphasis on various European and Euro-American regional and national dance traditions. Concurrently scheduled with course CM184.

Mr. Quigley

N286A-N286B. Studies in Hispanic Folk Literature. (Same as Spanish M286A-M286B.) Lecture, two hours. Ms. Arora

373. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel as a teaching assistant, fellow, or fellow teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

Mr. Cosentino, Mr. Jones, Mr. Nagy

400A-400B-400C. Directed Professional Activities. Prerequisite: consent of program chair. Directed individual projects in professional editing, bibliography, pedagogy, ethnography, liturgy, and other professional activities. May not be applied toward M.A. course requirements. May be repeated for credit. S/U grading.

405. Teaching Folklore and Mythology, Lecture, three hours. Prerequisite: course 200A. Analysis and design of alternative organizational schemes, teaching aids and techniques, and evaluation methods for folklore and mythology courses at the college level, with opportunities for observation and apprentice teaching. May not be applied toward M.A. or Ph.D. course requirements. S/U grading.

Mr. Jones

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate advisor and graduate dean, and host campus instructor, program chair, and graduate dean. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

556. Directed Studies in Folklore (2 to 6 units).

577A. Preparation for M.A. Comprehensive Examination (2 to 4 units). Prerequisites: graduate standing in folklore and mythology, consent of instructor. S/U grading.

577B. Preparation for Ph.D. Qualifying Examinations (4 to 6 units). Prerequisites: successful completion of M.A. comprehensive examination, consent of instructor. S/U grading.

588. M.A. Thesis Preparation (2 to 4 units).


Related Courses in Other Departments

Anthropology 118A, 118B. Museum Studies

133H. Aesthetic Systems

156. Comparative Religion

200P. Ethnology

220Q. Myth and Ritual

233Q. Aesthetic Anthropology

237. Cultures of the Middle East

274. Cultures of the Pacific Islands

Art History M102A. Minoan Art and Archaeology

M102B. Mycenaean Art and Architecture

C117A. Pre-Columbian Art of Mexico

C117B. Pre-Columbian Art of the Maya

C117C. Pre-Columbian Art of the Andes

118A. Arts of Oceania

118C. Arts of Sub-Saharan Africa

118D. Arts of Native North America

C119A. Advanced Studies in African Art: Western Africa

C119B. Advanced Studies in African Art: Central Africa

203. Museum Studies

220. Oceanic, Pre-Columbian, African, and Native North American Art

Classics 161. Introduction to Classical Mythology

162. Classical Myth in Literature

166A. Greek Religion

166B. Roman Religion

168. Introduction to Comparative Mythology

266. Seminar: Comparative Mythology

Dance C180A-C180B. Studies in Dance Ethnography

181A. Dance Cultures of Asia

181B. Dance in Southeast Asia

181C. Dance in East Asia

181D. Dance in South Asia

182. Dance in Africa and the African Diaspora

183. Dance in Latin American Cultures

C187. Dance in Native American Cultures

280A-280B. Advanced Studies in Dance Ethnology

English 112. Children's Literature

Ethnomusicology and Systematic Musicology 20A-20B-20C. Musical Cultures of the World

106A-106B-106C. Music of the American Indians

120A-120B. Development of Jazz

128. Folk Music of Eastern Europe

130. Folk Music of the Mediterranean

136A-136B. Music of Africa

146. Folk Music of South Asia

147. Survey of Classical Music in India

156A-156B. Music of China

160A. Survey of Music in Japan

181. Anthropology of Music

C190A-C190B. Seminars: Ethnomusicology

207. Seminar: North American Indian Music

239. Seminar: African Music

241. Music of Iran and Other Non-Arabic-Speaking Communities

250A-250B. Music of Indonesia

281A-281B. Seminars: Field and Laboratory Methods in Ethnomusicology

282. Seminar: Analysis

283. Seminar: Study of Musical Instruments (Organology)

290. Seminar: Ethnomusicology

French 115A-115B-115C. Medieval French Literature

121A-121B. Medieval Literature

German (Germanic Languages) 134. German Folklore

240A. Theories, Methods, and History of Germanic Folklore

240B. Folk Song and Ballad

240C. Oral Prose Genres

245B. German Antiquities

262. Seminar: Germanic Folklore

History 193A. History of Religions: Myth

Italian 214D. Boccaccio's Decameron

Goldman

Music 158. New Orleans Jazz

Old Norse Studies (Germanic Languages) C139. The Saga

C140. Viking Civilization and Literature

151. Elementary Old Norse

152. Intermediate Old Norse

221. Advanced Old Norse Prose

222. Advanced Old Norse Poetry

Russian (Slavic Languages) 211A. Literature of Medieval Rus'

251. Topics in Literature of Medieval Rus'

291A. Seminar: Literature of Medieval Rus'

Sociology 156. Ethnic and Status Groups

186. Latin American Societies

187. Population and Society in the Middle East

Spanish (Spanish and Portuguese) 263B. Studies in Medieval Spanish Literature

Foreign Literature in Translation

The following courses offered in the departments of literature and literature do not require reading knowledge of any foreign language.

Afrikaans (Germanic Languages) 114. Afrikaans Literature in Translation

Ancient Near East (Near Eastern Languages) 150A-150B-150C. Survey of Ancient Near Eastern Literatures in English

Arabic (Near Eastern Languages) 150A-150B. Survey of Arabic Literature in English

Armenian (Near Eastern Languages) 150A-150B. Survey of Armenian Literature in English

Bulgarian (Slavic Languages) 154. Survey of Bulgarian Literature

Chinese (East Asian Languages) 150. Chinese Literature in Translation: Classical Literature

151. Chinese Literature in Translation: Modern Literature

Classics 40. Survey of Greek Literature in Translation

41. Survey of Latin Literature in Translation

140. Topics in History of Greek Literature

141. Topics in History of Latin Literature

142. Ancient Epic

143. Ancient Drama

144. Generic and Topical Studies in Ancient Literature

Czech (Slavic Languages) 155A-155B. Czech Literature

Dutch (Germanic Languages) 113. Modern Dutch and Flemish Literature in Translation

East Asian Languages and Cultures 161. Buddhist Literature in Translation

English 106A-106B. The English Bible as Literature

108C. The English Bible as Literature: Special Topics

French 162. Modern French Thought in Translation

163. Contemporary French Theater in Translation

164A-164B-164C. The French Novel in Translation

165. Topics in French Literature in Translation

German (Germanic Languages) 50A. Masterworks of German Literature in Translation: Medieval Period through Classicism

COLLEGE OF LETTERS AND SCIENCE / Foreign Literature in Translation / 197
French

2326 Murphy Hall, (310) 825-1145

Professors
Emily Apter, Ph.D., Patrick Coleman, Ph.D., Undergraduate Studies
Director
Eric Gans, Ph.D., Graduate Studies
Director
Peter Haddad, Ph.D., Stephen D. Werner, Ph.D., Marc Bensimon, Ph.D., Emeritus
Francis J. Crowley, Ph.D., Emeritus
Hassan el Nouty, Docteur es Lettres, Emeritus
Eric Gans, Ph.D., Emeritus
L. Gardner Miller, Docteur es Lettres, Emeritus
Malina Stefanovska, Ph.D.
Frances J. Crowley, Ph.D., Emeritus
Assistant Professors
Jean-Claude Carron, Docteur es Lettres, Chair
Shuhai Kao, Ph.D.
Sara Meizer, Ph.D.

Scope and Objectives
The UCLA French 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 studies, but also an opportunity to relate literary, linguistic, and cultural study to examination of the critical intellectual questions of our time.

The 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 upper division program is chiefly devoted to perfecting linguistic skills and to the study of French 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 literature and culture. All four plans lead to the Bachelor of Arts degree and subsequently to graduate studies in French.

The graduate program comprises training in the various fields of French literature and thought, as well as in literary criticism, analysis, and theory. A number of courses in linguistics and stylistics are also offered. The department offers both the M.A. and Ph.D. degrees.

Bachelor of Arts Degrees
Preparation for the Majors
Required: French 1, 2, 3, 4, 5, 6, or equivalent. You normally take course 6 before undertaking course 12. If you receive a grade of A in course 5, you may enroll in course 12 concurrently with course 6, with consent of instructor. Students in Plan D must also take Linguistics 20.

The Majors
Four plans are offered by the department: Plan A (General) leads to the Bachelor of Arts in French and subsequently to the standard elementary or secondary instructional credential. Required: Thirteen upper division courses, including French 101, 102; two courses from 114A, 114B, 114C; and three upper division courses in French culture and two in French literature; four additional elective courses normally 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.

Candidates for an instructional credential within Plan A must take 13 upper division French Department courses, including French 105, in order to qualify for a waiver of the National Teachers Examination for the single subject instructional credential in French.

Plan B (Literature) 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 five courses in French literature; three additional elective courses normally 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 C (French Studies), with emphasis on French 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, ...
womens studies, and linguistics. Required: Thirty
mainly upper division courses, including French
100, 101, 102; two courses from 114A, 114B, 
114C; at least two courses in French literature; 
one additional elective course normally se-
lected from upper division offerings in the de-
partment in language, civilization, literature, or 
the arts; five upper division elective courses in 
fields relevant to French studies to be selected 
in or outside the department in consultation 
with the undergraduate adviser.

Plan D (French and Linguistics) leads to the 
Bachelor of Arts in French and Linguistics. In 
addition to the normal preparation for the ma-
or, you are required to complete the sixth term 
of work in one other foreign language or the 
third term in each of two other foreign lan-
guages. Linguistics 20 is required as prepara-
tion for the major. Required: Twelve upper divi-
sion courses, including French 100, 101, 102; 
two courses from 114A, 114B, 114C; two 
courses from French 103, 105, 107, 108A, 
108B, 109; Linguistics 103, 110, 120A, 120B, 
and 165A or 165B.

It is strongly advised that students who intend 
to pursue advanced degrees begin prepara-
tion for the language requirements at the un-
dergraduate level.

If your knowledge of French exceeds the pre-
paration usually received in courses preparing 
for the major and if you demonstrate the requi-
site attainment in French 100, 101, or 102, you 
may substitute for those courses in grammar 
and composition an equivalent number of up-
per division courses in the French Department in 
consultation with an adviser. All prospective 
French majors who are native or quasi-native 
speakers of French must see the undergradu-
ate 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 Department. A maximum of 
eight units of course 199 may be applied to-
ward the elective requirements for the major if 
approved in advance by the undergraduate ad-
viser. You must maintain a C average in upper 
division major courses in order to remain in any 
of the French majors.

The foreign language requirement may be ful-
filled by (1) passing a course in grammar and 
composition an equivalent number of upper 
division courses in the French Department in 
consultation with an adviser. All prospective 
French majors who are native or quasi-native 
speakers of French must see the undergradu-
ate adviser before beginning upper division work in the major.

Women's studies, and linguistics. Required: Thir-
teen upper division courses, including French
100, 101, 102; two courses from 114A, 114B, 
114C; at least two courses in French literature; 
one additional elective course normally se-
lected from upper division offerings in the de-
partment in language, civilization, literature, or 
the arts; five upper division elective courses in 
fields relevant to French studies to be selected 
in or outside the department in consultation 
with the undergraduate adviser.

Plan D (French and Linguistics) leads to the 
Bachelor of Arts in French and Linguistics. In 
addition to the normal preparation for the ma-
or, you are required to complete the sixth term 
of work in one other foreign language or the 
third term in each of two other foreign lan-
guages. Linguistics 20 is required as prepara-
tion for the major. Required: Twelve upper divi-
sion courses, including French 100, 101, 102; 
two courses from 114A, 114B, 114C; two 
courses from French 103, 105, 107, 108A, 
108B, 109; Linguistics 103, 110, 120A, 120B, 
and 165A or 165B.

It is strongly advised that students who intend 
to pursue advanced degrees begin prepara-
tion for the language requirements at the un-
dergraduate level.

If your knowledge of French exceeds the pre-
paration usually received in courses preparing 
for the major and if you demonstrate the requi-
site attainment in French 100, 101, or 102, you 
may substitute for those courses in grammar 
and composition an equivalent number of up-
per division courses in the French Department in 
consultation with an adviser. All prospective 
French majors who are native or quasi-native 
speakers of French must see the undergradu-
ate 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 Department. A maximum of 
eight units of course 199 may be applied to-
ward the elective requirements for the major if 
approved in advance by the undergraduate ad-
viser. You 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 ad-
viser before enrolling in upper division cour-
se.

Honors Program

The department encourages those students in 
the French majors with initiative and indepen-
dence of mind who desire an enriched individ-
ualized 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 com-
position from an advanced language or litera-
ture course to the honors committee. If the 
work submitted meets with approval, you are 
admitted to the program.

To graduate with departmental honors, you 
must complete a minimum of two honors 
projects in the context of nonhonors upper divi-
sion courses (French 115A and above) taken 
for honors credit. You 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 com-
pleting the project, you fill out a completion 
form.

On the basis of your coursework and field of 
interest, you are expected to formulate a re-
search topic you wish to pursue in greater 
depth. You take course 170 where you receive 
regular personal supervision from a faculty 
member in the research, methodology, and 
writing of your approximately 20- to 25-page 
thesis (honors projects and the honors 
thesis are not to be confused). Course 170 
counts toward the requirements for the French 
majors as outlined above.

You may begin the honors program toward the 
end of your junior year or during your senior 
year. The honors projects and course 170 may 
be taken over two terms minimum. You are 
allowed to enroll in graduate courses with the 
consent of the instructor but cannot use those 
courses to replace an honors project. Depart-
mental honors will be recorded on your final 
transcript if you fulfill all requirements for the 
program. You may submit your final honors 
thesis for the departmental prize.

Instructional Credential in French

If you wish a single subject instructional cre-
dential in French, you must have the consent of the French Department in order to gain ad-
mission to student teaching. For the single 
subject credential, consent is contingent on a 
major (or equivalent) in French and the suc-
cessful completion of French 370. For addition-
al information, consult the Graduate School of 
education and Information Studies, 1009 
Moore Hall (310-825-8328), and/or the French 
Department.

Master of Arts Degree

Admission

The Graduate Record Examination (GRE) Gen-
eral Test, a sample of written work in French, 
and three letters of recommendation are required 
and should be sent to the Department of French, 
2326 Murphy Hall, UCLA, Los Angeles, CA 
90024-1550. You must hold a Bachelor of Arts 
in French or the equivalent.

Major Fields or Subdisciplines

For practical purposes and ease of identifica-
tion, the corpus of French literature is referred 
to in terms of three periods: (1) medieval and 
Renaissance, (2) classical (17th and 18th cen-
turies), and (3) modern (19th and 20th centu-ies, with francophone literature as an option).

Foreign Language Requirement

The foreign language requirement may be ful-
filled by (1) passing a course of at least level 
three in either German, Latin, Spanish, or Itali-
ian, (2) by passing the University reading 
examination in one of these languages, or (3) by 
passing the Graduate School Foreign Lan-
guage Test (GSFLT) with a score of 500 or 
better. In special cases, substitution of another 
foreign language is accepted if approved by the 
graduate adviser. You must complete the 
foreign language requirement before you sub-
mit your M.A. thesis (Plan I) or take the M.A. 
examination (Plan II). All candidates for the 
M.A. must be proficient in spoken French.

Plans of Study

The department offers two master's programs: 
Plan I (thesis plan) and Plan II (comprehensive examination plan).

Plans I and II Course Requirements — A to-
total of 11 courses in French is required, includ-
ing French 201 and 203 (should be taken as 
early as possible), at least two courses in each 
of the periods, and one additional course in the 
period not covered on the M.A. examination. 
For Plan I thesis candidates, this is the period 
of specialization which is not covered on the 
oral qualifying examination. At least eight 
of the courses must be at the graduate level. 
Four units of course 596 (or 598 for students in 
Plan I) may be substituted for one required pe-
riod course with approval of the graduate ad-
viser or thesis director.

Plan I (Thesis Plan) — You may apply to the 
chair of the department for admission into Plan 
I after completing at least six graduate courses 
(200 series), four of which must be literature 
courses in the French Department. The mini-
um admission requirements are a 3.5 gradu-
ate GPA in French and letters from two gradu-
ate professors in the department specifically 
recommending admission into this plan. A brief 
statement of your proposed thesis topic is also 
required.

Final admission into Plan I (i.e., permission to 
write the thesis) is contingent on passing a 
one-hour oral examination, administered by 
the departmental M.A. committee, in the two 
periods other than the proposed period of spe-
cialization (in which you will write the thesis). 
You normally take the examination during the 
fourth term (but no later than the sixth term) af-
after admission. Your thesis committee is ap-
pointed only after you have passed the exami-
nation. If you fail this examination, the examin-
ing committee determines whether you may be 
permitted another attempt or be advised to 
take the comprehensive examination (Plan II).

For the purpose of course requirements, the 
period of specialization for the thesis is consid-
ered the period not covered on the M.A. exam-
ination; course 596 may be applied as one of the 
three courses required in this period.
The thesis should demonstrate proficiency in the methods and concepts of literary research; a suitable length is normally about 50 pages. A tentative outline of the proposed thesis must be approved in writing by the thesis committee before work on the thesis is begun. Final approval of the thesis by the committee is also required.

Plan II (Comprehensive Examination Plan)
You must pass written examinations of four hours in length in each of the two periods prepared and a 30-minute oral examination in French covering the two periods of the written examination. The examinations are given in Fall and Spring Quarters and may be retaken once.

Three results are possible in either Plan I or II — fail, pass without admission to the doctoral program, or pass with admission to the doctoral program. The decision concerning admission to the doctoral program is made by the department on the basis of your M.A. examination or thesis results and overall appraisal of your record.

Students who either fail or pass without admission to the doctoral program are permitted to retake the examination or resubmit the thesis once, at a date no later than a year after the first attempt.

Ph.D. Degree
Admission
For UCLA applicants, completion of the master's degree in French with recommendation for admission to the doctoral program is required; outside applicants must hold an M.A. degree in French or equivalent and must submit three letters of recommendation, as well as the Graduate Record Examination (GRE) General Test and a sample of written work in French.

Admitted students holding the M.A. or an equivalent degree from another institution must take an oral examen de passage in two periods of literary history (to be selected in consultation with the graduate adviser) in order to be formally admitted to the doctoral program. This examination, administered by the M.A. committee, should be taken during your first year in residence. In case of failure it may be repeated once.

Major Fields or Subdisciplines
For practical purposes and ease of identification, the corpus of French literature is referred to in terms of three periods: (1) medieval and Renaissance, (2) classical (17th and 18th centuries), and (3) modern (19th and 20th centuries), with francophone literature as an option.

Foreign Language Requirement
Languages are divided into three groups: Latin; German and Russian; and other Romance languages. You must demonstrate proficiency in two languages at level five, with no more than one from any one group. The languages selected must be approved by your guidance committee. Language requirements may also be satisfied by passing the Graduate School Foreign Language Test (GSFLT) with level five corresponding to a score of 550. Substitution of another language, when warranted by the nature of your specialization, must be recommended by the guidance committee and approved by the graduate adviser. Language requirements are to be completed before taking the doctoral qualifying examinations.

Course Requirements
The following courses are required: (1) French 201 and 203, if not already covered at the M.A. level, (2) a minimum of three seminars taken after obtaining the M.A. (balance should be sought between theoretical and literary-historical relevance to your proposed period of specialization), (3) at least two graduate courses in other departments related to the area of specialization. In addition, you are expected to follow the guidance committee's suggestions in taking courses in preparation for the doctoral qualifying examinations.

Qualifying Examinations
Two written examinations of three hours each, based on individual reading lists of approximately 15 works each, are required as follows: (1) focused specifically on the historical area related to the proposed dissertation topic and (2) in areas of critical theory relevant to the proposed dissertation topic. The examinations must be taken within a period of one week; in no case may they be separated by a longer interval. The topics are determined by prior consultation with the doctoral guidance committee. At the discretion of the guidance committee, you may be permitted to resubmit failed written examination once.

After passing the written examinations, you are admitted to the University Oral Qualifying Examination which should be taken during the same term as the written qualifying examinations. You must submit a 20- to 30-page prospectus of your proposed dissertation, including an outline and a bibliography. This examination, normally of two hours duration, bears on the written examinations and on the proposed dissertation subject.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
This examination is not required by the department but may be imposed at the discretion of an individual doctoral committee.

Lower Division Courses
If you have taken French elsewhere, you must take a placement test administered by the department. Depending on the results of the placement test or with recommendation of an instructor, you may be permitted to enroll in a course of study at a more advanced level.

No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition.

1. Elementary French. Lecture, five hours.
2. Elementary French for Graduate Students (1 unit). Preparation for GSFLT or other language examinations. A passing grade does not imply satisfaction of language requirements. S/U grading.
3. Elementary French. Lecture, five hours. Enforced prerequisite: course 1 (C- or better).
4. Intermediate French. Lecture, five hours. Enforced prerequisite: course 3 (C- or better).
5. Intermediate French. Lecture, five hours. Enforced prerequisite: course 4 (C- or better).
7. French Conversation (2 units each). Discussion, three hours. Enforced prerequisite: course 6 (B or better).
8. Introduction to Study of French Literature. Lecture, two hours; discussion, one hour. Enforced prerequisite: course 5. Principles of literary analysis as applied to selected texts in poetry, theater, and prose.
9. Introduction to French Civilization. Lecture, three hours. Study of contemporary French institutions and issues in political, cultural, and socioeconomic realms. Structure of and recent development in French society.

Mr. Jansma is in charge.

Upper Division Courses
Prerequisites to all upper division courses taken in partial fulfillment of the French major are French 6, 12, or equivalent. Credit is ordinarily not allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition. Courses 105 through 109 are not sequential and may be taken in any order, provided the prerequisites for each course are fulfilled.

100. Introduction to Written Expression. Lecture, three hours. Prerequisite: course 5 or equivalent. Development of writing techniques in French, with emphasis on revision of grammatical structures.
101. Intermediate Exposition. Lecture, three hours. Prerequisite: course 100 or equivalent. Development of narrative techniques in writing, with emphasis on editing for grammar and style.
102. Advanced Exposition. Lecture, three hours. Prerequisite: course 101 or equivalent. Development of analytic writing skills in French, with emphasis on rhetorical techniques and skillful argument.
103. Composition and Style. Lecture, three hours. Prerequisite: course 102 or equivalent. Designed to develop proficiency in composition and style, with concentration on three linguistic skills of reading, writing, and translating.

Ms. Dufresne is in charge.
105. Structure of French. Lecture, three hours. Prerequisite: course 15, consent of instructor. Prior background in linguistics not required. Introduction to linguistic analysis of French in areas of phonology, morphology, syntax, and language variation.

Ms. Janowska (W)

107. Advanced Oral Expression. Lecture, three hours. Prerequisite: course 100 or consent of instructor. Communicative and rhetorical strategies; techniques of oral exposition, argumentation, and analysis.

Ms. Dufresne (F,W,Sp)


108A. Prerequisite: course 103 with a grade of B or consent of instructor. Introduction to translation of advanced texts of general interest, with work in theory of translation.

Mr. Collaros in charge

108B. Prerequisite: course 108 or consent of instructor. Practice in translation of technical documents and texts; comparative stylistics of translation.

Mr. Collaros in charge

108C. Prerequisite: course 108B or consent of instructor. Advanced work in areas of general and specialized interest.

Mr. Collaros in charge

109. French Business: Its Language and Culture. Lecture, three hours. Prerequisite: course 10 or equivalent, or consent of instructor. Survey of language of economics and business in France as well as its specific practices and customs.

Mr. Collaros (Sp)

114A-114B-114C. Survey of French Literature. Lecture, three hours. Prerequisite: course 114 or consent of instructor. Survey of French literature from the medieval period through the 20th century.

Mr. Haidu

114A. Medieval and Renaissance Literature. Masterpieces of medieval and Renaissance literature, including examples of epics (La Chanson de Roland), romance (Chretien de Troyes' Yvain), and Renais-sance prose and poetry (including Marot, Du Bellay, Ronsard, Rabelais, Marguerite de Navarre, and Montaigne).

Mr. Haidu

114B. 17th and 18th Centuries. Study of selections from major works of classicism and the Enlightenment, including those by Racine, Pascal, La Fayette, La Fontaine, La Tour, Voltaire, and Rousseau.

Mr. Collaros in charge

114C. 19th and 20th Centuries. Study of major literary movements and writers of the period, including works by Hugo, Baudelaire, Balzac, Stendhal, Flaubert, Zola, Gide, Proust, Sartre, Robbe-Grillet, and others.

Mr. Collaros in charge

115A-115B-115C. Medieval French Literature. Lecture, three hours:

115A. Invention of Love in the 12th Century. Selections from the broad range of lyric poetry and narrative romance in which is first elaborated "romantic" or "courtly" love. Readings include works of the troubadours and trovères, different versions of the Tristan-myth, a romance of Chretien de Troyes, and first part of Romance of the Rose.

Mr. Haidu


Mr. Haidu

115C. Comic Structure and Social Class. Medieval comedy, to be studied in relation to class structures and their evolution in the Middle Ages; takes a number of historical forms. Often chievement in the fabliaux it can turn serious in the Roman de Renart, simultaneously satiric, fantastic, and religious in the bourgeois drama of Aisa, and utterly charming in the unclassifiable Quasim etตอน and the fabliaux of the 12th century.

Mr. Carron

116A-116B-116C. Renaissance. (Formerly numbered 116A-116B.) Lecture, three hours:

116A. La Péiède and 16th-Century Poetry. Study of the linguistic and poetic "revolution" brought about by Defonce and illustration (1549), including texts by Maeterlinck, Rabelais, Chretien de Troyes, and others.

Mr. Carron

116B. The Novel and Other Early 16th-Century Prose. Emphasis on Rabelais, with other texts by Marguerite de Navarre and Jean Calvin.

Mr. Carron

116C. Late French Humanism. Emphasis on Montaigne's Essais, with other texts from the Religious Wars period.

Mr. Carron

117A-117B-117C. 17th Century. (Formerly numbered 117A-117D.) Lecture, three hours:

117A. Theater. Study of French comedy and/or tragedy through representative works, including those by Corneille, Molière, and Racine.

Ms. Melzer, Ms. Stefanovska

117B. Prose. Study of 17th-century philosophers, moralists, and/or novelists such as Pascal, La Rochefoucauld, La Bruyère, La Fayette, and La Fontaine.

Ms. Melzer, Ms. Stefanovska

117C. Culture and Society. (Formerly numbered 117D.) Study of 17th-century political, social, religious, and courtly aspects, including libertine and salons milieux, la Fronde, and Versailles.

Ms. Melzer, Ms. Stefanovska

118A. Satire. Readings include Montesquieu's Lettres persanes, Diderot's Neveu de Rameau and Rêve d'Alembert, and Voltaire's Candide.

Mr. Coleman, Mr. Werner

118B. The Novel. Readings include Prévert's Manon Lescot, Diderot's La Religieuse and Jacques le fataliste, excerpts from Rousseau's Julie, and Laots' Les Liaisons dangereuses.

Mr. Coleman, Mr. Werner

118C. Theater. Readings include selected plays of Marivaux and Beaumarchais, as well as selections from theoretical writings of Diderot and Rousseau.

Mr. Coleman, Mr. Werner

119A. Romanticism. Readings of representative poets, novelists, and playwrights of the Romantic era such as Chateaubriand, Lamartine, Hugo, Victor Hugo, Balzac, and Stendhal.

Ms. Aptor, Mr. Gans

119B. Generation of 1848. Readings of representative writers of the 1840s and the Second Empire such as Baudelaire, Nerval, Balzac, Flaubert, and Mérimée. May also include the théâtre à thèse and Narro's novel.

Ms. Aptor, Mr. Gans

119C. Naturalism and Symbolism. Study of naturalism in the novel and drama as represented by Zola, Maupassant, and Becque, and of symbolism in the poetry of Baudelaire, Verlaine, Rimbaud, and Mallarmé. May also include the Symbolists.

Ms. Aptor, Mr. Gans

120B. The Turn of the Century. Study of genres and trends from 1885 through World War I, with emphasis on prose writers such as Huysmans, Laforgue, Barrès, Anais-Fournier, Jarry, Roussel, France, and Maupassant.

Ms. Aptor, Mr. Gans

121A. Naturalism and Symbolism. Study of naturalism in the novel and drama as represented by Zola, Maupassant, and Becque, and of symbolism in the poetry of Baudelaire, Verlaine, Rimbaud, and Mallarmé. May also include the Symbolists.

Ms. Aptor, Mr. Gans


Mr. Coleman

125. Evolution of French Comedy. Lecture, three hours. Study of history and evolution of comedy from the Middle Ages to the theater of the absurd.

Ms. Melzer

130A-130B-130C. History of French Civilization and Institutions. Prerequisites: courses 5, 12.

130A. France from Prehistoric Times to the End of the Middle Ages. Lecture, three hours. Fourth hour may be required for viewing films and other laboratory activities.

130B. From the Renaissance to the End of the Ancien Régime. Lecture, three hours. Fourth hour may be required for viewing films and other laboratory activities.

130C. From the End of the Ancien Régime to 1918. Lecture, three hours. Fourth hour may be required for viewing films and other laboratory activities.

132. Contemporary France. Lecture, three hours. Social-cultural, and political institutions and/or movements in 20th-century France.

140. Women's Studies in French Literature. (Formerly numbered 158.) Lecture, three hours. Exploration of a selected aspect of the situation of women in French literature as author, character, symbol, etc.

141. Cinema and Literature in France. (Formerly numbered 138.) Lecture, three hours (additional hours may be required for viewing films and other laboratory activities). Study of interaction between cinema and literature in its generic, thematic, and sociocultural aspects.

142. Poetry and Music. Lecture, three hours. Interdisciplinary study of relation between music and literature, with emphasis on the setting of poetic texts to music from the troubadours to modern times.

M143. Rhétoric of Rule. (Same as Communication Studies M117.) Lecture, three hours. Exploration of how and why power is symbolically constructed by comparing Louis XIV's and President Clinton's attempts to manipulate their image in the "media" of their respective cultures.

Ms. Melzer

Courses 150 through 156 may be repeated once for credit with consent of major adviser.

150. Studies in Medieval Literature.


156. Studies in Contemporary Literature of French Expression.

157. Studies in French Critical Theory and Philosophy. Lecture, three hours. Prerequisite: consent of instructor. Advanced study of major concepts in contemporary French thought, with attention to its influence on French literature and culture, and its application to literary and nonliterary texts.

158. Studies in History of Ideas. (Formerly numbered 160.) Lecture, three hours. Specific themes which address a particular problem of French literature, civilization, or ideas. May be repeated for credit with consent of major adviser.

The following courses may not be taken for graduate credit but may be taken as the equivalent of out-of-department electives by undergraduate majors.

162. Modern French Thought in Translation. (Formerly numbered 143.) Lecture, three hours. Reading and discussion of contemporary works in translation.

163. Contemporary French Theater in Translation. (Formerly numbered 142.) Lecture, three hours; discussion, one hour.
Graduate Courses

201. Literary Research and Composition. Lecture, three hours. Introduction to graduate-level literary research, including writing scholarly papers, compilation and presentation of bibliography, and practical work in computer use of data bank.

202. Historical and Philosophical Background to French Literary Criticism. (Formerly numbered 203A.) Lecture, three hours.

203. Contemporary Theories. (Formerly numbered 203B.) Lecture, three hours. Introductory study of representative texts from the works of major modern theoreticians, which may include works by Althusser, Barthes, Derrida, Foucault, Genette,Greimas, Kristeva, and Lacan.

205. Techniques of Literary Analysis. (Formerly numbered 202D.) Lecture, three hours. Practice in close analysis of literary texts, including explication de texte.

210A. Phonology and Morphology from Vulgar Latin to French Classicism. (Formerly numbered 204A.) Lecture, three hours. Evolution of the French language. Required of candidates for Ph.D. in Romance Linguistics and Literature who specialize in philology.

210B. Syntax and Semantics from Vulgar Latin to French Classicism. (Formerly numbered 204B.) Lecture, three hours. Evolution of the French language. Required of candidates for Ph.D. in Romance Linguistics and Literature who specialize in philology.

214. Problems of Medieval Language and Literature. Lecture, three hours. Prerequisite to courses 215A through 215D and 250A through 250C. Introduction to French and the problems of medieval literature. Mr. Haidu


216A-216C. Renaissance. (Formerly numbered 216A-216E.) Lecture, three hours:

216A. Early Renaissance French Literature. Selected readings of works from first half of the 16th century, including those by Marot, Rabelais, Marguerite de Navarre, and Scève. Mr. Carron 216B. Poetic "Revolutions" of 1549. Readings of works by Ronsard and Du Bellay, with selections from other writers of the 1550s. Mr. Carron 216C. Late Renaissance Literature. Selected readings of works by major writers of the period from 1560 to 1600, including d'Aubigné, Sponde, Chassaigne, and Montaigne. Mr. Carron 217A-217D. 17th Century. Lecture, three hours:

217A. Theater. Analysis of representative comedies and/or tragedies, including those by Corneille, Mollière, and Racine. Ms. Melzer, Ms. Stefanovska 217B. Prose. Readings of selected works by philosophers, moralists, and/or novelists, including Pascal, La Rochefoucault, La Bruyère, La Fayette, and La Fontaine. Ms. Melzer, Ms. Stefanovska 217C. Poetry. Selected readings of works by major poets, including Racan, Verlaine, Saint-Amand, Racine, La Fontaine, and Boileau. Ms. Melzer, Ms. Stefanovska 217D. Culture and Society. Study of political, social, religious, and courtly aspects, including libertine and salons milieus, la France, and Versailles. Ms. Melzer, Ms. Stefanovska

218A-218B-218C. 18th Century. Lecture, three hours:

218A. Topics in the Early Enlightenment. Selected readings from major works of the period from 1680 to 1717. Mr. Coleman, Mr. Werner 218B. Topics in the Enlightenment. Selected readings from major works of the period from 1748 to 1765. Mr. Coleman, Mr. Werner 218C. Topics in the Late Enlightenment. Selected readings from major works of the period from 1766 to 1791. Mr. Coleman, Mr. Werner 219A-219D. 19th Century. Lecture, three hours:


220A-220D. 20th Century. Lecture, three hours:


221A-221B-221C. French-African Literature. Lecture, three hours:


222. Quebec Literature. Lecture, three hours. Study of selected poems, novels, and plays in their cultural context.

224. Introduction to African Antthropology. (Formerly numbered 224.) Lecture, three hours. Prerequisite: interest. Lecture, three hours. Discussion of principles of generative anthropology and their application to study of literary texts and related cultural phenomena. Mr. Gans

241. Introduction to Study of Narrative. Lecture, three hours. First survey of modern French methodology for critical analysis and interpretation of narrative, with examples from all periods of French literature. Mr. Haidu

250A. Major Medieval Texts. Seminar, three hours. Prerequisite: course 214. Intensive study of individual texts from multiple perspectives, such as La Chanson de Roland, a romance of Chretien de Troyes, Le Roman de la rose, or Francois Villon's Grand Testament. Mr. Haidu

250B. Structures of Medieval Literature. Seminar, three hours. Prerequisite: course 214. Advanced study of a variety of texts in terms of textual and historical structures.

250C. Problems in Medieval Literature. Seminar, three hours. Prerequisite: course 214. Exploratory study of a theoretical problem, such as subjectivity and representation in medieval literature, minor or nonclassified texts, individuality and convention, or opposition of religion and secularism. Mr. Haidu

251A-251B. Studies in the Renaissance. Mr. Carron

252A-252B. Studies in the Baroque. Mr. Carron, Ms. Melzer


254A-254B. Studies in the 18th Century. Mr. Coleman, Mr. Werner

255A-255B. Studies in the 19th Century. Ms. Apter, Mr. Gans

256A-256B. Studies in Contemporary Literature. Ms. Kao, Ms. Loselle

257A-257B. Studies in French-African Literature. Ms. Kao, Ms. Loselle

596. Directed Individual Studies or Research (2 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice participation under active guidance and supervision of a regular faculty member responsible for curricular and instruction at the University. May be repeated for credit. S/U grading.

495. Teaching French at College Level. Lecture, three hours; discussion, one hour. Prerequisite: graduate standing. Theory and practice of language teaching. S/U grading. Ms. Dufresne, Ms. Janms

596. Directed Individual Studies or Research (2 to 4 units).

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 4 units). May be repeated for a maximum of 16 units. S/U grading.

598. Research for and Preparation of M.A. Thesis (2 to 4 units). Prerequisite: consent of instructor. A maximum of four units may be applied toward M.A. degree requirements. S/U grading.


Geography

1255 Bunche Hall, (310) 825-1071

Professors

Charles F. Bennett, Ph.D. C. Rainer Berger, Ph.D. William A. C. Clark, Ph.D. Hubert J. Nicholas Enríquez, Ph.D., Chair Tom L. McKnight, Ph.D. Antony R. Orme, Ph.D. Allen J. Scott, Ph.D. Stanley W. Trumble, Ph.D. Hartmut Walter, Ph.D.

Professors Emeriti

Henry J. Bruman, Ph.D. Gary S. Dunbar, Ph.D. Huey L. Kostanick, Ph.D.
Producing geographers of high quality is the principal goal of the graduate program, designed primarily for students pursuing the Ph.D. degree. The Master of Arts degree, which involves coursework and a thesis, serves as an essential building-block of the doctoral program. The doctorate is awarded to those students who have achieved the level of geographical knowledge and training required of a professional geographer. The degree recognizes the ability of students to make scholarly contributions in their fields of specialization and to undertake advanced research in those areas.

Bachelor of Arts in Geography

Geography majors are encouraged to consult with the undergraduate adviser for the planning of a program suitable to their particular and individual objectives.

Preparation for the Major

Required: Geography 1, 2, 3, 4, 40. All courses must be taken for a letter grade.

The Major

Required: Ten upper division geography courses taken for a letter grade, which must include (1) five courses from one of the "Concentrations for the Major" listed below, (2) three additional courses in at least two different concentrations, (3) one regional course, and (4) one procedures course.

Concentrations for the Major

By the end of your junior year and no later than the beginning of your senior year, you are required to declare your specific concentration by filing a statement with the undergraduate adviser. The purpose of the concentration requirement is to expose you to systematic in-depth work within a specific area of geography. Completion of a concentration requires five upper division geography courses. You must take a concentration's required course(s), if any, before declaring that concentration. You must select one of the following concentrations and meet its course requirements:

(1) Urban and Regional Development Studies

Five of the following: 135, 148, 150, 155, 157, 159A

(2) Spatial Demography and Social Processes in the City

Required: 142

Four of the following: 143, 144, M145, M146A, M146B, M147, 150, 156, 159B

(3) Culture and Environment in the Modern World

Five of the following: 130, 133, 134, 135, 136, 140, 151, 159C

(4) Physical Geography

Required: 100, 100A, 104, 105, 105A

Two of the following: 101, 103, 106, 107, 113, 159D

(5) Biogeography

Five of the following: 108, 111, 112, 117, 118, 122, 123, 159E, 163

Foreign Language/Mathematics Requirement

Every geography major is required to pass five quarter courses in foreign language (in no more than two languages) or mathematics, in any combination. In foreign language, the department accepts UCLA foreign language departmental proficiency examination scores as evidence of foreign language competency. All students who entered UCLA as a geography major and/or declared the geography major during Fall Quarter 1988 and thereafter may not apply high school foreign language courses toward this requirement. In mathematics, only Mathematics 2, 3A, 3B, 3C, 5, 31A, 31B, 32A, 32B, 33A, or equivalent are acceptable. A grade of Passed or C (or better) is required in all courses intended to satisfy this requirement.

Allied Fields

You must develop some competence in an allied field. This requirement consists of at least two upper division courses selected from at least one of the following disciplines: Afro-American studies, anthropology, art history, Asian American studies, atmospheric sciences, biology, chemistry, Chicana and Chicano studies, communication studies, Earth and space sciences, economics, folklore, history, management, philosophy, physics, political science, psychology, public health, sociology, women's studies. Urban Planning 187 and M190 are also acceptable. Other disciplines require departmental consent.

Honors Program

Honors in the geography major may be obtained through procedures described under Geography 199HA-199HB.

Bachelor of Arts in Geography/Environmental Studies

The major in geography/environmental studies develops and deepens students' understanding of environmental issues; it explores problem-solving approaches from an interdisciplinary viewpoint and from the analysis of social, physical, and biotic environmental systems. The major's uniqueness lies in its emphasis on social science perspectives 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: Biology 2 or 5, Geography 5, 40, three courses from 1, 2, 3, 4. All courses must be taken for a letter grade. Recommended: Biology 6, 21, Chemistry and Biochemistry 2 or 11A, Mathematics 3A, 3B, Philosophy 6, Political Science 20. Students considering graduate work are strongly advised to include Chemistry and Biochemistry 11A, 11B, Mathematics 31A, 31B, and 32A in their program.
The Major

Required: Ten upper division geography courses taken for a letter grade which must include (1) five courses from the environmental studies cluster (Geography 107, 109, 110, 114, M115, 116, 120, 121, 124, 125, 126, M128, 129, 131, 134, 135, 136), (2) three courses in at least two geography concentrations, (3) one regional course, and (4) one procedures course. A minimum of two upper division courses must be taken in each of these categories. A grade of passed or C (or better) is required in all courses intended to satisfy this requirement.

Foreign Language/Mathematics Requirement

Every geography/environmental studies major is required to pass five quarter courses in foreign language (in no more than two languages) or mathematics, in any combination. In foreign language, the department accepts UCLA foreign language departmental proficiency examination scores as evidence of foreign language competency. All students who entered UCLA as a geography/environmental studies major and/or declared the geography/environmental studies major during Fall Quarter 1988 and thereafter may not apply high school foreign language courses toward this requirement. In mathematics, only Mathematics 2, 3A, 3B, 3C, 5, 31A, 31B, 32A, 32B, 33A, or equivalent are acceptable. A grade of Passed or C (or better) is required in all courses intended to satisfy this requirement.

Honors Program

Honors in the geography/environmental studies major may be obtained through procedures described under Geography 199H/199HB.

Specialization in Computing

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 Computing 104, 167, 168, 171. You graduate with a bachelor’s degree in your major and a specialization in computing.

Graduate Study

Admission

Information, graduate brochures, and admission forms may be obtained by writing to the Graduate Adviser, Department of Geography, 1255 Bunche Hall, UCLA, Los Angeles, CA 90024-1524.

Application may be made for admission to any term. You must submit an official application, a complete set of transcripts of prior university coursework, the results of the Graduate Record Examination (GRE) General Test, and three letters of evaluation. Normally you should have (1) completed the undergraduate major in geography or a related field, (2) received a bachelor’s degree, (3) attained at least a 3.3 grade-point average in courses taken in your junior and senior years and in the major for admission to the M.A. program, or a 3.5 GPA in graduate courses if you enter with an M.A., (4) attained a high GRE score (normally well above 1,200) in the combined verbal and quantitative sections, and (5) strong letters evaluating past academic and/or professional performance and indicating the potential for high achievement in graduate studies. Exceptions to the guidelines may be made for students whose records indicate unusual promise.

Admission to the Ph.D. program usually requires an M.A. or M.S. degree. You must provide clear evidence of ability to conduct substantial research and to articulate ideas clearly in writing. In addition, a faculty member must be willing to serve as your interims adviser. Under rare circumstances, you may proceed directly toward the Ph.D. degree without taking a master’s degree. You must have completed one year in the M.A. program, have three department faculty members review your dossier and unanimously recommend such a course of action, and pass a four-hour qualifying examination.

The Test of English as a Foreign Language (TOEFL) is normally required of all international applicants whose native language is not English.

Major Fields or Subdisciplines

Students commonly specialize in one or more of the following areas of geographical knowledge: environmental studies, geomorphology, climatology, biogeography, cartography, and economic, social, cultural/historical, or urban geography. At the M.A. level students emphasize at least one of these specialized areas. The written qualifying examinations for the Ph.D. include one paper in each of these areas. You must select one from each of these fields, as selected by you in consultation with your adviser. However, because geographical knowledge and its associated research questions frequently transcend disciplinary and subdisciplinary boundaries, you are expected to refine and deepen your research interests further, in consultation with knowledgeable faculty members, within, across, and beyond these organized research and teaching areas.

Foreign Language Requirement

There is no foreign language requirement for either the M.A. or Ph.D. degree.

Spring Quarter Review

Every Spring Quarter faculty members hold a review of all graduate students in the department to assess each student’s progress toward the degree and to provide each student with that appraisal. Contact the graduate adviser for further details on the review.

Individual Studies/Teaching Courses

Contact the graduate adviser for details on the special rules governing enrollment in and application toward the degree of Geography 199, 596, 597, 598, and 599.

Courses 375 and 495 may not be applied toward the minimum course requirement for either the M.A. or Ph.D. degree.

Master of Arts Degree

Course Requirements

You must complete at least six courses in addition to the three required core courses (Geography 298A, 298B, 298C) for a minimum of 36 units. The core courses must be completed within two years and with a grade of B – or better in each if you enter with a geography major, you should complete them in your first year. Four (16 units) of the six noncore courses must be 200-series (graduate) courses; the remaining two may be 500-series or 100-series courses. Your program must have the approval of the faculty mentor.

Two 500-series courses may be applied toward the minimum course requirement for the M.A. degree but not toward the minimum graduate course requirement.

Thesis Plan

You must present a thesis, based in whole or in part on original investigation. Selection of a thesis topic, creation of a scientific design, and conduct of the investigation proceed initially under the supervision of your M.A. committee. The thesis proposal should include the exact nature of the problem to be researched, an outline of the subject matter, the proposed methods of research, the degree of originality involved, and the anticipated time of completion of the study. You must carry out the entire project in close consultation with all members of your thesis committee. Your M.A. degree requirements must be completed within five calendar years of admission to graduate standing at UCLA.

Ph.D. Degree

Course Requirements

You must successfully complete, within two years and with a grade of B – or better in each, the required core courses (Geography 298A, 298B, 298C) if these have not already been taken at the M.A. level. If you enter with a geography degree, you should complete them in your first year. You are also required to take at least three graduate geography courses in addition to your M.A. coursework (including 298A, 298B, 298C, 375, 495, and the 500 series) and three upper division or graduate courses in one or two fields (outside of geography) allied to your major research area or subdisciplinary specialization, subject to approval of your guidance committee. The allied field requirement must be met before you can take the oral qualifying examination. Your program of coursework must be approved
by your guidance committee and the graduate advisor each term.

Qualifying Examinations
You must take the written qualifying examination, which consists of five written papers and is administered by your guidance committee, no later than your sixth term in the Ph.D. program (exceptions may be made in case you are entering from disciplines outside geography). Three papers pertain to the three major fields in which you are specializing; one general paper addresses the major issues, developments, debates, etc., in the field at large; and one paper involves a field problem. The examination may be taken over a period of no more than two weeks. In case of failure, you may make one further attempt, but no sooner than three months nor longer than one year after the first examination. Preparation of your dissertation proposal follows successful completion of the written qualifying examination.

The University Oral Qualifying Examination, conducted by your official doctoral committee, focuses on your dissertation proposal. Once you have successfully completed the oral qualifying examination, you are eligible for advancement to candidacy. In instances of failure, the oral examination may be repeated once.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination
The dissertation is the ultimate focus of your Ph.D. program and should demonstrate your ability to conduct an independent investigation of high quality in a selected field of study. The dissertation should be designed and executed in such a way as to make a significant original contribution to geographic research, a contribution that is worthy of publication, in part or as a whole, in a reputable scientific medium.

A final oral defense of the dissertation may be required by the dissertation committee. Your Ph.D. degree requirements must be completed within seven calendar years of admission to graduate standing at UCLA.

Lower Division Courses
Contact the department office to learn of additional offerings, seminar topics, and specific instructors for the term you wish to enroll in UCLA.

1. Physical Environment. Lecture, three hours; laboratory, two hours. Study of Earth's physical environment, with particular reference to the nature and distribution of landforms and climate.

2. Biogeography. Lecture, three hours; laboratory, two hours. Designed to satisfy course 106A; study of the distribution of landforms and climate.

3. Cultural Geography. Lecture, three hours; discussion, 90 minutes. Broad examination of basic cultural variables in human occupancy of Earth's surface. Ecological, spatial, and historical approaches.

4. Introduction to Economic Geography. Lecture, three hours; laboratory, one hour. Introduction to basic concepts used in modern urban and economic geography. Emphasis on understanding and interpreting the effects of location on human behavior. Discussion and practical exercises on analysis of problems in the Los Angeles urban environment.

5. People and the Earth's Ecosystems. Lecture, three hours; laboratory, two hours. Examination of historical and contemporary roles of man as a major agent of biological change in Earth's ecosystems.


7. 88A-88Z. Lower Division Seminars: Geography. (Formerly numbered 88B.) Discussion, three hours; reading period, one hour. Seminars designed to explore various themes and ideas pertinent to the environment and society. Seminar topics advertised in department during previous term. P/NP or letter grading.

Upper Division Courses

100. Principles of Geomorphology. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or consent of instructor. Corequisite: course 100A. Study of processes that shape the world's landforms, emphasizing past and present changes, hydrodynamics, processes, sediment transfers, and such features as beaches, estuaries, lagoons, deltas, wetlands, dunes, seashells, and coastal reefs, together with coastal zone management. P/NP or letter grading. Mr. Orme

101. Coastal Geomorphology. Lecture, three hours; reading period, one hour. Prerequisite: course 1. Study of origin and development of coastal landforms, emphasizing past and present changes, hydrodynamics, processes, sediment transfers, and such features as beaches, estuaries, lagoons, deltas, wetlands, dunes, seashells, and coastal reefs, together with coastal zone management. P/NP or letter grading. Mr. Orme

101A. Coastal Geomorphology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Corequisite: course 100. Field and laboratory investigations of weathering, mass movement, fluvial erosion, transport, deposition, related geographic phenomena. P/NP or letter grading. Mr. Orme

102. Environmental Systems. Lecture, three hours; reading period, one hour. Prerequisite: courses 1, 2, 40 (or Statistics 50). Analysis of processes of regional and global change, the impacts of human and natural systems on the atmosphere, hydrologic cycle, and environment. P/NP or letter grading. Mr. Orme

104. Climatology. Lecture, three hours; reading period, one hour. Examination of the many relations between Earth and the atmosphere. Emphasis on the application of basic energy budget concepts to the microclimates of relevance to ecosystems of agriculture, animals, man, and urban places. Mr. Feddema, Ms. Raphael

105A. Hydrology. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent. Corequisite: course 105A. Role of water in geographic systems: hydrologic phenomena in relation to climate, landforms, soils, vegetation, and cultural processes and impacts on the landscape. Field projects required. Mr. Trimble

105B. Hydrology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Corequisite: course 105. Field and laboratory investigations into role of water in geographic systems: analysis of distributional phenomena in relation to climate, landforms, soils, vegetation, and cultural processes and impacts on the landscape. Students solve applied hydrology problems in lab and make hydrologic measurements in the field. Mr. Trimble

106. Soils. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent and Chemistry 11A, or consent of instructor. Corequisite: course 106A. Study of genetic and pedogenic properties and utilization of soils, with special emphasis on world's major soils.

109. Environmental Systems. (Not the same as course 109 prior to Fall Quarter 1991.) Lecture, three hours; reading period, one hour. Prerequisites: course 5, three courses from 1, 2, 40, or consent of instructor. Examination of global and regional changes and their effects on environment, including atmosphere, climate, ecosystems, and human systems affected by natural and anthropogenic disturbance. Intended to demonstrate utility of systems approach for environmental problem solving. P/NP or letter grading. Mr. Orme, Mr. Rigby, Mr. Walter (F)

110. Population and Natural Resources. (Not the same as course 110 prior to Fall Quarter 1991.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 40, or consent of instructor. Examination of global and regional changes and their effects on environment, including atmosphere, climate, ecosystems, and human systems affected by natural and anthropogenic disturbance. Intended to demonstrate utility of systems approach for environmental problem solving. P/NP or letter grading. Ms. Savage

112. Analytical Animal Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 40 (or Statistics 50). Analysis of processes of expanding and contracting distribution areas. Focus on island biogeography and its implications for biodiversity trends in natural and anthropogenic environments. P/NP or letter grading. Mr. Walter

113. Clastic Sedimentation Processes in Geomorphology. Lecture, three hours. Prerequisites: courses 1, 100, and 105, or equivalent, or consent of instructor. Recommended: courses 101, 103, 107, or equivalent. Study of clastic sedimentation transport and deposition processes in geomorphology. Topics include basic fluid mechanics and sediment transport; tectonic framework of sedimentation; general overview of depositional environments; and more detailed discussion of selected environments.
114. Ideas of Nature and Environmental Values. Lecture, three hours; reading period, one hour. History of ideas of nature and the environment. Relationship of those ideas to contemporary ethical and political concerns about the environment and the place of humans within it. P/NP or letter grading. Mr. Curtin

M115. Environmentalism: Past, Present, and Future (4 to 6 units). (Same as Urban Planning CM189.) Discussion, three hours; optional field study, five to ten days. Exploration of history, philosophy, and theories of environmental movements. Dynamics of race, class, and gender in relation to environmental agendas, and potential role of environmentalism in reshaping our society. Readings, discussion, and research papers. Offered annually as a graduate research seminar and biannually as an undergraduate upper division lecture and field studies program. P/NP or letter grading.

Mr. Gottlieb

116. Origins and Histories of Crop Plants. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, and Biology 2, or equivalent, or consent of instructor. Geographic patterns of domestication and diffusion of useful plants from antiquity to the present, based on detailed case histories of selected species.

117. Animal Geography: Anthropogenic Factors. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, and Biology 2, or equivalent. Study of factors influencing animal distributions; roles of animals in human societies; origins and diffusion of domesticated animals. P/NP or letter grading.

Mr. Bennett, M. Walter

118. Medical Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 5 or consent of instructor. Examination of patterns of population/disease interactions and some effects of change and development on disease ecology and problems of health care.

Mr. Matthews

119. Agricultural and Pastoral Ecosystems. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, 116, 112 or 117, or equivalent. Recommended: courses 120, 121. Upper division standing. P/NP or letter grading.

Mr. Bennett, M. McKnight, M. Trimble

121. Conservation of Resources: North America. Prerequisites: courses 1 and 2, or equivalent, or upper division standing. Analysis of basic principles and problems of conservation of natural resources in the U.S. and Canada.

Mr. Bennett, M. McKnight, M. Trimble

122. Wildlife Conservation in Eastern Africa. Lecture, three hours, reading period, one hour. Prerequisites: courses 1, 2, 5. Analysis of tropical ecosystems of eastern Africa, including wildlife communities, vegetation, climate, and human impact. Discussion of national parks and their role in maintaining natural habitats.

Mr. Bennett

123. Bioresource Management. Lecture, three hours; discussion, one hour. Prerequisites: courses 2, 5. Recommended course 40. Theory and practice of management and conservation of bioresources. Introduction to wildlife management, endangered species conservation, and design and maintenance of National Parks and ecological reserves.

Mr. Walter

124. Environmental Impact Analysis. Lecture, three hours; discussion, one hour. Prerequisites: courses 40, 123. Two environmental studies cluster courses. Introduction to interdisciplinary analysis of local and regional impacts on environmental systems. Evaluation of state and federal concepts for analysis of environmental impact. P/NP or letter grading.

125. Health and the Global Environment. (Not the same as course 125 prior to Fall Quarter 1991.) Lecture, three hours; reading period, one hour. Impact of the environment and lifestyle on individual health examination of selected environmental factors and examples from both developed and developing countries. P/NP or letter grading. Mr. Matthews (Sp)

126. Geography of Extinction. Lecture, three hours; reading period, one hour. Prerequisites: course 5, upper division standing. Geographic and taxonomic survey and analysis of biotic extinctions over the past 15,000 years. Identification of extinction factors and pathways through case studies of extinct and endangered species and communities. P/NP or letter grading. Mr. Walter

M127. Soils, Plants, and Society. (Same as Biology M127.) Lecture, three hours; field trip. Prerequisites: Chemistry 11A, 11B, and 11C, or equivalent, or consent of instructor. General treatment of soil development and morphology and physical and chemical properties of soils as they relate to plant growth and distribution; soil resources, management, conservation, and cultural aspects. Use of soils profiles examined on field trip to explain developmental phenomena.

Mr. Walter


Ms. Carney, M. Fagni

129. Seminar: Environmental Studies. Lecture, three hours; reading period, two hours. Prerequisites: three environmental studies cluster courses, senior standing. Qualitative/quantitative analysis of problems associated with selected environmental systems (urban, rural, forest, desert, coastal, water, soil, or others).

130. Geographical Discovery and Exploration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Survey of survey of history of exploration, from earliest times to modern, with emphasis on period from Marco Polo to the present.

Mr. Thrower

131. Geography of Deforestation. Lecture, three hours; reading period, one hour. Prerequisite: course 3 or equivalent. Evolutionary and structural approach to sociocultural geography of the modern world system, with particular emphasis on structure and functioning of its core, semi-periphery, and periphery.

Mr. Hale

132. Space, Place, and Nature in Western Thought. Lecture, three hours; reading period, one hour. Primary examination of land change and also introduction to forces tending to exploit and conserve forests. P/NP or letter grading.

Ms. Savage (Sp)

133. Cultural Geography of the Modern World. Lecture, three hours; reading period, one hour. Prerequisite: course 3 or equivalent. Evolutionary and structural approach to sociocultural geography of the modern world system, with particular emphasis on structure and functioning.

Ms. Carney, M. Fagni

134. Economic Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 4 or consent of instructor. Regional development. Mr. Scott

135. African Ecology and Development. (Not the same as course 135 prior to Fall Quarter 1991.) (Same as Sociology M135.) Historical overview of urban poverty and social welfare programs; ongoing debates about causes and central components of poverty.

Ms. Ortiz (F)

M146A-M146B. Contemporary Issues in Urban Poverty Research. (Not the same as course 146 prior to Fall Quarter 1991.) (Same as Sociology M146A-M146B.) Prerequisite: course 150. Two-term research seminar designed to engage students in ongoing faculty research projects focusing on models of urban poverty and underclass behaviors.

Mr. Oliver, Ms. Ortiz

M147. Urban Poverty and Public Policy in the U.S. (Field Component). (Same as Sociology M107.) Prerequisite: course M145. Corequisite: one course from 150 or 159A through 159E. Supplements and enriches student's academic understanding of urban poverty and the underclass by personal exposure and direct observation in a field setting. Students required to develop a plan of service in a local social service agency and observe policy formulation and implementation.

P/NP or letter grading.

Mr. Oliver, Ms. Ortiz

148. Economic Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 4 or consent of instructor. Regional development. Mr. Scott

M149. Transportation Geography. (Formerly numbered 146.) (Same as Urban Planning M149.) Prerequisite: course 3 or 4 or upper division standing. Study of geographical aspects of transportation, focusing on functions and characteristics of the various modes and on complexities of intra-urban transport.

Mr. Scott

150. Urban Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Analysis of development, functions, and characteristics of urban systems, and geographical problems of American cities.

Mr. Clark, M. Scott

151. Historical Geography of Cities. Prerequisites: courses 3 and 4, or equivalent, or upper division standing. Development of cities and evolutionary trends in Western civilization. Development of city systems and evolution of urban spatial structure.
158. Metropolitan Los Angeles. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing. Study of origins, growth processes, internal structure and pattern, interactions, environmental and spatial problems of the Los Angeles metropolitan area. Mr. Clark

157. Models of Regional Growth and Change. Lecture, three hours; reading period, one hour. Prerequisite: course 4. Recommended: course 40. Examination of empirical and theoretical issues of regional growth and change. Introduction to supply and demand-based models of regional development. P/NP or letter grading. Mr. Rigby

198A-198E. Problems in Geography. (Formerly numbered 159.) Discussion, three hours, reading period, one hour. Prerequisite: completion of three courses in a concentration, senior standing. Seminar course in which students carry out intensive research projects developed from courses within a concentration. P/NP or letter grading.

Procedures

180. Field and Laboratory Analysis in Geomorphology. Laboratory/fieldwork, eight hours. Prerequisites: course 100 and two courses from 101, 103, 105, 106, 107. Limited to geography and environmental studies majors, with enrollment priority to seniors, then to juniors. Students must preenroll in department prior to term. Examination of field and laboratory procedures and principles used in observation, measurement, analysis, and interpretation of landforms, constituent materials, and relevant processes. Mr. Orme, Mr. Trimble

183. Field Analysis in Biogeography. Fieldwork, eight hours. Prerequisites: courses 2, 5, 110, 112. Examination of field procedures and intellectual concepts used in observation, measurement, analysis, and interpretation of phenomena pertinent to biogeographic processes. Laboratory procedures in observation, measurement, analysis, and interpretation of landforms, constituent materials, and relevant processes. Ms. Savage, Mr. Walter

187. Cartography (6 units). Lecture, two hours; laboratory, six hours; independent study, three hours. Prerequisites: courses 1 and 3, or equivalent, or consent of instructor. Survey of the field of cartography. Theory and construction of map projections, compilation procedures, principles of generalization, symbolization, terrain representation, lettering, drafting and scribing, and map reproduction methods. Mr. Matthews

188. Computer Cartography. Lecture, two hours; laboratory, two hours; independent study, two hours. Prerequisites: Program in Computing 3 or 10A, consent of instructor. Recommended: course 167. Theory and methods of mapping quantitative information with a computer. Problems of acquiring and processing machine-readable map data and representing them as printed symbols and surfaces. Mr. Matthews

169. The Earth from Above. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, and 4, or consent of instructor. Interface between cartography and remote sensing. By means of a wide variety of imagery from maps and aerial photos. Describes the concept and explains the techniques used. Mr. Thower

170. Geographical Information Systems and Spatial Analysis. Lecture, two hours; laboratory, two hours. Prerequisites: courses 40, and 107-108. Geographic information systems (GIS) have grown out of a number of technologies and application fields concerned with geographic location of their objects of study. Recent developments are described, applications of GIS technology, detailing collection, input, manipulation, and analysis of data in GIS. P/NP or letter grading. Mr. Matthews (Sp)

171. Quantitative Analysis. Lecture, three hours; laboratory, one hour. Prerequisite: course 40 or consent of instructor. Introduction to methods of measurement, correlation and regression, and analysis of geographic phenomena and associations. Mr. Matthews, Mr. Rigby

178. Dating Techniques in Environmental Sciences and Archaeology. (Same as Anthropology M116G.) Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiolysis damage methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology. Mr. Berger

172. Geosystems Analysis. Lecture, three hours; reading period, one hour. Prerequisite: courses 1 and 3, or equivalent. Examination of geographic processes and their relationship to human society. Mr. Orme

173. Geophysical Problems of the Los Angeles Metropolitan Area. Research and independent study. Study of glacial theories, isostasy and eustasy, evolution and regional processes. Mr. Hale

175. Qualitative Analysis. Lecture, three hours; laboratory, one hour. Prerequisite: course 40 or consent of instructor. Introduction to methods of measurement, correlation and regression, and analysis of geographic phenomena and associations. Mr. Matthews, Mr. Rigby

178. Dating Techniques in Environmental Sciences and Archaeology. (Same as Anthropology M116G.) Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiolysis damage methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology. Mr. Berger

Regions

180. North America. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Delimitation and analysis of principal geographic regions of the U.S. and Canada. Mr.  McKnight

181. Mexico, Central America, Caribbean. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing. Study of geographic factors, physical and cultural, that are basic to understanding the historical development of Mexico and the contemporary economic and cultural geography of Mexico and countries of Central America and the West Indies. P/NP or letter grading. Mr. Bennett

182A. Spanish South America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Study of geographic factors, physical and cultural, that are basic to understanding the historical development of the region and present-day conditions of the Latin American countries. Mr. Bennett

182B. Brazil. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Study of geographic factors, physical and cultural, that are basic to understanding the historical development of Portugal South America and the contemporary economic and cultural geography of Brazil. Mr. Bennett

183. Europe. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Study of geographic factors, physical and cultural, that are basic to understanding the historical development of Europe and the contemporary economic and cultural geography of contemporary Europe. Mr.  McKnight

185. South and Southeast Asia. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Regional synthesis with varying emphasis on the people of South or Southeast Asia in their biotic, cultural environment and its dynamic transformation. Mr.  Thower

186. Contemporary China. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing.  Systematic geographic analysis of the modern Chinese people, their polity, economy, society, and culture. Mr.  Thower

187. Middle East. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. 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. Mr.  Thower

188. Northern Africa. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Analysis of economic, social, and political geography of the area including Mediterranean Africa, Sahara, Sudan, Central belt, and eastern Horn. Emphasis on geographical themes and problems during historical and modern times. Mr.  Thower

191. California. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Systematic and regional treatment of geography of California, including physical, cultural, and economic aspects and detailed studies of the various regions. Mr.  McKnight

Special Studies

199. Special Studies (2 to 8 units). Hours to be arranged. Prerequisites: junior standing with a B average in the major or senior standing, consent of instructor.

199HA-199HB. Honors in Geography I, II. Hours to be arranged. Prerequisites: 3.25 GPA overall, at least five upper division geography courses with a 3.5 GPA. 199HA. Independent study course taught by team of two faculty members who assist student with bibliographic research and/or field research on a topic of mutual interest to student and the faculty member. Successful completion of course 199HA entails preparation of a detailed bibliography and outline, or (to be evaluated by the two faculty members) for writing of a substantial paper during course 199HB. If that work is determined to be of A quality, student is allowed to continue in honors program. If that work is graded B or below, credit is awarded, but student is not permitted to continue in honors program. 199HB. Devoted to writing of substantial paper researched and written in course 199HA. It is also evaluated by the two faculty members. If paper is determined to be of A quality, student graduates with honors in geography. If paper is graded B or below, credit is awarded, but student is not permitted to continue in honors program.

199. Independent Studies for Internships (2 to 4 units). Prerequisite: consent of instructor. Independent studies course to be supervised jointly by Field Studies Office and faculty adviser. Further supervision to be provided by placement for which student is doing internship. May not be applied toward major requirements. P/NP grading.

Graduate Courses

Environment

200. History and Paradigms of Geomorphology. Lecture, two hours; discussion, one hour; reading period, eight hours. Prerequisites: course 100, two courses from 101, 103, 105, 106, 107. Analysis of geomorphic theories since the scientific revolution, with emphasis on catastrophism, uniformitarianism, glacial theories, isostasy and eustasy, evolution and cyclicity, thermodynamics and mechanics, quantification, and current paradigms. View of each theme in its contemporary milieu. Mr. Orme
202. Fluvial Geomorphology Seminar. Discussion, three hours; reading period, five hours; fieldwork. Prerequisites: courses 100, 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.

Mr. Trumbe

203. Glacial Geomorphology Seminar. Discussion, three hours; reading period, five hours; fieldwork. Prerequisites: 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. Lecture, three hours; laboratory, one hour. Prerequisites: course 104, first year of calculus, and acquaintance with FORTRAN IV. For credit toward degree, Mr. Walter. Prerequisites: courses 100, 105, or Civil Engineering 150. Discussion of selected topics. May be repeated for credit.

Mr. Feddema, Ms. Raphael

205. Seminar: Climatology. Discussion, three hours; reading period, one hour. Prerequisites: courses 204A-204B-204C or equivalent or consent of instructor. Selected topics. May be repeated for credit.

Mr. Feddema, Ms. Raphael

206. Advanced Biogeography: Plants. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: course 208A or equivalent. Intensive review and analysis of physical and cultural factors influencing plant distributions. M.S. Savage

212. Advanced Biogeography: Animals. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: course 208A or equivalent or consent of instructor. Intensive review and analysis of biophysical and cultural factors influencing animal distributions.

213. Seminar: Biogeography. Discussion, three hours; reading period, two hours. Prerequisites: course 208A or 212 or equivalent, consent of instructor. Related research projects growing out of course 208 or 212. May be repeated for credit.

Mr. Orme

214. Quaternary Studies: Physical Aspects. Discussion, three hours; reading period, two hours; fieldwork, three hours. Prerequisites: at least one course from 200 through 205 or an appropriate graduate course in atmospheric sciences or Earth sciences. Analysis of the changing physical environment of the Quaternary period. May be repeated for credit.

Mr. Orme

217. Quaternary Studies: Ecological Aspects. Discussion, three hours; reading period, two hours. Prerequisites: courses 202 or 204A-204B-204C or 208 or 212 or an appropriate graduate course in anthropology, botany, Earth and space sciences, or zoology, or consent of instructor. Analysis of ecological aspects of environmental change during the Quaternary period. May be repeated for credit.

Mr. Orme

218. Advanced Medical Geography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 212 or consent of instructor. In-depth study of selected topics in medical geography and intense review of recent research.

Mr. Matthews

223. Seminar: Humid Tropics. Lecture, three hours; reading period, two hours. Prerequisite: graduate standing. 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.

Mr. Bennett

227. Water Quality Management. Discussion, three hours; reading period, one hour. Prerequisites: graduate standing, consent of instructor. Discussion of basic technical, regional planning, and public policy issues in water quality management.

Mr. Scott

229. Seminar: People and Environment. Discussion, three hours; reading period, two hours. Prerequisites: consent of instructor. Analysis of man's perception of the environment throughout history and in different parts of the world and its impact on past, present, and future ecosystems. S/U or letter grading.

Mr. Orme, Mr. Trumbe

231. Environmental and Subsistence in Indigenous Cultures. Seminar, three hours. Discussion on resource management strategies and environmental issues in indigenous cultures. Topics vary from year to year.

Mr. Carney, Ms. Savage

230. Advanced Historical Geography of the U.S. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: course 136, consent of instructor. Some major themes in American historical geography.

232. Seminar: Historical Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 230, consent of instructor, Theory and practice of historical geography in North America and Europe. May be repeated for credit.

Mr. Hale

237. Seminar: Political Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 240 or equivalent, consent of instructor. Related research projects growing out of course 240. May be repeated for credit.

Mr. Hale

238. Advanced Population Geography. Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. Application of population-dynamics and migration, spatial variation in population composition, and population resource problems, diffusion, and epidemiology.

Mr. Fan

241. Geography of the Environment. 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.

Mr. Scott

248. Location and Space Economy. 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.

Mr. Scott

250. Urban Systems. Lecture, two hours; discussion, one hour; reading period, one hour. General study of human settlement and its impact on past, present, and future ecosystems. May be repeated for credit. S/U or letter grading.

Mr. Scott

251. Seminar: Urban Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 250 or equivalent, consent of instructor. Related research projects growing out of course 250. May be repeated for credit.

Mr. Scott

252. Location and Social Structure within the City. Lecture, two hours; discussion, one hour; reading period, one hour. Study of links between urban social and urban spatial structure, emphasizing urban residential land use, social areas of the city, and accessibility of urban form. S/U or letter grading.

Mr. Scott

254. Migration and Residential Mobility. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: consent of instructor. Description and modeling of national, regional, and intra-urban migration.

Mr. Clark

260. Advanced Field and Laboratory Analysis in Geomorphology. Laboratory/fieldwork, 10 hours. Prerequisites: graduate standing. Two courses from 200, 201, 202, 203, 215. Examination of advanced field and laboratory procedures used in contemporary geomorphic research, with emphasis on scientific design, instrumentation, and data evaluation.

Mr. Orme, Mr. Trumbe

261. Advanced Field Analysis: Cultural Geography (8 units). Fieldwork, once a week from 8 to 5. Prerequisites: one or more courses from 232, 233, 250, 251. Field methods and analysis applied to the cultural landscape, especially in Southern California, with particular reference to settlement, agriculture, and environmental modification.

262. Advanced Field Analysis: Biogeography (8 units). Fieldwork, once a week from 8 to 5. Prerequisites: one or more courses from 232, 233, 250, 251. Field methods and analysis applied to the cultural landscape, especially in Southern California, with particular reference to settlement, agriculture, and environmental modification.

Mr. Orme, Mr. Trumbe

265. Geographical Bibliography. Lecture, one hour; discussion, two hours; reading period, one hour. Prerequisite: consent of instructor. Survey of the literature of geography, with particular reference to periodicities intended for beginning graduate students.

267. Advanced Cartography, Laboratory, three hours: independent study, two hours. Prerequisites: course 167 or equivalent or consent of instructor. Advanced work in theory and practical applications of modern cartographic techniques. Special emphasis on terrain representation, quantitative and computer mapping, scribing, color separation, and reproduction of maps.

268. Geographic Information Systems. Lecture, two hours; laboratory, two hours. Prerequisites: courses 167, 168, and 171, or consent of instructor. Recommended: Earth and Space Sciences 150. Engaging, storage, analysis, and display of spatial data in digital form. Applications of geographic information systems. Emphasis on geographic data (including remote sensing imagery and digital terrain models), raster and vector data structures, and spatial analysis/spatial modeling using GIS.

Mr. Mathews

269. Remote Sensing of Environment. Laboratory, three hours; independent study, two hours. Prerequisites: course 167 or equivalent or consent of instructor. Study of aerial photographs and other remote sensing images as tools for geographic research. Particular attention to analysis of landscapes and interpretation of relationships of individual features in their physical and cultural complex.

M270A-M270B-M270C. Seminars: Climate Dynamics (2 to 4 units each). (Same as Atmospheric Sciences M272A-M272B-M272C and Earth and Space Sciences M270A-M270B-M270C). Lecture, two hours. Prerequisites: consent of instructor. Archaeological, geochemical, micropaleontological, and stratigraphic evidence for climate change throughout the geologic past. Rheology and dynamics of climatic subsystems: atmosphere and oceans, ice sheets and marine ice, and terrestrial and oceanic climates. May be repeated for credit. S/U or letter grading.

Mr. Berger, Mr. Ghil, Mr. Schubert (F,W,Sp)

M272. Spatial Statistics. (Same as Urban Planning M215.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: consent of instructor. Specific techniques useful in analysis of spatial data and modeling of spatial distributions.

Ms. Fan
298C. Statistical Methods for Geographic Research. Lecture, three hours; laboratory, two hours. Prerequisite: course 171 or equivalent. Use of linear models, discriminant functions, and factor analysis to analyze problems in geography.

Mr. Clark, Mr. Rigby

Special Studies

375. Teaching Apprentices Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

495. Teaching College Geography (2 units). Discussion, one hour; laboratory, three hours. Prerequisite: consent of instructor. Classroom practice in teaching, with individual and group instruction on related educational materials, methods, and evaluation. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research (2 to 6 units). Prerequisite: consent of instructor. May be repeated for credit. S/U grading.

597. Preparation for Ph.D. Qualifying Examinations (2 to 6 units). Prerequisite: consent of instructor. Independent study. May be repeated for credit. S/U grading.

598. Research for and Preparation of M.A. Thesis (2 to 8 units). Prerequisite: consent of instructor. Independent study. May be repeated for credit. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (2 to 8 units). Prerequisite: consent of instructor. Independent study.

Germanic Languages

2326 Murphy Hall, (310) 825-3955

Professors

Ehrhard Bahr, Ph.D. (German; Distinguished Teaching Award), Chair
Marianna D. Birnbaum, Ph.D., in Residence (Hungarian)
Janes L. Byock, Ph.D. (Old Norse)
Janet R. Hadda, Ph.D. (Yiddish)
Robert S. Kirsner, Ph.D. (Dutch, Afrikaans)
Kathleen L. Komar, Ph.D. (German; Distinguished Teaching Award)
Wolfgang Nehring, Ph.D. (German)
Hans Wagener, Ph.D. (German)
Franz H. Bäumli, Ph.D., Emeritus
Carl W. Hagge, Ph.D., Emeritus (Distinguished Teaching Award)
Victor A. Oswald, Jr., Ph.D., Emeritus
Donald J. Ward, Ph.D., Emeritus
Terence H. Wilbur, Ph.D., Emeritus

Associate Professor
Jill Anne Kowalik, Ph.D. (German)

Assistant Professor
Christopher M. Stevens, Ph.D. (German Linguistics and Philology)

Lecturers
Julia Landa, Ph.D. (German; Luckman Distinguished Teaching Award)
Wilfried M. Voge, Ph.D. (German), TA Coordinator

Scope and Objectives

The Department of Germanic Languages offers an extraordinary scope of Germanic languages and literatures, including philology, linguistics, and folklore. This broad range of studies offers training in specialized fields, in addition to providing strong background in the literary and cultural traditions. The courses of instruction are designed to enable students to become effective teachers and productive scholars in either German or Germanic languages and literatures, including Germanic folklore, Hungarian, and Finnish.

Undergraduate majors in both German and Scandinavian languages lead to Bachelor of Arts degrees. The graduate program offers Master of Arts degrees in Germanic Languages and in Scandinavian and a Ph.D. in Germanic Languages, with a variety of specialized fields available. The department also offers courses in Afrikaans, Dutch, Hungarian, Old Norse studies, and Yiddish.

Bachelor of Arts in German

Three plans are offered by the department:

Plan A (Language and Literature)
Plan A is comprised of lower division courses in the German language and upper division courses in German language, linguistics, literature, civilization, and folklore. While the nucleus of the undergraduate program consists of training in language and literature, students majoring in German will be prepared for a wide range of graduate studies and activities in related fields.

Preparation for the Major: German 1, 2, 3, 4, 5, 6, or equivalent. Students who have completed two semesters of college-level German language courses should enroll in course 4. Placement examinations may be given in instances where the proper level is difficult to determine. Native speakers of German must consult the undergraduate adviser. For additional information, all students are encouraged to contact the undergraduate adviser.

The Major: Fifteen upper division German courses as follows: Group I (language) — two courses from German 103, 108A, 108B, 128; Group II (linguistics/philology) — course 129 or 137; Group III (approaches to literature) — course 101A, 101B, or 101C; Group IV (literary history) — four courses from 104, 105, 106, 107, 123, 124, 126, 127; Group V (cultural history) — two courses from 100A, 100B, 100C, 121B, 121C, 121D, 134; Group VI (special topics) — two courses from 121A, 121E, 130, 132; three departmental electives (any of the above courses not taken to satisfy a group requirement). Native speakers of German should consult the undergraduate adviser before enrolling in course 108A, 108B, or 128. German majors, especially those who wish to pursue graduate studies in German, are encouraged to enroll in courses in German history and philosophy in those respective departments and are strongly urged to acquire reading knowledge of French.
Plan B (German Studies/German Studies with European Studies Emphasis)

Plan B is comprised of lower division courses in the German language and upper division courses in German language, linguistics, literature, folklore, and one allied field such as history, musicology, or philosophy. If your allied field is in art history or political science, where not enough courses with a German focus are offered, the emphasis will be on European studies. While the majority of courses are in language and literature, students majoring in Plan B will be prepared for a wide range of graduate studies, including the allied field, with emphasis on interdisciplinary studies.

Preparation for the Major: German 1, 2, 3, 4, 5, 6, or equivalent, 100A, 100B, 100C, 108A-108B. Students who have completed two semesters of college-level German language courses should enroll in German 4. Placement examinations may be given in instances where the proper level is difficult to determine. Native speakers of German must consult the undergraduate adviser. Lower division history courses or seminars may serve as equivalents for German 100A, 100B, or 100C. For additional information, all students are encouraged to contact the undergraduate adviser. All German studies allied fields and those with a European studies emphasis should be identified and confirmed by the undergraduate adviser in writing before the major is declared.

The Major: Eight upper division German courses (Group I — two courses from German 102, 128, 129, 137; Group II — two courses from 103, 105, 106, 107, 130; Group III — two courses from 121A, 121B, 121C, 121E, 134; Group IV — two courses from 122, 123, 124, 126, 127, 132) and five upper division allied field courses selected from History 125B through 125F, 126A through 126E, 129A through 129D, 135A, 135B, 135E, 119E through 191G OR Musicology 122, 126A, 126B, 126C, C127A through C127F, 133, 134, 135A, 135B, 135C, 188A through 188F, 189 OR Philosophy 100C, C110, C111, 115, 116, 117, 177A, 17B, 178, 189. For the European studies emphasis, the five upper division allied field courses should be selected from Art History 105A through 105F, 109B, 109C, 110A through 110D OR Political Science 116, 123A, 123B, 127A, 127B, 129, 153, 153A, 154, 155, 158A, 158B OR from allied fields such as Dutch, English, French, Hungarian, Spanish, Yiddish, etc. Plan B majors who wish to pursue graduate studies are strongly urged to acquire reading knowledge of a term or more of study/work/study/internship experience in a German-speaking country or the country of your European studies emphasis is highly recommended.

Plan C (Germanic Languages)

Plan C is intended for students primarily interested in Germanic languages and linguistics and is designed for those who wish to pursue graduate work in Germanic, general, applied, historical, or Indo-European linguistics. Students who wish to pursue graduate work in Germanic literature should select Plan A rather than this plan.

Preparation for the Major: German 1, 2, 3, 4, 5, 6, Linguistics 20, and five terms of a second Germanic language OR three terms of a second Germanic language and two or three terms of a third. Relevant languages include any Germanic language (two terms of Hungarian may be applied by petition to the undergraduate adviser). Students who have completed two semesters of college-level German language courses should enroll in course 4. Placement examinations may be given in instances where the proper level is difficult to determine. Native speakers of German must consult the undergraduate adviser. For additional information, all students are encouraged to contact the undergraduate adviser.

The Major: Thirteen upper division courses, including German 108A-108B, 129, 137, C138, four German literature or linguistics elective courses, and four linguistics elective courses from another department (e.g., Linguistics 103, 110, 120A, 120B, 127, 170; courses in departments other than Linguistics may be applied by petition to the undergraduate adviser).

Honors Program

To qualify for graduation with departmental honors, you 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 195 with a grade of A. Contact the departmental honors adviser for procedures, special arrangements, possible exceptions, and other information.

Instructional Credential in German

Students desiring the general secondary instructional credential in German should consult the Graduate School of Education and Information Studies, 1009 Moore Hall (310-825-8328), and the Department of Germanic Languages.

Graduate Study

The Department of Germanic Languages offers the advanced degree candidate a scope and variety of studies unique among departments of German in the U.S. The department provides programs of study leading to the M.A. and Ph.D. in Germanic Languages and the M.A. in Scandinavian, with specialized fields in all areas of German literature, Germanic philology and linguistics, Germanic folklore, Scandi-
Plan D requires a minimum of nine upper division and graduate courses beyond the language requirements, of which at least six courses must be graduate level (200 or 500 series) and of which up to four courses may be from other departments in a relevant area (e.g., linguistics, applied linguistics, Indo-European linguistics, Romance linguistics, etc.). German 217, C238, and one seminar must be included. Half of your coursework should be in synchronic linguistics and half in diachronic linguistics. All coursework must be approved in advance by the graduate adviser.

Course 596 may be taken twice; course 597 may be taken once before the M.A. degree; course 598 may be taken three times. However, only one 500-series course may be applied toward the M.A. coursework requirements.

Graduate students are expected to attend and participate in departmental lectures and colloquia.

Thesis Plan
If you choose this plan, a thesis committee is established no later than the end of your fourth term of graduate study to evaluate the proposal for the thesis. After acceptance of the thesis, you must pass a two-hour oral examination (for Plan D only, a two-hour written examination) in the field of the thesis, as well as in the fields listed below under the comprehensive examination plan.

Comprehensive Examination Plan
Examinations are offered each term, beginning with the written part during the fifth week of each term. Under exceptional circumstances the chair of the department will receive petitions for M.A. examinations during the summer recess.

For Plans A and B, one examination committee is appointed for each term. The members of the committee administer the written and oral examinations. The comprehensive examination plan consists of (1) one 10-day take-home examination project covering one of eight areas of study, (2) one four-hour written examination covering three of the eight areas of study, and (3) a one-hour oral examination. Complete examination details are available from the department.

For Plan D, the M.A. examination consists of three written examinations of two hours each, followed by a one-hour oral examination. To continue toward the Ph.D., you must receive a pass with the recommendation to continue.

After you have taken the written examinations, the M.A. committee decides whether you may proceed to the oral examination. If you fail the oral examination, the M.A. committee decides whether you must repeat the entire examination or only the oral portion.

For Plan C, you must submit two research papers (approximately 10,000 words in your major field and 7,500 in your allied field) at the beginning of your sixth term of full-time study. To continue toward the Ph.D. in Germanic Languages, you must receive a pass on either the Plan B or Plan D examinations with the recommendation to continue.

If you apply for an M.A. under Plan B or D (to proceed toward the Ph.D.) and are awarded a terminal M.A., you may repeat the examinations if you choose not to have the M.A. degree officially awarded before the reexamination.

Ph.D. in Germanic Languages
Admission
An M.A. degree in German from an accredited U.S. institution or equivalent (e.g., Staatsexamen in German) is required. In case of significant deficiencies in prior training, the graduate advisers make appropriate study or course recommendations. All deficiencies must be removed prior to application for admission to candidacy for the qualifying examinations. Applicants without an M.A. in German (e.g., with an M.A. in Comparative Literature or in Linguistics) are required to pass the written part of the M.A. comprehensive examination before beginning doctoral work in the department. Applicants with an M.A. in Scandinavian who wish to major in Scandinavian language and philology must take a formal minor in German. Three letters of recommendation are also required.

Major and Minor Fields of Study
The department offers two Ph.D. programs. The first program requires a major and a minor field in order to give students the broadest possible education and preparation for professional flexibility in research and teaching. The second program does not require a minor and is designed to enable students to complete their studies toward the Ph.D. more expeditiously.

If you select the first program, you must, as soon as possible after admission, declare your major and minor fields. The field in which you plan to present a dissertation is your major field and is selected from the four fields in which the degree is offered: (1) German literature, (2) Germanic philology and linguistics, (3) Scandinavian literature and philology, or (4) Germanic folklore.

If you select German literature as your major field, you must choose one of the following: (1) German literature before 1700 or (2) German literature from 1700 to the present.

The minor field may be selected from the following options: (1) German literature before 1600; (2) German literature from 1600 through Romanticism; (3) German literature from Romanicism to the present; (4) German philology and linguistics; (5) modern Scandinavian literature; (6) Germanic folklore; (7) Yiddish; (8) Dutch and Afrikaans; (9) Old Norse studies. If your major field is German literature, you may not choose options 1 through 3. As a special option, you may select an extra-departmental minor which must be individually endorsed by a majority of the departmental faculty members on the basis of your dissertation plans.

The second Ph.D. program allows specialization in either of the following two areas: (1) modern German literature (1600 to the present) or (2) Germanics — older German literature (to 1600), Germanic philology and linguistics (including Old Norse and Dutch linguistics), Germanic folklore. If you select the latter area, you are expected to choose two of these three fields, with special emphasis on one.

Foreign Language Requirement
In addition to French, a second language examination is required either in a modern Scandinavian language or in Dutch and Afrikaans or in Latin or in Yiddish (substitution of another language may be approved by petition).

Course Requirements
There are no course requirements per se for the Ph.D. However, the following rules apply: (1) you must successfully complete at least three seminars in residence before taking the qualifying examinations for the Ph.D.; (2) specific course requirements may be assigned to new students by the graduate adviser.

Qualifying Examinations
The written examinations consist of three parts for the first Ph.D. program and two parts for the second program: (1) first half of major field (three hours); (2) second half of major field (three hours); (3) minor field (three hours).

You may take the written examinations in the major or minor field any time after admission to the doctoral program and fulfillment of all prerequisite requirements. The major field examinations are given within a period of seven school days and completed no later than four weeks before instruction ends in a given term.

Written examinations may be repeated in case of failure. Repetition of the major examination includes both parts of the major field. When you have completed the written examinations successfully, the chair of the guidance committee schedules the University Oral Qualifying Examination to be administered by the doctoral committee as soon as possible after completion of the written examinations.

Advancement to candidacy takes places when you have (1) passed the graduate reading examination in French, (2) passed a departmental reading examination either in a modern Scandinavian language or in Dutch and Afrikaans or in Latin or in Yiddish (or an approved substitute language), (3) successfully completed three seminars, and (4) passed the qualifying examinations. When you pass the oral examination, you advance to candidacy and proceed to the writing of the dissertation.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
After your completed dissertation is accepted by the certifying members of the doctoral committee, you may be required to defend the dissertation in a final oral examination.
German

Lower Division Courses

No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition. Students with demonstrated preparation may be permitted to transfer to a more advanced course with consent of the instructor.

1. Elementary German. Lecture, five hours; laboratory, one hour. Mr. Voge.

10. Elementary German for Graduate Students. Preparation for Graduate Division foreign language reading requirement. May not be applied toward degree requirements. S/U grading.

2. Elementary German. Lecture, five hours; laboratory, one hour. Enforced requisite: course 1.

10G. Elementary German for Graduate Students. Preparation for Graduate Division foreign language reading requirement. May not be applied toward degree requirements. S/U grading.

3. Elementary German. Lecture, five hours; laboratory, one hour. Enforced requisite: course 2.

4. Intermediate German. Lecture, five hours; enforced requisite: course 3.


8. Elementary German: Intensive (12 units). Lecture, 15 hours; laboratory, five hours; outside study, 16 hours. Intensive basic course in German equivalent to courses 1, 2, and 3. P/NP or letter grading. (Sum)

12. German Conversation (2 units). Enforced requisite: course 1. Use of German language teaching films; students have opportunity to practice spoken German in small groups. Mr. Voge.


50A-50B. Masterworks of German Literature in Translation. Lecture, three hours. May not be applied toward completion of the major in German.

50A. Medieval Period through Classicism. Study and analysis of selected masterworks in German translation, including works from the earliest period, such as the heroic and courtly epic, to authors such as Grimmelshauss, Lessing, Schiller, and Goethe. 50B. Romanticism to the Present. Study and analysis of selected masterworks in German translation, including works such as E.T.A. Hoffmann, Heine, Fontane, Rilke, Kafka, Brecht, Thomas Mann, Hesse, Grass, Böll, and Christa Wolf. Ms. Komar.

51. Masterworks of German or East Central European Literature in English Translation. Lecture, three hours. Study and analysis of masterworks of Germanic or East Central European literatures (Dutch and Afrikaans, Hungarian, Old Norse, or Yiddish), examination of one particular literary period per term.

88. Lower Division Seminar. Discussion, three hours. Course of variable content limited to topics of current interest and offered whenever a staff member is available.

Upper Division Courses

Prerequisite for all upper division courses (except 100A, 100B, 100C, 119A through 119H, 121A, 121B, 121C) is course 6 or equivalent or consent of instructor.
121. German Film in Cultural Context: Early German Film. Lecture, one hour; discussion, one hour; screenings, two to two and one-half hours. Survey of German film from the Weimar, Stummfilm, and silent era. Viewing and discussion of films by Lang, Murnau, Stanner, Wiene, Staudte, et al., with respect to their cultural, sociopolitical, and cinematic codes.

121C. German Film in Cultural Context: New German Film. Lecture, one hour; discussion, one hour; screenings, two to two and one-half hours. Survey of New German film as it evolved in the late 1960s. Viewing and discussion of films by Fassbinder, Schröndorf, Sanders-Brahms, Wenders, and other German-speaking filmmakers, with respect to their cultural, sociopolitical, and cinematic codes. Ms. Landa.

123. Goethe’s Faust. Prerequisites: courses 100A or 100B and 123, or consent of instructor. Detailed interpretation of Goethe’s Faust, Parts I and II, together with an extended analysis of the treatments of the Faust theme in European literature. Mr. Bahr.

124. German Folklore. Survey of various genres of German folklore.

127. Current Topics in German Linguistics. (Formerly numbered 129.) Lecture, three hours. Prerequisites: courses 103 and 121. In-depth look at one topic within the field of Germanic linguistics. Topics include phonetics and phonology, morphology and syntax, semantics and pragmatics, social and spatial variation (i.e., sociolinguistics and dialectology of German), and history of German. Mr. Stevens.

138. Linguistic Theory and Grammatical Description. Lecture, three hours. Prerequisites: course 129 and Linguistics 20, or consent of instructor. Crucial problems in structure of Dutch and German, considered from such theoretical frameworks as sign-oriented linguistics, functional linguistics, discourse grammar, and cognitive linguistics. Discussion of formal linguistic approaches. Concurrently scheduled with course C238. Mr. Kirner.


199A-199ZZ. Special Studies (2 to 4 units each). Prerequisite: consent of instructor. To be arranged with faculty member who will direct the course (section code to be selected by two-letter code using initials of sponsoring instructor). Independent study for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite.

Graduate Courses

201A. Bibliography, Research Methods, and Scholarly Writing. Lecture, three hours. Introduction to current state of advanced research and analysis of literary and philological materials, with emphasis on bibliographies and such tools of research as reference works, series publications, journals, archives, literary histories, and computer data banks. Practical exercises in analysis of sources, compilation and presentation of bibliographies, and writing of research papers.

202A. The Courtly Twain. Lecture, three hours. Analysis of the courtly society, as well as introduc- tions to the courtly literature, as represented in works such as Dietrich epics. Methods of analysis and interpretation of such works as the Nibelungenlied, Kudrun, and the Dietrich epics. Mr. Bahr, Ms. Kowalik.

202B. The Courtly Lyric. Analysis of medieval lyric poetry, with general consideration of other treatments of the Faust theme in European literature. Mr. Bahr.

203C. The Heroic Epic. Survey of German heroic literature, beginning with Hildebrandslied and including such works as Niibelungenlied, Kudrun, and the Dietrich epic. Methods of英雄ism interpretation and analysis, as well as analysis of thematic and formal characteristics of the different epics.

204. Renaissance and Reformation Literature. Literature of the 15th and 16th centuries, including introduc- tions to the study and understanding of High German language. Selected readings from works of authors such as Sebastian Brant, Martin Luther, Hans Sachs, and Johann Fischart.

205. Baroque Literature. Definition of the term baroque and development of modern baroque scholarship; influence of foreign models; analysis of sample theo- retical writings (prosodies) and of representative poe- mns, dramas, novels, and prose satires of the 17th century.

206A. Enlightenment and Sentimentalism. Study of representative authors of the earlier part of the 18th century from Gottsched through Lessing, including such authors as Leibniz, Thomasius, Wolff, Bode- mer and Bretzinger, Johann Elias Schlegel, Haller, Brookes, Anacreontic poets, Eichendorff, Klopstock, Mendelssohn, and Wieland. Mr. Bahr, Ms. Kowalik.

206B. Sturm und Drang. Study of representative authors of the Sturm und Drang period, such as Her- der, Schnitzler, Kleist, Lessing, Goethe, and Kuhn, R.M. Lenz, Moritz, Heine, Schubart, and the young Goethe and Schiller. Mr. Bahr, Ms. Kowalik.

207A. Classicism: Goethe. Selected topics from works of Goethe in the period from 1786 to 1832, such as Faust (parts I and II), The Sorrows of Young Werther, Theater, Faust, and Meisters Lehrjahre. Die natürliche Tochter, Pandora, and poetry selections. Mr. Bahr, Ms. Kowalik.

207B. Classicism: Schiller. Selected topics from dramatic and critical works of Schiller in the period from 1780 to 1805, including Annalen und Wür- über das Erhabene, Wallenstein, Maria Stuart, Jung- frau von Orleans, and Wilhelm Tell. Mr. Bahr, Ms. Kowalik.

208. Romanticism: Analysis of selected works of the Romantic period by authors such as Wackenroder, Tieck, the brothers Schlegel, Novalis, Hölderlin, Börn- tano, Arnim, the brothers Grimm, “Bonaventura,” E.T.A. Hoffman, Eichendorff, and others. Course may be repeated as written consent of instructor. Mr. Nehring.

209A. 19th-Century German Lyric Poetry. Development of German lyric poetry from the classic/Romantic period to symbolism. Discussion of forms, attitudes, tenden- cies. Analyses may include poetry by Romantic authors as well as Heine, Nietzsche, and others. Mr. Vormärz, Droste-Hülshoff, Keller, Storm, C.F. Meyer, Nietzsche, Geoge, and others.

209B. 19th-Century German Literature. Study of representative authors of the 19th century, beginning with Wagner and ending with Johannes von Hadlaub. Mr. Bahr, Ms. Kowalik.

209C. 19th-Century Narrative Prose. Analysis of German prose works from Romanticism to naturalism. Discussion of the problem of reality and literary realism with respect to narrative techniques. Authors may include Heine, Büchner, Dostoevsky, Nietzsche, and others. Mr. Nehring.

210A. Naturalism and Symbolism. Sociological background and theoretical writings concerning natural- istic literary theory. Analysis of representative works of realism, naturalism, and Symbolism, analysis of representative works of realism, naturalism, and Symbolism, drama and shorter narratives by authors such as Holz, G. Hauptmann, George, Hofmannsthal, and Rilke. Mr. Nehring, Mr. Wagener.

210B. Expressionism and Neorealism. Historical and sociological background in the period from 1910 to 1933. Literary magazines, theoretical writings, poe- try of expressionism and Dadaism, expressionism and Dadaism, and shorter narratives. Definition and represen- tative works of surrealism. Mr. Wagener.
Graduate Courses

596. Directed Individual Study or Research in Afrikaans (2 to 4 units).
Prerequisite: consent of instructor. Independent studies for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite.
Mr. Kirsner

Hungarian

Upper Division Courses

101A. Elementary Hungarian. Introduction to grammar and reading exercises, with emphasis on the spoken language.
Ms. Birnbaum
101B. Elementary Hungarian. Prerequisite: course 101A or equivalent. Grammatical exercises, conversation, and reading of texts.
Ms. Birnbaum
101C. Elementary Hungarian. Prerequisite: course 101A or equivalent. Conversation and readings in literary texts.
Ms. Birnbaum
Ms. Birnbaum
101E. Advanced Hungarian. Prerequisites: courses 101A through 101D or equivalent. Conversation, reading, and discussion of literary texts.
Ms. Birnbaum
101F. Advanced Hungarian. Prerequisites: courses 101A through 101E or equivalent. Conversation and review of Hungarian grammar from a typological point of view.
Ms. Birnbaum
12A-120B. Readings in Hungarian. Prerequisite: course 101C or equivalent. Selections of Hungarian prose and poetry read in the original.
Ms. Birnbaum
120C. Readings in Hungarian Literature. Prerequisites: reading knowledge of Hungarian, course 101C or equivalent. Selections of Hungarian prose and poetry read in the original. Discussion conducted in Hungarian.
Ms. Birnbaum
121A-121B. Survey of Hungarian Literature in Translation. Intended for students in general and comparative literature, as well as students interested in Finno-Ugric studies. Survey of main trends and contacts with other literatures.
Ms. Birnbaum
130. Hungarian Civilization and Culture. Study of Hungarian civilization and institutions from earliest times to the present. Study of Hungarian culture as represented in its arts (literature, fine arts, music).
Ms. Birnbaum
M135. Hungarian Folklore and Mythology. (Same as Folklore M128.) General course for students in folklore and mythology, with emphasis on types of folklore and varieties of folklore.
Ms. Birnbaum
M136. Folklore and Mythology of the Ugric Peoples. (Same as Folklore M129.) Survey of traditions of the smaller Ugric nationalities (Voguls, Ostyaks, etc.).
Ms. Birnbaum
199. Special Studies in Hungarian (2 to 4 units). Prerequisite: consent of instructor. Independent studies for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite.
Ms. Birnbaum

Old Norse Studies

Lower Division Course

40. The Heroic Journey in Northern Myth, Legend, and Epic. Comparison of the journeys of heroes. Readings in mythology, legend, folklore, and epic, including Nibelungenlied, Volsunga saga, Eddas, and Beowulf. Cultural and historic backgrounds to the texts. All readings in English.
Mr. Byock

Upper Division Courses

C139. The Saga. (Formerly numbered 139.) 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. Mr. Byock
C140. Viking Civilization and Literature. (Formerly numbered 140.) 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.
Mr. Byock
Mr. Byock
151. Elementary Old Norse. Introduction to grammar and pronunciation of Old Norse. Selected readings from the sagas and Prose Edda.
Mr. Byock
152. Intermediate Old Norse. Prerequisite: course 151 or equivalent. Continued grammar, pronunciation, and readings from the sagas and Eddas. Concurrently scheduled with course C241.
Mr. Byock
153. Modern Icelandic. Prerequisite: course 152 or equivalent. Grammar, readings, and conversation.
Mr. Byock
199. Special Studies in Old Norse (2 or 4 units). Prerequisite: consent of instructor. Independent studies for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite.
Mr. Byock

Graduate Courses

221. Advanced Old Norse Prose. Prerequisite: course 152 or equivalent. Readings of major saga texts. Also, secondary sources which bear on specific issues in Old Norse literature and medieval Scandinavian history.
Mr. Byock
222. Advanced Old Norse Poetry. Prerequisite: course 152 or equivalent. Readings of mythological and heroic poems from Poetic Edda. Secondary sources used where appropriate.
Mr. Byock
C241. Viking Civilization and Literature. 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.
Mr. Byock
245A. Germanic and Scandinavian Mythology. Seminar, three hours. Study of Northern myth and religion through close reading of Eddic texts and secondary sources.
Mr. Byock
C268. The Saga. 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 C139. Graduate students do additional readings and write more extensive research papers.
Mr. Byock
C272. Old Norse Literature and Society. (Formerly numbered 272.) 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.
Mr. Byock
C315. Directed Individual Study or Research. To be arranged with faculty member who will direct 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. S/U grading.
Mr. Kirsner
597. Preparation for Ph.D. Qualifying Examinations. To be arranged with faculty member who will direct the study (see department for I.D. number). S/U grading. Mr. Byock

Yiddish

Upper Division Courses

101A. Elementary Yiddish. Introduction to grammar; instruction in listening, speaking, reading, and writing skills. Ms. Hadda
101B. Elementary Yiddish. Prerequisite: course 101A or equivalent. Ms. Hadda
101C. Elementary Yiddish. Prerequisite: course 101B or equivalent. Ms. Hadda
104. Advanced Yiddish. Lecture, three hours. Prerequisite: course 101C or equivalent. Grammatical exercises, reading and linguistic analysis of texts, conversation. Ms. Hadda
121A. 20th-Century Yiddish Poetry in English Translation. Prerequisite: upper division standing or consent of instructor. Readings in 20th-century Yiddish poetry and drama. Ms. Hadda
121B. 20th-Century Yiddish Prose and Drama in English Translation. Prerequisite: upper division standing or consent of instructor. Readings in 20th-century Yiddish prose. Ms. Hadda
121C. Special Topics in Yiddish Literature in English Translation. Varying topics of importance and relevance to Yiddish literary study. Reading and analysis of a wide range of 19th- and 20th-century literature. Ms. Hadda
131A. Modern Yiddish Poetry. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish poetry. Ms. Hadda
131B. Modern Yiddish Prose and Drama. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish prose and drama. Ms. Hadda
131C. Special Topics in Yiddish Literature. Prerequisite: 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. Ms. Hadda
199. Special Studies in Yiddish (2 to 4 units). Prerequisite: consent of instructor. Independent studies for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite. Ms. Hadda

Graduate Courses

596. Directed Individual Study or Research in Yiddish. To be arranged with faculty member who will direct 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. S/U grading. Ms. Hadda
597. Preparation for Ph.D. Qualifying Examinations. To be arranged with faculty member who will direct the study (see department for I.D. number). S/U grading. Ms. Hadda

Scandinavian Section

2326 Murphy Hall, (310) 825-3955

Professors
James R. Massengale, Ph.D.
Mary Kay Norseng, Ph.D., Vice Chair
Ross P. Shinder, Ph.D. (Distinguished Teaching Award)
Kenneth G. Chapman, Ph.D., Emeritus

Lecturer
Jules L. Zentner, 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.

Bachelor of Arts in Scandinavian Languages

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.

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.

Master of Arts in Scandinavian Languages

Admission
In addition to the University minimum requirements, prospective students in the M.A. program in Scandinavian must have an undergraduate major in Scandinavian languages or equivalent. If you are deficient in the undergraduate major, you must complete it by taking the appropriate courses as recommended by the graduate adviser. A placement examination in the Scandinavian languages, as well as in German, may be required.

Three letters of recommendation are required by the Graduate Division.

For a brochure describing the program and requirements, write to the Scandinavian Section, 2326 Murphy Hall, UCLA, Los Angeles, CA 90024-1537.

Major Fields or Subdisciplines
There are no specifically designated major fields or subdisciplines in the M.A. program, but students emphasize one modern language and literature area in Danish, Norwegian, or Swedish.

Foreign Language Requirement
Reading knowledge of French or German is required (in addition, of course, to knowledge of the Scandinavian languages). You must pass the Graduate School Foreign Language Test (GSFLT) reading examination in French or German with a score of 500 or better or must pass at least one upper division course in French or German.

Course Requirements
A total of 12 courses is required for the M.A. degree. These include a minimum of nine upper division and graduate courses in Scandinavian languages, at least five of which must be graduate courses. Three upper division or graduate-level courses may be taken in a related field of study to be determined in consultation with the graduate adviser; at least one of these must be at the graduate level. Comparative Literature 200 or English 201A or an equivalent course in methodology is required as one of the 12 courses.

Comprehensive Examination Plan
A comprehensive examination, based on the required coursework and a reading list, is required of all candidates for the M.A. degree. The examination is given whenever you have completed the course requirements and, in consultation with the graduate adviser, your general and reading list preparation is deemed adequate.

The comprehensive examination is both written and oral; students who fail may be reexamined once without petitioning.

For the Ph.D. degree in Germanic Languages with Scandinavian literature as a major or minor field, see the "Ph.D. in Germanic Languages."

Lower Division Courses
No credit is allowed for completing a less advanced course after successful completion of a more advanced course in 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, or 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 in-
143. Scandinavian Literature of the 20th Century. Discussion, three hours. Prerequisite for Scandinavian majors: course 5, 15, or 25, or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussion of selected works of modern Scandinavian literature from beginning of the century to the present. P/NP or letter grading. Mr. Massengale, Ms. Norseng, Mr. Shideler

144. Henrik Ibsen on the World Stage. Discussion, three hours. Prerequisite for Scandinavian majors: course 5, 15, or 25, or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussion of selected plays by Ibsen. May be concurrently scheduled with course C251. P/NP or letter grading. Ms. Norseng

145. Getting Married: Strindberg and Battle of the Sexes. Discussion, three hours. Prerequisite for Scandinavian majors: course 5, 15, or 25, or equivalent; for nonmajors: knowledge of a Scandinavian language not required. August Strindberg's portrayals of marital conflict reflected and shaped literary representation of the so-called battle of the sexes. His work, as well as its literary transformations, placed into a Scandinavian, European, and feminist context. May be concurrently scheduled with course C252. P/NP or letter grading. Mr. Massengale, Mr. Shideler

146. Kierkegaard and Foundations of Existentialism. Discussion, three hours. Prerequisite for Scandinavian majors: course 5, 15, or 25, or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Study of selected works by Søren Kierkegaard and other existentialists. May be concurrently scheduled with course C253. P/NP or letter grading. Mr. Massengale

147. Pan's Prophets: Knut Hamsun and Other Interpreters of Nature as Modern Idyll. Discussion, three hours. Prerequisites: senior or graduate standing; consent of instructor. Readings and discussion of selected works by Knut Hamsun. May be concurrently scheduled with course C254. P/NP or letter grading. Ms. Norseng, Mr. Zentner

148. Literature and Scandinavian Society. Discussion, three hours. Prerequisite for Scandinavian majors: course 5, 15, or 25, or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Discussion of selected aspects of Scandinavian society based on readings of contemporary literature as well as historical and/or sociological material. May be concurrently scheduled with course C255. P/NP or letter grading. Ms. Norseng

149. Contemporary Swedish Literature. Discussion, three hours. Prerequisite: reading knowledge of a Scandinavian language. Reading and analysis of selected texts by major 20th-century Swedish authors. Mr. Shideler

150. Theory of the Scandinavian Novel. Discussion, three hours. Prerequisite for Scandinavian majors: course 5, 15, or 25, or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Analysis of structural elements of the 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 the novels. May be concurrently scheduled with course C264. P/NP or letter grading. Ms. Norseng, Mr. Shideler

151. Henrik Ibsen on the World Stage. Discussion, three hours. Prerequisites: advanced knowledge of a modern Scandinavian language, consent of instructor. Intensive study of works of Henrik Ibsen. May be concurrently scheduled with course C145. 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. Mr. Massengale, Ms. Norseng

152. Getting Married: Strindberg and Battle of the Sexes. Discussion, three hours. Prerequisites: advanced knowledge of a Scandinavian language or consent of instructor. August Strindberg's portrayals of marital conflict reflected and shaped literary representation of the so-called battle of the sexes. His work, as well as its literary transformations, placed into a Scandinavian, European, and feminist context. May be concurrently scheduled with course C146. 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. Ms. Norseng, Mr. Shideler

153. Kierkegaard and Foundations of Existentialism. Discussion, three hours. Prerequisites: advanced knowledge of a modern Scandinavian language or consent of instructor. August Strindberg's portrayals of marital conflict reflected and shaped literary representation of the so-called battle of the sexes. His work, as well as its literary transformations, placed into a Scandinavian, European, and feminist context. 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. Ms. Norseng, Mr. Shideler
History

6265 Bunche Hall, (310) 825-4601

Professors
Edward A. Alpers, Ph.D.
Perry Anderson, B.A.
Joyce Appleby, Ph.D.
Robert L. Benson, Ph.D.
Ivan T. Berend, Ph.D.
Edward G. Berenson, Ph.D. (Distinguished Teaching Award)
Robert P. Brenner, Ph.D.
Giorgio Buccellati, Ph.D.
Mortimer H. Chambers, Jr., Ph.D.
Stenley Coben, Ph.D.
Bonita L. Copeland, Ph.D.
Robert Dallek, Ph.D. (Distinguished Teaching Award)
Elen DeBois, Ph.D.
Christopher McKnight, Ph.D.
Benjamin A. Elman, Ph.D.
Saul Friedlander, Ph.D. (1939 Club Professor)
Patrick Geary, Ph.D.
Carlo Ginzburg, Laurea in lettere (Franklin D. Murphy Professor of Renaissance Studies)
Júan González-Quiñones, Ph.D.
Thomas S. Hines, Ph.D.
Richard Hovannisian, Ph.D. (Armenian Educational Foundation Professor of Modern Armenian History)
Philip C. Huang, Ph.D.
Norms C. Hundleby, Ph.D.
Sanford M. Jacoby, Ph.D.
Michael O. Jones, Ph.D.
Nikki Keddie, Ph.D.
Barbara Krékic, Ph.D.
John H.M. Lassèt, D.Phil.
James Lockhart, Ph.D.
Peter Loewenberg, Ph.D.
Alaf Mansot, D.Phil.
Ronald J. Mellor, Ph.D., Chair
Eric H. Monkjenon, Ph.D.
Regina Morantz-Sanchez, Ph.D.
Gary B. Nash, Ph.D. (Distinguished Teaching Award)
Fred G. Noteheffer, Ph.D.
Boniface I. Obichere, D.Phil.
Herman Ooms, Ph.D.
Merrick Posansky, Ph.D.
Peter H. Reill, Ph.D.
Richard H. Rouse, Ph.D.
David Sabeen, Ph.D. (Henry J. Bruman Professor of German History)
Damodar R. SarDësniai, Ph.D.
Stanford J. Shaw, Ph.D.
Deborah L. Silverman, Ph.D.
Geoffrey W. Symcox, Ph.D.
Scott L. Waugh, Ph.D. (Distinguished Teaching Award)
Richard Weiss, Ph.D.
James W. Wilkie, Ph.D.
Robert Wohl, Ph.D.
Stanley A. Wolpert, Ph.D. (Distinguished Teaching Award)

Professors Emeriti
Milton Anastos, Ph.D.
Amin Banani, Ph.D.
Kees W. Bolle, Ph.D.
E. Bradford Burns, Ph.D. (Distinguished Teaching Award)
Robert I. Burns, S.J., Ph.D.
Robert N. Burr, Ph.D.
John W. Caughhey, Ph.D.
Claus-Peter Clawson, Ph.D.
Frank O. Gatell, Ph.D.
Daniel W. Howe, Ph.D.
Jere C. King, Ph.D.
Andrew Lossky, Ph.D.
Lauro R. Martinez, Ph.D.
Hans J. Roger, Ph.D.
Alexander P. Saxton, Ph.D.
Eugen Weber, M.Litt. (Professor Emeritus of Modern European History; Luckman Distinguished Teaching Award)

Associate Professors
Peter Baldwin, Ph.D.
Kathryn Bernhardt, Ph.D.
Mario Biagioli, Ph.D.
Ruth Bloch, Ph.D.
Robert G. Frank, Ph.D.
Robert A. Hill, M.Sc.
Valerie J. Matsumoto, Ph.D.
Melissa Meyer, Ph.D.
Michael G. Morony, Ph.D.
Kathryn Norberg, Ph.D.
Theodore Porter, Ph.D.
George Sanchez, Ph.D.
Miriam Silverberg, Ph.D.
Sharon Trawee, Ph.D.
Albin M. Urdahl, Ph.D.
Richard von Glahn, Ph.D.
William H. Worger, Ph.D.
Mary A. Yeager, Ph.D.

Assistant Professors
Stephen Frank, Ph.D.
John B. Hatch, Ph.D.
Vinay Lal, Ph.D.
Murie McClendon, Ph.D.
José Moya, Ph.D.
David N. Myers, Ph.D.
Claudia Rapp, D.Phil.
Jan Reiff, Ph.D.
Michael Salman, Ph.D.
Brenda Stevenson, Ph.D.
William Summerhill, Ph.D.
Henry Yu, Ph.D.

Lecturers Emeriti
Albert Hokie, M.A. (Distinguished Teaching Award)
Larry Lauerhass, Ph.D.

Adjunct Professor
Robert C. Ritchie, Ph.D.

Adjunct Associate Professors
S. Scott Bartsch, Ph.D. (Distinguished Teaching Award)
Darryl Holter, Ph.D.
Yui Ichikawa, 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 foremost, 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 excelle
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preparation for a wide variety of careers — law, teaching, business, the communications media, public services, and medicine.

The department offers graduate programs leading to the M.A. and Ph.D. and accepts qualified applicants for either or both degrees. There is also a joint master’s program with the Graduate School of Education and Information Studies. 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.

Bachelor of Arts Degree
Preparation for the Major

The History Department’s undergraduate program consists of 16 courses in history (six lower division — the “Preparation for the Major”; 10 upper division — the “Major”) and four courses in the social sciences outside the department. The following courses are required in the program:

(1) History 1A-1B-1C.
(2) Two courses in U.S. history.
(3) Two courses in non-Western history from the same area (i.e., Latin America, Asia, Near and Middle East, Africa) or in science and technology.
(4) History 100A or 101.
(5) History 197 or 199.
(6) Four courses in the social sciences outside of history or in other related disciplines as explained below.

The requirements for U.S. and non-Western history may be met with either upper or lower division courses. Normally only six lower division courses in history need to be included in your program, so if you meet the U.S. history requirement at the lower division level, you have to meet the non-Western requirement at the upper division level (or vice versa). If you choose to meet both requirements at the lower division level, you are still required to take 10 upper division courses to fulfill upper division requirements. The department recommends the following lower division courses to meet the U.S. history and non-Western requirements:

History 2, 3A, 3B, 3C, 6A, 6B, 6C, 7A, 7B, 8A, 8B, 8C, 9A, 9C, 9D, 10A, 10B, 11A, 11B. If only one non-Western course is taken in lower division, an appropriate upper division non-Western course must be included in the major.

All history majors are required to take at least four courses in other departments in the social sciences, whether lower or upper division (anthropology, geography, economics, political science, sociology, psychology). These courses may not be taken on a Passed/Not Passed basis. A one-semester course from the History 6A-6B-6C sequence may be applied toward this requirement, provided the same course is not used to satisfy any other requirement of the major.

By petition, you may replace up to two social sciences courses with courses in humanities, arts, or natural sciences relevant to your program in history. Courses in communication studies do not fulfill this requirement.

Transfer students with deficiencies in lower division courses may by petition substitute appropriate upper division courses in history for the lower division requirements. See the undergraduate counselor.

There is no language 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 — The College of Letters and Science allows eight quarter units toward the B.A. for each Advanced Placement Test in history. The History Department applies this credit to the “Preparation for the Major” as follows: AP European History fulfills History 1C; AP American History with a score of 4 or 5 allows eight units of History 7A-7B credit on the history preparation. The excess units may be applied only toward the degree.

Honors Program

The honors program is designed for history majors who are interested in carrying out a year-long independent research project that culminates in an honors thesis. Special honors seminars are also offered during the junior year. A 3.5 departmental grade-point average is normally required for admission, but students with a lower GPA may apply to the honors committee for admission. Application should be made at the beginning of the junior year.

History 101H is required, as are History 199HA-199HB-199HC, which count as three of the 10 required upper division courses. Course 199HA is taken in Spring Quarter of the junior year; honors students then take courses 199HB and 199HC in Fall and Winter Quarters of their senior year under the guidance of the sponsoring professor. A prize is awarded for the outstanding honors thesis.

Instructional Credential in History

For information on the single subject instructional credential in history, consult the Graduate School of Education and Information Studies, 1009 Moore Hall (310-825-8328).

Master of Arts Degree
Admission

For admission to graduate standing in the Department of History, you should normally have completed the undergraduate major or its equivalent, have received a Bachelor of Arts degree or its equivalent from an accredited college or university, and have maintained at least a B+ average in upper division work. You also need three letters of recommendation and your score on the General Test of the Graduate Record Examination (GRE) submitted to the department. Students not meeting the grade-point average requirements may be admitted in exceptional cases if their letters of recommendation, GRE score, or other factors indicate unusual promise. Applicants with a year or more of graduate study at other institutions should have attained a GPA of 3.5 or better if they wish to work toward the Ph.D. degree. Admission to the department depends on the number of openings in the field in which you expect to specialize. Applications should be submitted before December 1; notification is made on or before May 1. Except for extraordinary cases, students are expected to begin their graduate work in Fall Quarter. The department has no separate application form in addition to the one used by UCLA Graduate Application Processing. Departmental information is available from Sheila Patel, Graduate Admissions, Department of History, 6273 Bunche Hall, UCLA, Los Angeles, CA 90024-1473.

There is no screening examination. Nonhistory majors may be required to take specified courses, depending on their background and fields of specialization. Because applicants are admitted to pursue graduate work in a specific field, a change of fields after admission requires approval of the relevant field committee.

An annual Guide to Graduate Study in History which explains the requirements and procedures of the graduate program in detail is mailed to all new graduate students who have filed a Statement of Intent to Register (prior to registration). The guide lists faculty, their representative publications, and descriptions of courses offered during the year, and is available from the graduate adviser.

Major Fields or Subdisciplines

The comprehensive examination covers one of the following fields: (1) ancient (includes ancient Near East); (2) medieval (includes Byzantine and medieval Jewish history); (3) Europe, 1550 to present (includes British history and the British Empire); (4) Africa; (5) Near East (includes Armenia); (6) India and Southeast Asia; (7) East Asia; (8) Latin America; (9) U.S.; (10) history of science; (11) special fields (students in the history of religions, Russian history, and modern Jewish history are normally examined in one of the above fields, but with consent of the faculty in these fields may petition the graduate guidance and curriculum committee for an M.A. examination in their field of specialization).

Foreign Language Requirement

If you are contemplating graduate work in history, you should begin study of a foreign language as an undergraduate since reading knowledge of one foreign language approved by the department is required. For French, German, Russian, or Spanish, a score of 500 on the Graduate School Foreign Language Test (GSFLT) is required. Students of U.S., Near East, and African history may use departmentally administered
Term of full-time study. Course 275. Seminars and course 225. Africanists must take courses must include at least two two-term advanced degrees. The department requires a minimum (and preferably a maximum) of nine upper division and graduate courses in history, at least six of which must be graduate courses. No course in the 300 series may be applied toward this requirement, and only one in the 500 series may be applied. For students in U.S. history and European history, a minimum of seven of the nine courses must be at the 200 level. For U.S. history, these seven courses must include at least two two-term seminars and History 245. For European history, the seven courses must include two two-term seminars and course 225. Africanists must take course 275.

Comprehensive Examination Plan

The department follows the comprehensive examination plan. Individual fields specify fulfillment of the examination requirement by (1) a three-hour written examination designed to assess your ability to synthesize a broad field of knowledge or (2) the submission of three essays written for at least two different professors as part of your program of study. At least two of these papers must have been submitted for graduate courses in the 200 series. The U.S. field requires a comprehensive examination in the form of a research paper of approximately 15,000 words, to be submitted at the end of six terms of full-time study. The European field requires a comprehensive examination in the form of a research paper of approximately 15,000 words, to be submitted at the beginning of the sixth term of full-time study.

The medieval M.A. examination is given in May of each academic year. All other field examiners administer the M.A. comprehensive examinations in November, March, and May each year. The committee recommends the following examination results: pass to continue, pass subject to reevaluation, terminal pass, fail. In cases where the M.A. is awarded pass subject to reevaluation, the field M.A. committee reevaluates your progress after an additional three terms of study. Only in exceptional cases are oral examinations required for the M.A. degree.

M.L.I.S./M.A.-History

This concurrent degree program of the Department of History and the Department of Library and Information Science allows you to combine historical study with the tools of the information professional and to obtain two degrees — the M.L.I.S. and the M.A. in History. The best sequence of coursework should be discussed with the advisers from this department and the Department of Library and Information Science.

Ph.D. Degree

Admission

Admission requirements for the Ph.D. program are the same as those for the M.A., but applicants for the doctorate are urged to seek an interview or to correspond with a member of the faculty in the field in which they intend to work. Students may be admitted with subject deficiencies, but such deficiencies must be removed by completing courses in addition to the requirements for an advanced degree.

While no examination is required for admission to a Ph.D. program, evaluation examinations are given to determine your continuance to the Ph.D. degree.

An annual Guide to Graduate Study in History which explains the requirements and procedures of the graduate program in detail is mailed to all new graduate students who have filed a Statement of Intent to Register (prior to registration). The guide lists faculty, their representative publications, and descriptions of courses offered during the year and is available from the graduate adviser.

Major Fields or Subdisciplines

Ancient Greece; ancient Rome; medieval constitutional and legal; medieval social and economic; medieval ecclesiastical and religious; medieval intellectual and cultural (medieval history specialists may offer no more than two of these fields in medieval history); Byzantine; Russia since 862; Southeast Europe (Balkans); England prior to 1485; England, 1485-1763; England since 1763; the British Empire; ancient Near East; the Near East, 500-1500; the Near East since 1500; Armenian; survey of African history; topics in African history (preferably on a regional basis); history of science to 1600; history of science since 1600; Europe, Renaissance/Reformation; Europe; Renaissance to the French Revolution; Europe since 1740; European socioeconomic history; European intellectual and cultural history; psychohistory; China, 900-1800; China since 1800; modern Japan; South Asia; Southeast Asia; Latin America, 1492-1830; Latin America since 1759; history of religions; Jewish history; history of Christianity; comparative history; U.S.: (1) mastery of the general field of U.S. history sufficient to teach a college-level survey course and (2) a specialized field selected from the following: Afro-American, American diplomatic, American West, American Indian, California, history of the South, Civil War and Reconstruction, Colonial, cultural, economic, immigration, intellectual, Jeffersonian and Jacksonian American (1800-1850), labor, Mexican-American, social, the new nation (1763-1800), 20th century, urban, women's history. Both the general and a specialized field must be offered by specialists in U.S. history, and only two fields in U.S. history are permitted. Either field 1 or 2 or both may be selected as minor fields for the Ph.D.

Candidates offering a field in comparative history as a fourth field for the Ph.D. degree should select a topic for comparison which would usually coincide with time-area spans of the other three fields defined for the Ph.D. qualifying examinations.

Candidates in the history of science program must select three of the above fields and either the history of medicine or an allied field.

All candidates may offer for examination an approved allied field outside the Department of History.

Foreign Language Requirement

Foreign language requirements vary according to the major field, although reading knowledge of the prescribed language(s) (one for U.S. history students, at least two for all others) is required. For details, consult the Program Requirements for UCLA Graduate Degrees, 1994-95: Department of History or your graduate adviser.

Course Requirements

You must meet (1) the special requirements for admission listed above and (2) the general requirements set forth under the Graduate Division. A program, extending over the full time of study, must be approved by the department. You are required to complete at least one continuing two- or three-term seminar or, alternatively, a continuing sequence of at least two graduate courses approved by the graduate guidance and curriculum committee, which results in a substantial research paper based at least in part on primary sources. If this requirement is met entirely or in part by a sequence of directed study courses (History 596), you must take the course(s) for a letter grade. Students in U.S. history should complete course 245. Students in European history must complete course 225, and students in African history must complete course 275 unless exempt by special petition. Courses taken to fulfill M.A. degree requirements may also be used to satisfy Ph.D. requirements.

Teaching Experience

The department cannot provide teaching experience for all Ph.D. candidates and cannot therefore require it for the degree. You should, however, be able to demonstrate ability to give instruction in your field.

Qualifying Examinations

Full-time graduate students must schedule the written qualifying examination by the end of the ninth term of graduate work. The written examination includes the major field only, is normally prepared and administered by the chair of your doctoral committee, and is read by the entire committee before you take the oral qualifying examination. The members of the doctoral committee determine whether or not an examination may be repeated (normally only once).

The written examination must be passed and a dissertation prospectus (approved by the doctoral committee chair) must be written before
Taking the University Oral Qualifying Examination in four fields, one of which may be an approved allied field. You should select fields in consultation with your faculty sponsor and must receive the department's approval of all four fields. If you fail the oral qualifying examination, you may repeat it once (normally within a period of six months) with the consent of the doctoral committee.

After passing the oral qualifying examination, you are advanced to candidacy and may begin work on the dissertation.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree in advancement to candidacy for the Ph.D.

Final Oral Examination

If required by the qualifying examination committee, a final oral examination is conducted after completion of the dissertation to cover the field within which the dissertation fails. After approving a dissertation, the chair of the doctoral committee may, with the unanimous consent of the entire committee, recommend a waver of the final oral examination.

Lower Division Courses

IAB-1B. Introduction to Western Civilization. Lecture, two hours; discussion, two hours. Honors sequence parallel to courses A1-B1-1C. History of Technology from Antiquity to the 20th Century. Lecture, three hours; discussion, two hours. History majors may not apply these courses on science general education requirements.

A: Scientific Revolution. Survey of the beginnings of physical sciences involving transformation from Aristotelian to Newtonian cosmology, mechanics of the natural world, rise of experimental science, and origin of scientific societies.

B: Physical Sciences since the Enlightenment. Broad survey of development of ideas in classical and modern physical science since Newton. Theories of matter, but more specifically chemistry, thermodynamics, electromagnetic theory of light, energy conservation, relativity, and quantum mechanics.

C: Biological Sciences, 1800-1955. Survey of development of biological sciences from the period of Bichat and Müller to discovery of the double helix.

Mr. R. Frank

3D. Themes in History of Medicine. Lecture, three hours. Not open to freshmen. Limited to 30 students. Examination, through illustrated lectures and focused discussions of primary sources, of themes in development of modern medicine: nature of diagnosis, emergence of surgery, epidemics, conception and treatment of insanity, and use of medical technology.

Mr. R. Frank

4. Introduction to History of Religions. Lecture, three hours; discussion, two hours. Discussion of various systems, ideas, and fashions of thought that have contributed to religious thought and practice in the world since antiquity. Survey of development from classical Greek and early Christian theologies to modern and postmodern religious thought. Mr. R. Frank

9C. History of Japan (Honors). Lecture, three hours; discussion, two hours. Intended for students with general interest in Japan, but also offered for more in-depth work in history of specific regions or periods. Mr. Notehelfer, Ms. Silverberg

9CH. History of Japan (Honors). Course parallels course 9C.

9D. History of the Near East and Middle East. Introduction to history of the Muslim world from advent of Islam to the present day. Ms. Marsot, Mr. Morony

10A-10B. Introduction to Civilizations of Africa. Lecture, three hours; discussion, two hours. Honors course parallel to course 10A-10B. Mr. Notehelfer

11A-11B. History of China. Lecture, three hours; discussion, two hours.

11A. To 1000. Survey of early history of China — genealogy of characteristics Chinese institutions and modes of thought from 1000 to 1500. Focus on socio-political and social and economic aspects of early and middle empires.

Ms. Bernhardt, Mr. Elman, Mr. von Glahn

11B. To 1500. Survey of later history of China — exploration of characteristics Chinese institutions and modes of thought from 1000 to 1500. Focus on socio-political, intellectual, and economic aspects of late empires and rise of modern China in the contemporary era.

Ms. Bernhardt, Mr. Elman, Mr. von Glahn

11AH-11BH. Honors sequence (Honors). Lecture, three hours; discussion, two hours. Honors sequence parallel to courses 11A-11B.

Ms. Bernhardt, Mr. Elman, Mr. von Glahn

20. Government and Society in Ancient Eurasia. Lecture, three hours; discussion, two hours. Examination of earliest civilizations of Asia, North Africa, and Europe — Mesopotamia, Egypt, Israel, India, China, Greece, and Rome — from development of settled agricultural communities until about 1400. Mr. Elman, Mr. Symcox

21. World History, 1200-1800. Lecture, three hours; discussion, two hours; outside study, seven hours. Exploration of early modern world through "eyewitness" accounts, with focus on both humanistic and social science aspects of historical change, specifically addressing social, political, economic, and cultural spheres of activity important in world affairs before American and French Revolutions.

Mr. Elman, Mr. Symcox

22. Contemporary World History, 1870 to the Present. Lecture, three hours; discussion, two hours. Broad thematic survey of world history since the mid-19th century. Examination, through lecture and discussion, of global implications of imperialism, total war, nationalism, cultural change, decolonization, changes in women's roles and status, and eclipse of world communism. Designed for students to historical study, help them understand issues and dilemmas facing the world today, and prepare them for more in-depth work in history of specific regions or countries of the world. P/NP or letter grading.

Mr. Berenson

M70. Survey of Medieval Greek Culture. (Same as Classics M70.) Lecture, three to four hours. Classical roots, including mythology and art, and medieval roots, including the Byzantine world. Mr. Dyck
Upper Division Courses

Prerequisite for all upper division courses is upper division standing or consent of instructor unless otherwise stated. Certain graduate courses (200 series) are open to students with upper division standing and consent of instructor.

100A. History and Historians. (Formerly numbered 100.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Study of historiography, including intellectual processes by which history is written, results of these processes, and sources and development of history. Attention also to representative historians. Mr. Baldwin, Mr. Ooms, Mr. Reill

100B. History and Contemporary Theory. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of main sources and trends of contemporary theory, from Sausasse’s linguistics to recent feminist theories, in texts that inform much of the recent historiographical directions and debate. Mr. Biagioli, Mr. Ooms

101. Introduction to Historical Practice. Seminar, three hours. Limited to juniors and seniors. Discussion and critical examination of 15 student papers, each written in consultation with a faculty member. Exploration of how works of history are written, with emphasis on problems of historiography and method.

101H. Introduction to Historical Practice (Honors). Seminar, three hours. Limited to juniors and seniors in history honors program. Discussion classes of no more than 15 students meeting with a faculty member. Emphasis on problems in philosophy of history, historiography, and method.

102. Explorations in Psychoanalysis and History. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Art of psychological and historical interpretation; assessment of recent writings in the field. Mr. Weingartner, Mr. Loewenberg, Mr. Wohl

M103. Historical Archaeology. (Same as Anthropology M115S.) Survey of aims and methods of historical archaeology as practiced on both sides of the Atlantic. The course will focus on the New World, the Caribbean, and Africa. Mr. Posnansky

M104A-M104B. Ancient Egyptian Civilization. (Same as Ancient Near East M104A-M104B.) Lecture, three hours. Course M104A is not prerequisite to M104B. Prior knowledge of cultural institutions of ancient Egypt and ideas on which they were based. M104A. Chronological discussion of Prehistory, the Old and Middle Kingdom. M104B. The New Kingdom and the Late period until 332 B.C. (Alternate years)

M105. History of Ancient Mesopotamia and Syria. (Formerly numbered 105.) (Same as Ancient Near East M105.) Lecture, three hours. Political and cultural development of the "Fertile Crescent," including Palestine, from the Neolithic to the Achaemenid period. Mr. Bucchelati

106A-106B-106C. Survey of the Middle East from 5000 B.C. to 1800. Lecture, three hours; discussion, one hour (optional); outside study, eight hours. Background and circumstances of rise of Islam, creation of the Islamic Empire, and its development. Rise of Dynastic Successor States and the Modern Nation States. Social, intellectual, political, and economic development. Mr. Morony

106A. 500 to 1300. Ms. Morony

106B. 1300 to 1700. Ms. Morony

106C. 1700 to the Present. Ms. Keddie

107A-107B. Islamic Civilization. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Mr. Morony

107A. Premodern Islam. Origins of Islamic civilization, Muhammad and the Qur’an; development of Islamic doctrine, ritual, piety and law, sectarianism and mysticism. Ms. Keddie


108A-108B. History of the Arabs. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Course 108A is prerequisite to 108B. Political, social, intellectual, and economic history of the Arabs from the 18th century to the present. Ms. Morony

109A-109B. History of North Africa from the Moslem Conquest. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Ms. Morony

109A. To 1578. Ms. Morony

109B. 1578 to the Present. Ms. Morony

110A-110B. Iranian History. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Political, social, and cultural history of Persia. Ms. Morony

110A. Islamic Iran to 1800. Ms. Morony

110B. Iran from 1800 to the Present. Ms. Keddie

111A-111B. History of the Turks. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of society, government, and political history of the Turks from earliest times to the present. P/NP or letter grading.

111A. The Turks, 1097-1808. Mr. Shaw

111B. 1808 to the Present. Modernization of the Ottoman Empire, 1808-1923. The Turkish Republic. The Turks in the world. Mr. Shaw

111C. History of Jews in the Ottoman Empire and the Turkish Republic, 1300-1923. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Preliminary introduction to the Jews in Ottoman and the Islamic world before the Ottoman conquest, followed by discussion of Jewish communities and Judaism in Southwestern Europe, Anatolia, and the Middle East while they were under Ottoman rule (1300-1923) and in the Turkish Republic since 1923. P/NP or letter grading.

112A-112B-112C. Armenian History. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Mr. Hovannisian

112A. Armenia in Ancient and Medieval Times, 2nd Millennium B.C. to A.D. 11th Century. Mr. Hovannisian

112B. Armenia from the Cilician Kingdom through the Periods of Foreign Domination and National Struggles, 11th to 19th Centuries. Mr. Hovannisian

112C. Armenia in Modern and Contemporary Times, 19th and 20th Centuries. The Armenian question and genocide, national republic, Soviet Armenia, and the dispersion. Mr. Hovannisian

113. The Caucasus under Russian and Soviet Rule. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of political, economic, social, and cultural history of the Caucasus region since 1801. Geographical, Armenian, and Azerbaijani response to Russian and Soviet rule; the nationality question and the Soviet national republics. Mr. Hovannisian

115A-115B-115C. History of Ancient Mediterranean Societies, discussion, one hour (optional); outside study, eight hours. Mr. Mellor

115B. History and institutions of the Greeks from their arrival to the death of Alexander the Great. Mr. Chambers, Mr. Mellor

115C. History and institutions of Rome from founding of the city to the death of Constantine. Mr. Chambers, Mr. Mellor

116A-116B. History of Ancient Greece. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Rise of the Greek City-State. Emphasis on archaic period and early classical age through the Persian Wars. 116B. Classical period. Clash between Athens and Sparta, consequent rise of Macedonia, and aftermath of Alexander the Great. Mr. Chambers

117A-117B-117C. History of Rome. (Formerly numbered 117A-117B.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. P/NP or letter grading. 117A. To Death of Caesar. Emphasis on development of imperialism and on constitutional and social struggles of the late republic. 117B. From Death of Caesar to the Time of Constantine. The early empire treated in more detail, supplemented by survey of social and economic changes in the 3rd century. 117C. Transformation of the Classical World. Political, cultural, and religious history of the Roman Empire in the 3rd century to barbarian and Arab invasions and beginning of medieval states and societies in the 7th century. Mr. Mellor

118. Introduction to Roman Law. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of public (constitutional), criminal, and private law of the Romans. Topics include social context of Roman law, historical evolution of Roman law, mechanicand procedures by which the law was administered, and content of private law. Mr. Mellor, Mr. Rapp

119. The Christian Church, 100-1517. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. 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 monarch; the high tide of papalism; crisis of authority on eve of the Reformation; P/NP or letter grading.

120. The Christian Religion, 100-1350. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Religious experience of the Mediterranean in late antiquity, belief and spirituality, worship, liturgy, and art. Religious life of lay Christians, as well as that of the Church’s institutional, intellectual, and spiritual leaders. Mr. Benson

121A-121B. Medieval Europe. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Basic introduction to Western Europe from Latin antiquity to the age of discovery, with emphasis on medieval life, society and culture, the Church and Church-state relations, the European Middle Ages, the rise of the nation state, crusades, and the development of feudalism, and the impact of the Black Death. Mr. Geary, Mr. Rouse

121C. Medieval Europe. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Basic introduction to Western Europe from Latin antiquity to the age of discovery, with emphasis on medieval life, society and culture, the Church and Church-state relations, the European Middle Ages, the rise of the nation state, crusades, and the development of feudalism, and the impact of the Black Death. Mr. Geary, Mr. Rouse
12C. Medieval Civilization: Mediterranean Heartlands. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of Western Mediterranean Europe, socioeconomic-cultural within a political framework, including its relation with other cultures.

12D. Medieval People: The 13th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The political, social, economic, and cultural development of the Middle Ages, as seen in its representative men and works.

12E. Power and Imagination in Byzantium. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Byzantium, the Empire of the Caesars. Analysis of the empire's political, economic, and cultural development.

12F. The 14th Century: A Time of Crisis. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The crisis of the later Middle Ages and the rise of the modern world. The development of the modern state and society.

12G. The 15th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The Renaissance, the Reformation, and the age of exploration. The growth of the modern world and the rise of nationalism.

12H. The 16th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The Age of Reformation and the Counter-Reformation. The development of the modern state and the rise of nationalism.

12I. The 17th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The Age of Absolutism and the Rise of the Modern State. The development of the modern state and the rise of nationalism.

12J. The 18th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The Age of Enlightenment and the Rise of Modernity. The development of the modern state and the rise of nationalism.

12K. The 19th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The Age of Industrialization and the Rise of the Modern State. The development of the modern state and the rise of nationalism.

12L. The 20th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The Age of Totalitarianism and the Rise of the Modern State. The development of the modern state and the rise of nationalism.

12M. The 21st Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. The Age of Globalization and the Rise of the Modern State. The development of the modern state and the rise of nationalism.
15A-15B. American Working Class Movements. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of development of labor movements in the United States, with emphasis on social, trade union, and cultural history of the American working class from Colonial times to the present, emphasizing both organized and unorganized labor, history of the Knights of Labor, of L. and C.I.O., and development of labor politics. Mr. Holter, Mr. Laslett

15A-15B. American Social History. 1750-1960. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of U.S. labor history and the development of alternative forms of organizing labor, including the Knights of Labor, A.F. of L., C.I.O., and development of state and federal labor legislation. Mr. Holter, Mr. Laslett

15C-15D-15E. Social History of American Women. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of major demographic, economic, social, and intellectual factors shaping the lives of women in families, at work, and in larger social collectivities. Emphasis on class, region, ethnicity, and chronological comparison. 15C, Colonial and Early National, 1600-1820; 15D, Victorian and Industrial, 1800-1920; 15E, 20th Century, 1900-1975. Ms. DuBois, Ms. Matsumoto

15F-15G. History of the American Family. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Perspective on the contemporary American family through study of its development over the course of four centuries. Topics include European origins, sex roles, childrearing, sexuality, work patterns. Emphasis on class, race, and regional variations. 15F, 1600 to 1700; 15G, 1750 to 1870. Ms. Morantz-Sanchez

15H. Medicine and Society in 19th-Century America. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. 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 culture as basis for contemporary social and political patterns. Preceptorial. 15H, 1800-1882. P/NP or letter grading. 15H-A, Preceptor to 1830; 15H-B, 1830 to the present. Ms. Meyer

15I. Comparative Slavery Systems. (Same as Afro-American Studies M158A.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Examination of the slavery experience in various New World slave societies, with emphasis on outlining similarities and differences among the legal status, treatment, and slave cultures of North American, Caribbean, and Latin American slave societies. Ms. Morantz-Sanchez

15J-15K. Introduction to Afro-American History. (Same as Afro-American Studies M158B-M158C.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of the Afro-American experience, with emphasis on the 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 milieus. Ms. Hill, Ms. Stevenson

15L. Afro-American Urban History. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Examination of Afro-American urban life from the eighteenth century to the present, emphasizing transition from slavery to freedom and shift from Southern to Northern areas. Forces which both propelled Afro-Americans to the cities and which also inhibited their adjustment to them. Mr. Sanchez

15E. Afro-American Nationalism in First Half of the 20th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Critical examination of the Afro-American search in first half of the 20th century for national/grothn cohesion through collectively built institutions, associations, and political movements, and the development of a logical self-definition. Mr. Hill

15M. History of the Chicano Peoples. (Same as Chicana and Chicano Studies M159A.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Development of the Chicano (Chicano) community and people of Mexican descent (Indio-Mestizo-Mulato) north of the Rio through the 17th, 18th, and 19th centuries and its role in political life. 15M, 1700 to 1960. P/NP or letter grading. Mr. Gomez-Quijones

15N. History of the Afro-American. (Same as Chicana and Chicano Studies M159B.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey lecture course on historical development of the 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 the Mexican community by inquiry into major formative historical forces affecting the community. Within a framework of domination and resistance, discusses the role of 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 a paper. Mr. Gomez-Quijones

160A-160B. U.S. and Comparative Immigration History. (Formerly numbered 160.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Historical analysis of the U.S. immigration model, which integrates North Atlantic (Europe), South Atlantic (Afro-Caribbean), Pacific (China/Japan/Hawaii), and Latin America (from Mexico to Brazil) worlds to provide chronological, analytical, and comparative understanding of immigration from 1720 to the present. Special focus on Southern California in course 160B. P/NP or letter grading. Mr. Laslett

161. Asians in American History. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Study of the politically troubling question of entry into the U.S. of immigrants ineligible for citizenship and their citizen children in American history. Mr. M. Matsumoto

162. American West. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Study of the West as frontier and as region, in transit from the Atlantic seaboard to the Pacific, from the 17th century to the present. Mr. Hundley, Mr. Sanchez

163. History of California. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Economic, social, intellectual, and political development of California from earliest times to present. P/NP or letter grading. Mr. Hundley, Mr. Sanchez

164. History of Los Angeles. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Social, cultural, and political development of Los Angeles and its environs from time of its founding to the present. Emphasis on the diverse peoples of the area, changing physical environment, various interpretations of the city, and Los Angeles' place among American urban centers. Mr. Sanchez

165A. Early Latin America. (Formerly numbered 165A-165B.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Advanced survey of Latin American history from conquest to independence, with emphasis on society, culture, and ethnic aspects. Mr. Lockhart

165C. Indians of Colonial Mexico. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of social and cultural history of the Indians of Mexico, especially central Mexico, from time of the European conquest until Mexican independence. Emphasis on life-style, community structure, and patterns on basis of recorded works produced by the Indians themselves. Mr. Lockhart

166, Latin America in the 19th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Emphasis on understanding causes and effects of national political and social, economic, and political problems of Latin American nations from their independence to around 1910. Mr. E.B. Burns, Mr. Moya

167A-167D. Latin America in the 20th Century. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Emphasis in national development analyzed to relate the timing of social changes to economic, political, cultural, and geographic issues. Each course case is chosen and each focuses on world pressures and interplay of overlapping themes: struggle between centralized and decentralized government agencies (emphasized in course 167A); role of personalist leadership (emphasized in course 167B); definition of the national polity (emphasized in course 167C), and "rightist" and "leftist" models of development (emphasized in course 167D). Mexico is treated in course 171. Note: Each course, countries are studied according to the etiological contribution to the theme emphasized. 167A, Haiti, Uruguay, Costa Rica, Cuba, Chile. 167B, Bolivia, Dominican Republic, Argentina, Paraguay, Venezuela. 167C, Panama, Colombia, Ecuador, Honduras, El Salvador, 167D, Brazil, Guatemala, Peru, Nicaragua. Mr. Wilkie

168. History of Latin American International Relations. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Emphasis on developing interests of Latin American nations in their relationship with one another and with other areas of the world, beginning with 19th-century independence. Mr. Lockhart

169. Latin American Elitelore. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Emphasis on the development of national political elite, including social and political development, decision-making processes, organizational structures, and role of political groups and patterns on basis of recorded works produced by the elites themselves. Mr. Lockhart

170A. Latin American Cultural History. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Intellectual, artistic, and folk expressions of the Latin American spirit and character examined in readings and lectures, with emphasis on unique contribution of Latin Americans to develop self-interpretation. Music, films, and slides supplement discussions. Mr. E.B. Burns, Mr. Wilkie

170B. Classic Travel Accounts of Latin America since 1755. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Recommened for prospective researchers before they select "settings" for their research ("enlightened traveler" accounts as they reveal cultural change from wide-ranging spatial and temporal Vance's. Comparison of published works to graphic regions, peoples, customs, occupations, dress, food, architecture, and transportation in the 20 countries of the area. Mr. Wilkie

170C. Issues in Latin America History. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Examination of major issues in history of Latin America. P/NP or letter grading.

192. European Jewry from 1881 to the Present. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Topics include the development of Jewish self-understanding in relation to intellectual climate of the environment as expressed in the haalachah, in philosophy, and in culture. Mr. Friedlander

193. History of Religions: Myth. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Nature and function of myth in history of religion and culture. Examples selected from nonliterate as well as from other Asian and European traditions. Mr. Myers

194. Jesus of Nazareth in Historical Research. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Techniques of historical research are applied to the study of Jesus of Nazareth in his social, economic, political, and religious contexts. Mr. Bartych

195A-195B. History of Science. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Prerequisite: course 3A or consent of instructor. Mr. Biagioli

195C. Perspectives on Modern Physical Science. Selections from 19th- and 20th-century physical science, including science and industrialization, thermodynamics, electromagnetism, relativity, quantum mechanics, and the atom bomb. Mr. Bartych

196. Special Topics in History of Religions. Seminar, three hours. Topics vary from year to year and include religion of the Veda; Brahmanism; (later) Hinduism. Consult Schedule of Classes for specific topics. May be taken independently for credit.

197. Undergraduate Seminars. Seminar, three hours. Limited to 15 students meeting with a faculty member. Prerequisite: course 4 or 193A. Topics vary from year to year and include Buddhism in India, religions of Java and Bali, ancient traditions of India, and Southeast Asia. Consult Schedule of Classes for specific topics. May be taken independently for credit.

198. Religions of South and Southeast Asia. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Topics vary from year to year and include religion of the Veda; Brahmanism; (later) Hinduism. Consult Schedule of Classes for specific topics. May be taken independently for credit.

199. Special Topics in History of Religions. Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Mr. Bucciarelli

200. Advanced Historiography: Afro-American. (Same as Afro-American Studies M200A.) Seminar, three hours. May be repeated for credit.

201A-201U. Topics in History, Seminar, three hours. Topical or current issues in history, research and applications of course methods. Students are led into firsthand knowledge (in field work) of history, society. Mr. Brenner

202. Advanced Historiography: Chicano. (Same as Chicano Studies M202A.) Seminar, three hours. May be repeated for credit.

203. Graduate Courses

- Introduction to economics
- History of biological sciences
- Advanced historiography
- Anthropology
- Advanced political science
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211A-211B. Seminars: Armenian History. Seminar, three hours. Prerequisite: reading knowledge of German or French. Mr. Rouse

212. Methods in Armenian Oral History. Seminar, three hours. Prerequisite: proficiency in Armenian language. Lectures and laboratory in methods of taking, processing, and utilizing depositions and other oral sources for Armenian history, including project assignment in the field. May be concurrently scheduled with course C112D. Mr. Havessian

215A-215B. Seminars: Ancient History. Seminar, three hours. Mr. Chambers, Mr. Melior

216A-216B. Seminars: Byzantine History. Seminar, three hours.

217. Sources and Handbooks of Medieval History. Seminar, three hours. Prerequisite: reading knowledge of Latin and German or French. Examination of aspects of medieval history through study of paleography, medieval libraries, and transmission of manuscript sources. Mr. Rouse

219A-219B. Paleography I, II. Seminar, three hours. Prerequisite: reading knowledge of Latin and German or French. Mr. Muscle

219A. History of the manuscript book from antiquity through the Carolingian renaissance, with emphasis on dating and localization as well as on proficiency in reading. Mr. Rouse (alternate years)

219B. History of the manuscript book from the Carolingian renaissance through the invention of printing, with emphasis on dating and localization as well as on proficiency in reading. Mr. Rouse (alternate years)

220A-220B. Seminars: Church and Monarchy in the Middle Ages. Seminar, three hours. Textual studies and interpretative problems in constitutional, legal, and intellectual history of the Latin church and of Western European monarchies, with particular attention to the German monarchy, from the 11th to 14th century. Mr. Benson

221A-221B. Seminars: Medieval History. Seminar, three hours.

222A-222B. Seminars: Medieval Intellectual History. Seminar, three hours. Mr. Anderson, Mr. Ginzburg, Mr. Symcox

222B. Medieval Intellectual History and History of Science. Seminar, three hours. Selected problems from medieval and early modern philosophy, science, political theory, theology.

225. Colloquium for Entering Graduate Students. Seminar, three hours. Normally limited to and required of all entering graduate students in U.S. history. Critical introduction to new method, with emphasis on new methodological and conceptual approaches, use of source materials, and current state of U.S. historiography.

245. Colloquium: U.S. History. Seminar, three hours. Normally limited to and required of all entering graduate students in U.S. history. Critical introduction to new method, with emphasis on new methodological and conceptual approaches, use of source materials, and current state of U.S. historiography.

275. Introduction to Professional Study of African History. Seminar, three hours. Mr. Wilkie

276. African Archaeology: Field Techniques (2 to 8 units). Seminar, three hours. Prerequisites: any introductory course in archaeology and preferably an African history course. Field course on an African excavation to provide basic skills-reconnaissance, surveying, excavation techniques, conservation, and scientific sampling required by an archaeologist in Africa, together with introduction to ethnographic survey and oral data collection. Mr. Posnansky

281. African Archaeology: Data Analysis (2 to 8 units). Seminar, three hours. Prerequisite or corequisite: course 276. Field course to equip students to handle finds from excavations. Analysis, data processing, illustration, and interpretation of actual archaeological and ethnographic collection. Mr. Posnansky

291A-291B. Seminars: Jewish History. Seminar, three hours. Mr. Elman, Mr. von Glahn

292A-292B. Seminars: Chinese History. Seminar, three hours. Mr. Bernhardt, Mr. Elman, Mr. Huang, Mr. Glaz

295B. Modern Japanese History. Seminar, three hours.

329A-329B. Seminars: Russian/Soviet History. Seminar, three hours. Mr. S. Frank, Mr. Hatch

323A-324B. Seminars: Modern History of Spain, Portugal, and Italy. Seminar, three hours.

325A-325B. Economic History of Europe, 1780-1939. Lecture, three hours. Analysis of internationalization of European world economy, emergence of Western capitalism and its relation with other European nations. Comparative analysis on different regions, stressing main characteristics of postwar European economy.

326A. Proseminar: Political Psychology. (Same as Political Science M261A and Psychology M262A.) Discussion, three hours. Introduction to political psychology: psychobiography, personality and politics, mass attitudes, group conflict, political communication, and elite decision making.

Mr. Loewenberg, Mr. Sears

336B-336C. Seminars: Psychohistory. Seminar, three hours. Exploration of individual and group psychological processes and their uses in historical research.

Mr. Friedlander, Mr. Loewenberg, Mr. Wohl

339A-339B. Seminars: English History—Middle Ages. Seminar, three hours. Mr. Waugh


344A-344B. Seminars: British Empire History. Seminar, three hours.

346A. Colonial Period. Ms. Appleby, Mr. Nash

346B. 1790 to 1900. Mr. Monkonen, Ms. Morantz-Sanchez, Ms. Stevenson

246C. 20th Century. Mr. Sanchez, Mr. Weiss, Ms. Yeager


249A-249B. Seminars: Jacksonian America. Seminar, three hours. Prerequisite: reading knowledge of German or French.


252A-252B. Seminars: Recent U.S. History to 1930. Seminar, three hours. Mr. Coben, Mr. Hines

253A-253B. Seminars: Recent U.S. History since 1930. Seminar, three hours. Mr. Hines, Mr. Weiss

254A-254B. Seminars: U.S. Social and/or Intellectual History. Seminar, three hours.


256A-256B. Seminars: American Diplomatic History. Seminar, three hours. Mr. Dallek

257A-257B. Seminars: U.S. Urban History. Seminar, three hours. Mr. Hines, Mr. Monkonen

258A-258B. Seminars: Working Class History. Seminar, three hours. Mr. Laslett

259A-259B. Seminars: Social History of Women in the West. Seminar, three hours. Ms. DaBois


261A-261B. Seminars: Afro-American History. Seminar, three hours. Social and political history of the Afro-American, including emphasis on development and structure of race relations in America, racial concepts and dilemmas, black and white.

Mr. Hill, Ms. Stevenson

262A-262B. Seminars: Chicano History. Seminar, three hours. Mr. Gomez-Quihones

263A-263B. Seminars: History of the American West. Seminar, three hours. Mr. Hundley, Mr. Sanchez

264. History of American Education. (Same as Education M201C.) History of educational thought and of social forces impinging on American education from the 1880s to the present. Analysis of relationship between these ideas and forces, and aims and practices of American education today. Mr. Cohen

265. Latin American Research Resources. (Same as Latin American Studies M260 and Library and Information Science M226.) Seminar, three hours. Genetically specialized 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 capabilities. Mr. Lauarent

266A-266B. Seminars: Colonial Latin American History. Seminar, three hours. Mr. Lockhart

267A-267B. Seminars: Latin American History. 19th and 20th Centuries. Seminar, three hours. Mr. Moya

268A-268B. Seminars: Recent Latin American History. (Same as Latin American Studies M268A-M268B.) Seminar, three hours. Prerequisite: consent of reader. Reading knowledge of Spanish and Portuguese normally required. Seminar devoted to selected topics of an interdisciplinary nature. In progress grading. Mr. Wilkie

275. Introduction to Professional Study of African History. Seminar, three hours. Normally limited to and required of all entering graduate students in African History. Strongly recommended for students with a history concentration in African Area Studies M.A. program. Source identification, research methodologies, historiographical traditions, general historical interpretation, and approaches to teaching.

Mr. Ehret, Mr. Worger

276. African Archaeology: Field Techniques (2 to 8 units). Seminar, three hours. Prerequisites: any introductory course in archaeology and preferably an African history course. Field course on an African excavation to provide basic skills-reconnaissance, surveying, excavation techniques, conservation, and scientific sampling required by an archaeologist in Africa, together with introduction to ethnographic survey and oral data collection. Mr. Posnansky

277. African Archaeology: Data Analysis (2 to 8 units). Seminar, three hours. Prerequisite or corequisite: course 276. Field course to equip students to handle finds from excavations. Analysis, data processing, illustration, and interpretation of actual archaeological and ethnographic collection. Mr. Posnansky

278A-278B. Seminars: African History. Seminar, three hours.

281. China — Seminar: Classical Historiography. (Formerly numbered M201L.) (Same as Chinese M201.) Discussion, three hours. Mr. Elman.

282A-282B. Seminars: Chinese History. Seminar, three hours. Ms. Bernhardt, Mr. Elman, Mr. Huang, Mr. Glaz


290A-290B. Seminars: Southeast Asia. Seminar, three hours. Mr. Lat, Mr. Wolpert

291A-291B. Seminars: Jewish History. Seminar, three hours. Studies in intellectual and social history of Jewish people from ancient times to the modern period. Mr. Myers

292A-292B. Seminars: History of Religions. Seminar, three hours.
Bachelor of Arts Degree

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.

No course for the major may be taken on a P/NP grading basis.

If you wish to confer with a counselor regarding program planning and major requirements, contact the history/art history counselor at (310) 825-3720.

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.

The Major

Required: History 100A, 100B, or 101; 197 or 199, and courses as indicated in the following groups:


Group F — Two art history elective courses selected from the above lists. You may also take Art History 127, 197, 199 to meet this requirement.
25. Human Genome: Prospects for a Super Race? Lecture, four hours; discussion, one hour. Influence of genetics on human health, addressing the genome-wide issue of using genetic engineering to alter genes on human chromosomes. P/NP or letter grading. Mr. Goldberg (Sp)

27. Time in Society and History, Seminar, three hours. Examination of concept of time from sociological, historical, philosophical, anthropological, and physical perspectives, looking specifically at how cultures have perceived time, how societies have organized themselves within it, and how various disciplines have theorized it in terms of concepts like causality. P/NP or letter grading. Mr. Roy (Sp)

28. Misleading Mirror: Self-Portraits in Word and Image. Self-portraiture as it is represented in the novel, poetry, painting, essay, and film, both from point of view of the artist/author and from perspective of the reader/viewer. P/NP or letter grading. Mr. Morris (Sp)

29. Critical Vision: History of Art as a Social and Political Commentary, Seminar, three and one-half hours. Study of the interaction of visual art (painting, graphic art, photography, sculpture) as vehicles for social and political commentary. P/NP or letter grading. Mr. Von Blum (Sp)

30. Vietnam War and American Society, Seminar, three hours; outside study, nine hours. Cultural, social, and political implications of the Vietnam War on American society through examination of photography, journalism, personal narrative, political commentary, drama, and fiction. P/NP or letter grading. Mr. Goodwin (Sp)

31. Current Environmental Problems, Lecture, three hours; discussion, one hour. Overview of current pressing environmental issues, including overpopulation, greenhouse effect, loss of biodiversity, and toxic waste production and disposal. P/NP or letter grading. Ms. Caffrey (Sp)

32. Creativity and Culture: Making Things New in the Arts, Humanities, Social Sciences, and Sciences (6 units), Seminar, three hours; writing laboratory, two hours. Study of creative acts of artists, writers, social scientists, and scientists in relation to their societies, cultures, disciplines, conventions, and art forms. P/NP or letter grading. Mr. Crease (Sp)

33. Ethnicity and Social Class in America, Introduction to data analysis, quantitative method, and use of statistics in social sciences, using General Social Survey (GSS) and concentrating particularly on ethnicity and social class. Students conduct statistical research of their own. P/NP or letter grading. Mr. Mason (Sp)

39. Nuclear Revelations about the Earth and Cosmos: We Are Stardust, Lecture, two and one-half hours; discussion, one hour. Exploration of evolution of universe, solar system, and Earth through unifying theme of synthesis and destruction of nuclides — isotopic variations which are responsible for virtually all cosmological and geological phenomena. P/NP or letter grading. Mr. Harrison, Mr. Morris (Sp)

40. Origin and Evolution of Solar System and Earth, Lecture/discussion, three hours. Investigation into the nature of space (astronomical) and time (geological) of the solar system, including comparative planetology, Earth system, geological time scale, and development of its atmosphere and hydrosphere. P/NP or letter grading. Mr. Newman (W)

48. Masculinity, Sexuality, and Patriarchy, Seminar, three hours. Examination of patriarchal aspects of male gender role in American society, including perspectives of biological determinism and social constructionism, cultural icons of masculinity, heritage of the male role in Western thought, and alternative notions of masculinity in non-Western societies. P/NP or letter grading. Mr. Bridgewater (F)

50. Gender and Race: Constructions of Greek Political Thought, Lecture, three hours; discussion, one hour. Comprehensive introduction to Greek views of human society with concentration on gender and race, especially as these issues are manifested in Plato and Aristotle. P/NP or letter grading. Ms. Bergren (W)

52. Good, Better, Best Western: Approaches to the 19th-Century American Frontier, Seminar, three hours. Study of the 19th-century American West as a geographical, economic, historical, and cultural region, including the discovery and the stories and histories and stories of the American West, Native Americans, Mormons, and black Westerners. P/NP or letter grading. Mr. Allmendinger (W)

56. Structure and Development of Language, Lecture, four hours; discussion, one hour. Study of human language, including its formal character (phonetics, syntax), differences and similarities between sign languages and spoken languages, language acquisition, relationship between language and other mental abilities, and autonomous nature of language as a system of knowledge. P/NP or letter grading. Ms. Curture (W)

58. Apartheid and Social Stratification in South Africa: Theory and Data, Seminar, three hours. Examination of the sociocultural and political implications of apartheid in South Africa, including analyses both of history and of social stratification. P/NP or letter grading. Mr. Treiman (W)

59. Literature and Culture of the American South (6 units), Lecture/discussion, four hours; writing seminar, three and one-half hours, examination, one hour, two hours. Examination of historical imagination as it is expressed in such writers as William Faulkner, Allen Tate, Flannery O’Connor, Richard Wright, and Zora Neale Hurston and WPA/FSA photography, and in Southern rhetoric and political documents. P/NP or letter grading. Ms. Wilson (W)

61. Social Theory in the 20th Century (6 units). Lecture, three hours; discussion, one hour, writing seminar, three hours. Exploration of social theory and the role of critical theory in contemporary society, including eight hours. Use of Louis XIV and Presidents Theodore Roosevelt and Woodrow Wilson as case studies, with emphasis on the concept of the modern state, particularly in Los Angeles; issues of representation as they pertain to race, ethnicity, gender, and sexuality. P/NP or letter grading. Mr. Morris (W)

71. The Scientific Revolution, Seminar, three hours. The influence of the scientific revolution on economic, cultural, social, and political life, including status in major foreign policy journals. P/NP or letter grading. Ms. Spiegel (Sp)

85. Relationship between Physics and Art. Study of relationship between intellectual problem solving and aesthetics in physics, with particular attention to such aesthetic experiences as holograms and liquid light displays. P/NP or letter grading. Ms. Davis, Mr. Rudnick (W)

88. Introduction to the Earth System, Seminar, three hours; outside study, nine hours. Earth as a system of distinct, yet intimately connected, physical and biological elements and influence of human activity on this system, including possibilities of technological solutions to global pollution. P/NP or letter grading. Mr. Turco (Sp)

89. Freud, Fairy Tales, and Feminism, Lecture/discussion. Demonstration of both the power of Freud’s ideas and vision and vitality of criticisms of Freud that emerged from the feminist movement, particularly in contemporary social science. P/NP or letter grading. Mr. Rabow (F)

93. Stress and Coping, Seminar, four hours; outside study, eight hours. Examination of research and theory on stress and coping, nine hours. Earth as a system of distinct, yet intimately connected, physical and biological elements and influence of human activity on this system, including possibilities of technological solutions to global pollution. P/NP or letter grading. Mr. Alpers (Sp)

95. Art, Politics, and Social Change in 19th-Century England and France, Seminar, three hours. Exploration, through analysis of artists and intellectuals in 19th-century England and France, of social factors in cultural expression and way that national traditions and political and social conditions shape each other. Literature and artistic innovations. P/NP or letter grading. Mr. Silverman (W)

96. Cultural Dimensions of Apartheid and Post-Apartheid South Africa, Exploration of culture and social constructs in apartheid South Africa through its role in apartheid, the role of black and white South African authors and popular cultural forms such as people’s theater and workers’ poetry. P/NP or letter grading. Ms. Dunkel-Schetter (F)

97. Issues in American Foreign Policy: Methodology of Assessment, Lecture/debate, three hours; discussion, one hour. Exploration in debate format of wide range of views on contemporary foreign policy issues to train students how to discern the ideological origins of policy arguments. Examination of material in major foreign policy journals. P/NP or letter grading. Mr. Alpers (Sp)

Upper Division Courses

M102. Culture, Media, and Los Angeles (6 units). (Formerly numbered 102.) (Same as Afro-American Studies M102 and Asian American Studies M197H.) Lecture, four hours; screenings, two hours. Prerequisite: upper division standing. Study of four female cultural studies of Los Angeles; issues of representation as they pertain to race, ethnicity, gender, and sexuality. P/NP or letter grading. Mr. Gabriel (Sp)

104. Eurocentrism Debate: Viability of Western Tradition, Seminar, three hours. Prerequisite: upper division standing. Assessment, both historically and critically, of Western tradition as cultural, social, and political as well as artistic and ideological construct and delineation for discussion of current debates over Eurocentrism, particularism, and multiculturalism. P/NP or letter grading. Mr. PareDES (W)

105. Chinesene and Greek Heroes, Past and Present, Seminar, three hours. Prerequisite: upper division standing. Comparison of Greek and Chinese notions of the heroic in ancient epics and redefinitions of the heroic in their modern permutations, allowing students to interrogate cultural constructions of manhood. P/NP or letter grading. Ms. Cheung (Sp)

M106. Imaginary Women, (Formerly numbered 106.) (Same as Women’s Studies M106.) Lecture, four hours; screenings, two hours. Prerequisite: upper division standing. Study of four female cultural archetypes — absconding wife/mother, infanticide mother, intellectual woman, and warrior woman — as they appear in their classical and modern manifestations in European and American cultures. P/NP or letter grading. Ms. Meier (W)
196. Directed Honors Studies. Prerequisites: minimum of four units completed in Honors College with a grade of B or better, overall UCLA GPA of 3.0 or better, consent of instructor and dean of Division of Honors and Undergraduate Programs. Special research writing tutorial with a director of one of the Honors College courses in order to pursue in greater depth a significant topic from one of the college courses. May not be repeated for credit.

Humanities

2326 Murphy Hall, (310) 825-7650

Professors

Emily Apter, Ph.D. (French, Comparative Literature)
Amit J. Band, Ph.D. (Hebrew, Comparative Literature)
Katherine L. Komar, Ph.D. (German, Comparative Literature)
Rosas S. Chicheiier, Ph.D. (Scandinavian, Comparative Literature)

Associate Professors

Katherine C. King, Ph.D. (Classics, Comparative Literature)
C.P. Hain Sauysey, Ph.D. (Chinese, Comparative Literature)

Assistant Professors

Al Behbad, Ph.D. (English, Comparative Literature)
Shu-mei Shih, Ph.D. (Chinese, Comparative Literature)

Lower Division Courses

The following courses are made up of selected masterpieces of world literature. Humanities IA, 1B, 1C, 1D, 2A, 2B, 2C satisfy the humanities general education requirement in the College of Letters and Science.

1. World Literature: Antiquity to Early Middle Ages. Lecture, three hours, discussion, one hour. Preparation: satisfaction of Subject A requirement. Not open for credit to students with credit for course 2A. Study of major texts in world literature, with emphasis on Western civilization. Texts include works and authors such as Homer, Odyssey, Greek tragedies, portions of the Bible, Virgil, Petronius, St. Augustine, and others such as Gilgamesh or Tristan and Isolde.

2. World Literature: Late Middle Ages to the 17th Century. Lecture, three hours; discussion, one hour. Preparation: satisfaction of Subject A requirement. Not open for credit to students with credit for course 2B. 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, Calderon, Molieres, and Racine.

3. World Literature: Age of Enlightenment to the 19th Century. Lecture, two hours; discussion, two hours. Preparation: satisfaction of Subject A requirement. Not open for credit to students with credit for course 3A. Study of selected texts from the Middle Ages to the 17th century, with emphasis on literary analysis and expository writing. Texts include works by authors such as Swift, Voltaire, Diderot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, Dostoevsky, Kafka, and James Joyce or Wallace Stevens. P/NP or letter grading.

Upper Division Courses


M102. Classical Traditions: Epic. (Formerly numbered C151.) Seminar, three hours. Preparation: upper division standing or consent of instructor. Study of selected Greek dramas and their re-creations in Rome, with emphasis on how poets build on work of their predecessors. P/NP or letter grading.

M103. Classical Traditions: Tragedy. (Formerly numbered C151.) Seminar, three hours. Preparation: upper division standing or consent of instructor. Study of selected Greek dramas and their re-creations in Rome, with emphasis on how poets build on work of their predecessors. P/NP or letter grading.

M104. Satire. (Formerly numbered C112.) Lecture, three hours. Preparation: upper division standing or consent of instructor. Examination of satire both in texts generally recognized as models of the genre as well as in others, including examples of satirical discourse. Special attention given to literary problems and their role played by authors and narrators in relation to treatment of characters before possible audiences and importance of contextual values in interpretation of satire. Concurrently scheduled with Comparative Literature C204. Undergraduates read all texts in translation. P/NP or letter grading.

M105. Comic Vision. Lecture, three hours. Preparation: upper division standing, literature major or consent of instructor. Study of selected comic works from the Renaissance to the present, with emphasis on comic form and appearance of such archetypal heroes as Don Quixote, Montaigne’s Essays, Gargantua and Pantagruel, The Praise of folly, Utopia, P/NP or letter grading.

106. Archetypal Heroes in Literature. (Formerly numbered C129.) Seminar, three hours. Preparation: upper division standing. Study and analysis of function and appearance of such archetypal heroes as Aeneas, Gilgamesh, Gilgamesh, Orpheus, Prometheus, Odysseus, and Odysseus in literature from antiquity to the modern period. All works read in translation. P/NP or letter grading.

107. The Individual and Society in the Renaissance. (Formerly numbered C145.) Lecture, three hours. Preparation: upper division standing and literature major, or consent of instructor. Study of selected Renaissance works alongside their postcolonial counterparts. Exploration 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.

108. The 19th Century Novel. (Formerly numbered C175.) Seminar, three hours. Preparation: upper division standing, literature major. Concurrent study of the 19th-century novel in English and on the continent. Novels selected so as to allow seminar to concentrate on a particular tradition or critical problem. May be concurrently scheduled with Comparative Literature C250. Undergraduates read all works in translation. P/NP or letter grading.

C151. Critique of Authority. (Formerly numbered C178.) Seminar, three hours. Preparation: upper division standing or consent of instructor. Study of selected works by such authors as Tocqueville, John Stuart Mill, Karl Marx, and Sartre, with emphasis on role of the actor and the idea of dramatic action as discussed by the critics. May be concurrently scheduled with Comparative Literature C240. Undergraduates read all works in translation. P/NP or letter grading.

C152. Symbolist Tradition in Poetry. (Formerly numbered C183.) Seminar, three hours. Preparation: upper division standing, literature major, or consent of instructor. Study of selected works by such authors as Mallarme, Proust, and Symbolists. May be concurrently scheduled with Comparative Literature C252. Undergraduates read all works in translation. P/NP or letter grading.

158. Colonial Encounters. Seminar, three hours. Preparation: upper division standing, literature major, or consent of instructor. Study of selected works by such authors as Tocqueville, John Stuart Mill, Karl Marx, and Sartre, with emphasis on role of the actor and the idea of dramatic action as discussed by the critics. May be concurrently scheduled with Comparative Literature C240. Undergraduates read all works in translation. P/NP or letter grading.

Ms. King

Ms. Allen

Mr. Murray

Mr. Band

Mr. Braunmuller

Mr. Shideler

Ms. King

Ms. Shih

Ms. Band
C167. Theory and Texts of the Fantastic. (Formerly numbered C173.) Seminar, three hours. Prerequisites: upper division standing, literature major. Attempt to define the concept of the fantastic as a constituent of the wider genre of fantasy. Critical texts by Todorov and Brooke-Rose. Primary texts by Hoffmann, Narval, James, Poe, Borges, Casares, Cortazar, Landolfi, and Calvino. May be scheduled with Comparative Literature C267. Undergraduates read all works in translation. P/NP or letter grading. Ms. Shih (F)

C168. Korean American Literature. (Formerly numbered 168.) (Same as Asian American Studies 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 influence of Korean traditional and American culture on Korean American literature. P/NP or letter grading. Ms. Re (Miss)

C169. Continental African Authors. (Formerly numbered 118.) Lecture, three hours. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. Introduction to new set of African authors and attempt to discern similarities or differences they may have with major authors such as Chebe, Ngugi, Amath, Soyinka, etc. P/NP or letter grading.

C170. Alternate Traditions: In Search of Female Voices in Contemporary Literature. (Formerly numbered C184.) Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Investigation of narrative texts by contemporary authors such as Coffin, Veitch, and Núñez, with particular focus on the works of women and African authors. P/NP or letter grading. Ms. Shih (F)

C171. Chinese Immigrant Literature in America. (Same as Asian American Studies M132B.) Seminar, three hours; outside study, nine hours. Examination of works of Chinese literature in diaspora — literature written in Chinese by first-generation Chinese Americans. All works read in English translation; films shown with English subtitles. P/NP or letter grading. Ms. Xiao (Chinese)

C172. The Postmodern Novel. (Formerly numbered C167.) Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Study of the postmodern novel as an outgrowth of modernist thought; emphasis on the concept of 'the other,' and on the influence of poststructuralism on contemporary European and American literature. P/NP or letter grading. Ms. Shih (F)

C173. Postmodernism and the Third World. (Formerly numbered C190.) Seminar, three hours. Exploration of intersection between concepts of postmodernism and Third World culture and politics, including such topics as post-Marxism and revolution; historical thought; gender, ethnicity, imperialism, and their relationship to cultural politics; and addresses the socially relevant works of contemporary African, Asian, and Latin American literature. P/NP or letter grading. Mr. Behdad (F)

M165. The Holocaust in Literature. (Formerly numbered M187.) (Same as Jewish Studies M187.) Lecture, three hours. Prerequisite: History 191E, 191F, or 191G or equivalent. The exploration of the Holocaust is one of the major literary events of the 20th century, and raises a wide range of aesthetic and moral questions. P/NP or letter grading. Mr. Band (German)

M166. Postwar Central European Prose. (Formerly numbered M125.) Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Analysis of prose writings of the Czech, Hungarian, and East European authors. P/NP or letter grading. Mr. Braunmüller (German)

C160. Literature and the Visual Arts, 1700 to the Present. Lecture, three hours. Prerequisite: upper division standing or consent of instructor. Knowledge of art history valuable but not required. Assuming that literature and the visual arts are in some respects expressions of cultural and philosophical patterns of eras, course studies relationships between primarily English writers from 1700 to the present and movement in painting, architecture, and sculpture. Interdisciplinary investigation of similarities and differences between the plastic and verbal arts in comparative study. May be concurrently scheduled with Comparative Literature C260. Undergraduates read all works in translation.

C161. Fiction and History. (Formerly numbered C176.) Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Analysis of use of historical events, society, 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, Verge, Tomasi di Lampe-dua, Carpenter, and Kundera. Use of fictional methods by historians. Emphasis on how aesthetic, ideologi-cal, and political factors influence authors' choice and use of historical material. May be concurrently scheduled with Comparative Literature C251. P/NP or letter grading. Ms. Re, Mr. Saussy

C162. Interwar Central European Prose. (Formerly numbered C126.) Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Exploration of the works of authors such as Kafka, Rilke, Woolf, Sarre, and Stevens. May be concurrently scheduled with Comparative Literature C252. Undergraduates read all works in translation. P/NP or letter grading. Ms. Komar

C164. The Modern Continental Novel. (Formerly numbered C185.) Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Study of modern European and American works which are concerned both in subject matter and artistic methods with the growing self-consciousness of human beings and their society, focusing on works of Kafka, Beckett, Nabokov, and Grass to grasp on development of themes such as primitivism vs. authority, the question of consciousness, the relation between art and ideology. P/NP or letter grading. Mr. Haidu (French)

C165. The Holocaust in Literature. (Formerly numbered M187.) (Same as Jewish Studies M187.) Lecture, three hours. Prerequisite: History 191E, 191F, or 191G or equivalent. Prerequisites: upper division standing and literature major, or consent of instructor. The Holocaust is one of the major literary events of the 20th century, and raises a wide range of aesthetic and moral questions. P/NP or letter grading. Mr. Band (German)

M166. Postwar Central European Prose. (Formerly numbered M125.) Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Analysis of prose writings of the Czech, Hungarian, and East European authors. P/NP or letter grading. Mr. Braunmüller (German)

C167. Theory and Texts of the Fantastic. (Formerly numbered C173.) Seminar, three hours. Prerequisites: upper division standing, literature major. Attempt to define the concept of the fantastic as a constituent of the wider genre of fantasy. Critical texts by Todorov and Brooke-Rose. Primary texts by Hoffmann, Narval, James, Poe, Borges, Casares, Cortazar, Landolfi, and Calvino. May be scheduled with Comparative Literature C267. Undergraduates read all works in translation. P/NP or letter grading. Ms. Re (Miss)

M168. Korean American Literature. (Formerly numbered 168.) (Same as Asian American Studies 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 influence of Korean traditional and American culture on Korean American literature. P/NP or letter grading. Ms. Re (Miss)

169. Continental African Authors. (Formerly numbered 118.) Lecture, three hours. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. Introduction to new set of African authors and attempt to discern similarities or differences they may have with major authors such as Chebe, Ngugi, Amath, Soyinka, etc. P/NP or letter grading.

C170. Alternate Traditions: In Search of Female Voices in Contemporary Literature. (Formerly numbered C184.) Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Investigation of narrative texts by contemporary authors such as Coffin, Veitch, and Núñez, with particular focus on the works of women and African authors. P/NP or letter grading. Ms. Shih (F)

C171. Chinese Immigrant Literature in America. (Same as Asian American Studies M132B.) Seminar, three hours; outside study, nine hours. Examination of works of Chinese literature in diaspora — literature written in Chinese by first-generation Chinese Americans. All works read in English translation; films shown with English subtitles. P/NP or letter grading. Ms. Xiao (Chinese)

C172. The Postmodern Novel. (Formerly numbered C167.) Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Study of the postmodern novel as an outgrowth of modernist thought; emphasis on the concept of 'the other,' and on the influence of poststructuralism on contemporary European and American literature. P/NP or letter grading. Ms. Shih (F)

C173. Postmodernism and the Third World. (Formerly numbered C190.) Seminar, three hours. Exploration of intersection between concepts of postmodernism and Third World culture and politics, including such topics as post-Marxism and revolution; historical thought; gender, ethnicity, imperialism, and their relationship to cultural politics; and addresses the socially relevant works of contemporary African, Asian, and Latin American literature. P/NP or letter grading. Mr. Behdad (F)

M174. Film and Literature of the Spanish-Speaking World. (Formerly numbered M161.) Lecture, three hours. Exploration of perceptions of reality offered by different authors from Spain, Latin America, and the Chicano community. P/NP or letter grading. Mr. Vargas (Spanish)

M175. Film and Literature of the Spanish-Speaking World. (Formerly numbered M161.) Lecture, three hours. Exploration of perceptions of reality offered by different authors from Spain, Latin America, and the Chicano community. P/NP or letter grading. Mr. Vargas (Spanish)

Indo-European Studies (Interdepartmental)

7349 Bunche Hall, (310) 825-4171

Professors
Henning Andersen, Ph.D. (Slavic Languages and Literatures)
Raimo A. Anttila, Ph.D. (Linguistics)
Hennik Bimbbaum, Ph.D. (Slavic Languages and Literatures)
Jesse L. Byock, Ph.D. (Germanic Languages)
Vycheslav Vis. Ivanov, Ph.D. (Slavic Languages and Literatures)
Bengt T.M. Löfstedt, Ph.D. (Classics)
Jaan Puhvel, Ph.D. (Classics, Indo-European Studies)
Hartmut E.F. Scharfe, Ph.D. (East Asian Languages and Cultures)
Hanns-Peter Schmid, Ph.D. (Near Eastern Languages and Cultures)
Terence H. Wilbur, Ph.D. (Ementus (Germanic Languages)

Associate Professor
Joseph F. Nagy, Ph.D. (Celtic Languages and Literatures)

Assistant Professor
Christopher M. Stevens, Ph.D. (Germanic Languages)

Scope and Objectives
The prime aim of this graduate 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 three alternative major emphases: Indo-European linguistics, Indo-Iranian or other specialized language area studies, and European and related archaeology.
Ph.D. Degree

Admission
Students admitted to graduate standing must have a B.A. degree with a major in an Indo-European language field (e.g., German, Slavic, Celtic, Romance languages, Latin, Greek), linguistics (with concentration in historical and comparative linguistics), anthropology, or archaeology. Letters of recommendation (at least two, preferably three or four) are required; Graduate Record Examination (GRE) scores are not required. Potential applicants may request a brochure by writing to the Indo-European Studies Program, c/o Department of Classics, 7349 Bunche Hall, UCLA, Los Angeles, CA 90024-1475.

Admission to the program itself constitutes admission to the doctoral program; a master's degree is not offered. Should deficiencies exist in prerequisites to specific work at the graduate level, you may be granted provisional admission and directed to remove those deficiencies at the initial period of enrollment.

Major Fields or Subdisciplines
The Ph.D. in Indo-European Studies is offered with three alternative major emphases: (1) Indo-European linguistics; (2) Indo-Iranian or other specialized language area studies; (3) European and related archaeology.

Foreign Language Requirement
French and German are required, one during the first year. A third language is added only when relevant to your field of specialization. Proficiency in a language may be demonstrated by (1) passing the Graduate School Foreign Language Test (GSFLT) with a score of 600 or better, (2) completing a level five course with a grade of B or better, or (3) passing a departmental reading examination.

Course Requirements
The course requirements vary among the three major fields of specialization. General requirements for all students regardless of specialization include knowledge of Vedic Sanskrit and Hominic Greek, basic competence in Indo-European linguistics (including Indo-European Studies M150 and 210), mythology (e.g., Classics 168), and archaeology (including Indo-European Studies 131, 132). Additional requirements by field are as follows:

(1) Linguistics — An advanced seminar in comparative grammar, a minimum of four ancient Indo-European languages from different subbranches, and additional units in courses offered by the Linguistics Department (e.g., phonetics, structural linguistics) and related departments. These additional units should be selected in consultation with your adviser.

(2) Indo-Iranian or Other Specialized Language Area — An advanced seminar in comparative grammar, a minimum of two ancient Indo-European languages from different subbranches, and additional units in the area of specialization, to be selected in consultation with your adviser.

(3) European and Related Archaeology — A minimum of one ancient Indo-European language, an advanced seminar in European archaeology, a course in analytical methods in archaeology, and additional units in archaeology, anthropology, and related fields, to be selected in consultation with your adviser.

Teaching Experience
Teaching experience is highly desired, but not available within the program and therefore is not required. The program works closely with its constituent departments in an attempt to provide some teaching experience.

Qualifying Examinations
When you have completed the required coursework, a series of written examinations covering the major and minor fields are administered. These consist of translation and analysis of set texts from the ancient Indo-European languages and diagnostic examinations in the other fields. Following successful completion of the written examinations, the University Oral Qualifying Examination, based on the written examinations and the dissertation prospectus, is administered by the doctoral committee. It is intended to probe your grasp of the entire field. Should you fail either the written or oral examinations, the interdepartmental degree committee may re-examine. After successful completion of the written and oral examinations, you are advanced to doctoral candidacy and begin work on the dissertation.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
A final oral defense of the dissertation is optional with the doctoral committee.

Upper Division Courses

131. European Archaeology: Proto-Civilizations of Europe. Survey of European cultures from beginning of the food-producing economy in the 7th Millennium B.C. to beginning of the Bronze Age in the 3rd Millennium B.C.

132. European Archaeology: Bronze Age. Prerequisite: course 131 or consent of instructor. 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. (Same as Linguistics M150.) Prerequisites: one year of college-level study (course 3 or better, eight units minimum) of either Greek or Latin and either German or Russian. Survey of Indo-European languages from ancient to modern times, their relationships and chief characteristics.

199. Special Studies (2 to 8 units).

Graduate Courses


250A-250B. European Archaeology. Prerequisite: consent of instructor. Studies in ancient European archaeological materials and their relationship to the Near East, Western Siberia, and Central Asia. May be repeated for credit. In Progress grading.


596. Directed Individual Studies (2 to 8 units).

597. Preparation for Ph.D. Qualifying Examinations (2 to 8 units).

599. Research for Ph.D. Dissertation (2 to 8 units).

Related Courses in Other Departments


Classics 161. Introduction to Classical Mythology 166A. Greek Religion 166B. Roman Religion 168. Introduction to Comparative Mythology 180. Introduction to Classical Linguistics


Greek (Classics) 240A-240B. History of the Greek Language 242. Greek Dialects and Historical Grammar 243. Mycenaean Greek

Indic (East Asian Languages) 110A. Elementary Sanskrit
The program is also beneficial for (1) students desiring to specialize in international relations, whether in a political science major or in another field with an international emphasis, and (2) students preparing for graduate work in international relations, but also refer to the offerings listed under International Relations.

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, East 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)

10286 Bunche Hall, (310) 825-1181

Professors

Leonard Binder, Ph.D. (Political Science)  
Andras Bodrogi, Ph.D. (Near Eastern Languages and Cultures)  
Herbert A. Davidson, Ph.D. (Near Eastern Languages and Cultures)  
Osman M. Galal, M.D., Ph.D. (Community Health Sciences)  
Richard Hovannisian, Ph.D. (History)  
Nazi A. Jarzabchow, Ph.D. (Ethnomusicology and Systematic Musicology)  
Niki Keddie, Ph.D. (History)  
Afa Maras, D.Phil. (History)  
Ismail Poonawala, Ph.D. (Near Eastern Languages and Cultures)  
A. Jihad Racy, Ph.D. (Ethnomusicology and Systematic Musicology)  
Damodar R. SarDesai, Ph.D. (History)  
Stanford J. Shaw, Ph.D. (History)  
Stanley A. Wolpert, Ph.D. (History; Distinguished Teaching Award)

Associate Professors

Irene A. Bierman, Ph.D. (Art History)  
Gerry A. Hale, Ph.D. (Geography)  
Michael G. Morony, Ph.D. (History, Chair)

Assistant Professor

Hossein Ziai, Ph.D. (Near Eastern Languages and Cultures)

Scope and Objectives

The undergraduate major in this discipline is called Near Eastern studies. For details, see the program by that name later in this chapter.

The designation of this interdepartmental degree program is meant to convey the broadest cultural concern with peoples and places influenced by Islam, rather than a narrow approach to Islam as religion alone. Islam as a cultural-forming force in history may be studied and understood through the literate sources of Islamic civilization and/or through systematic observation and examination of behavioral patterns and social relations of Muslim peoples. The commonality of an "idealized" and a "functional" or "practical" Islam does not preclude a multiple number of valid and varied approaches to Islamic studies. The program, with its core emphasis on the major languages of the Islamic Middle East, is intended to provide an internal view of the dynamics of Islamic culture.

The interdepartmental program for the Master of Arts and Ph.D. degrees in Islamic Studies is designed primarily for students desiring to pre-
prepares for an academic career. It may, however, be found useful for students seeking a general education and desiring a special emphasis in this particular area or for those who plan to live and work in this area, whose career will be aided by a knowledge of the people, languages, and institutions. (Such a career might be centered on teaching, research, business, engineering, journalism, librarianship, or government service.) Subject to the limitations of the program, the special course of studies is formulated for candidates according to their experience and requirements.

Master of Arts Degree

Admission

In addition to the general University requirements, a Bachelor of Arts degree in Near Eastern Studies or equivalent is required. The deadline for admission applications is March 1, by which time your admission file must be complete. Files are created during Winter Quarter for admission to the following Fall Quarter. The interdepartmental degree committee passes on your application for admission to the program. You are normally expected to have completed the equivalent of Arabic 102A-102B-102C or Iranian 102A-102B-102C or Turkic Languages 102A-102B-102C. In addition, you should have completed the equivalent of two years of Near Eastern history (premodern and modern) and at least one year of a European language, preferably French or German. Some coursework in Islamic culture and institutions may be applied toward the history requirement. Deficiencies in any of these prerequisites have to be removed by taking the appropriate courses without credit toward the advanced degree. No special application form is required.

The Graduate Record Examination (GRE) is required of graduates of American universities and recommended for international applicants. No screening examination is required. A score of 560 on the Test of English as a Foreign Language (TOEFL) is required of all applicants whose native language is not English and who have not attended English-speaking universities.

A departmental brochure may be obtained by writing to the Von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA, Los Angeles, CA 90024-1480.

Major Fields or Subdisciplines

Arabic, Persian, Turkish, history of the Near East, political science, anthropology, economics, geography, sociology, Islamic art and architectural history, Near Eastern music.

Foreign Language Requirement

You are required to show proficiency in either French or German. You are expected to (1) pass the Graduate School Foreign Language Test (GSFLT) reading examination with a score of 550 or better, (2) pass a departmental-ly administered European language examination by the end of your third term in residence, or (3) complete two years of language courses at UCLA with grades of B or better.

Course Requirements

A minimum of nine courses is required, five of which must be at the graduate level. You must take no fewer than four courses on the appropriate level in one Near Eastern language of your choice, and no fewer than five courses selected from the relevant upper division and graduate courses in history, political science, or any of the other fields represented in the program. The selection must be limited to two of these disciplines. The omission of history may be approved only in exceptional cases. Eight units of 500-series courses may be applied toward the total course requirement, as well as toward the minimum graduate course requirement, provided they are not in the same discipline. If you intend to proceed to the Ph.D. in Islamic Studies, you should show proficiency in a second Near Eastern language (Arabic, Persian, Turkish). One of the two languages required for the Ph.D. is Arabic.

Comprehensive Examination Plan

The thesis plan is not available in this program. You must pass written examinations in one Near Eastern language, one in its literature, one in the history of the Near East, and in one of the other nonlanguage major fields or subdisciplines listed above. The examinations are constructed by the instructor responsible for each discipline. Reexamination in exceptional cases is determined by the interdepartmental degree committee. The examiner or examiners are appointed by the chair of the interdepartmental degree committee.

Ph.D. Degree

Admission

Students intending to work for the Ph.D. in Islamic Studies are normally expected first to fulfill all requirements for the M.A. degree. Those who enter the program with an M.A. from another university should have attained a level of preparation in languages, history, and social sciences equivalent to that required for the M.A. at UCLA. In addition, students are expected to show proficiency in a second Near Eastern language (one of the two required languages is Arabic). Those who have not done so should make up any deficiencies by taking the appropriate courses without credit toward the degree. No special application form is required, but applications must be accompanied by three letters of recommendation.

The Graduate Record Examination (GRE) is required of graduates of American universities and recommended for international applicants.

A departmental brochure may be obtained by writing to the Von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA, Los Angeles, CA 90024-1480.

Major Fields or Subdisciplines

Arabic, Persian, Turkish, history, anthropology, economics, geography, sociology, political science, Islamic art and architectural history, Near Eastern music.

Foreign Language Requirement

At the beginning of your first term in residence, you must present to the chair of the interdepartmental degree committee a written statement explaining your preparation in one of the two modern languages required by the University (generally French and German). You are expected to (1) pass the Graduate School Foreign Language Test (GSFLT) reading examinations with scores of 550 or better, (2) pass departmentally administered European language examinations by the end of your second year in residence, or (3) complete two years of language courses at UCLA with grades of B or better. Any option may be selected for either language. For work in some fields, reading knowledge of Italian, Spanish, or Russian may be substituted for one of the above European languages after satisfactory advisement.

Course Requirements

If you are entering directly into the Ph.D. program, course requirements are the same as in the M.A. program. Beyond this, you continue advanced courses in your two Near Eastern languages, in Near Eastern history, and in one of the social sciences, on specific advisement of the interdepartmental degree committee.

Qualifying Examinations

Written qualifying examinations in four fields are required: two Near Eastern languages and literatures as approved by the advisory committee, the whole range of Near Eastern history, and one of the other nonlanguage major fields or subdisciplines listed above. After successfully completing the written examinations, you must pass the University Oral Qualifying Examination in order to be advanced to doctoral candidacy. Reexamination in any field is at the discretion of the doctoral committee in consultation with the chair of the program.

Research proposals, dossiers, research papers, propositions, etc., are not permitted as alternatives to the written qualifying examinations.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination

With the approval of the doctoral committee at the time of the oral qualifying examination, the final oral examination may be waived.

Islamic Studies Course List

Anthropology 130. Study of Culture
150. Study of Social Systems
154. Women in Culture and Society
156. Comparative Religion
161. Development Anthropology
167. Urban Anthropology
236 / Islamic Studies / COLLEGE OF LETTERS AND SCIENCE

215. Field Training in Archaeology
230Q. Ethnology
232Q. Myth and Ritual
273. Cultures of the Middle East

Arabic (Near Eastern Languages) 102A-102B-102C. Intermediate Literary Arabic
111A-111B-111C. Elementary Spoken Egyptian Arabic
112A-112B-112C. Advanced Spoken Egyptian Arabic
113A-113B-113C. Elementary Spoken Levantine Arabic
114A-114B-114C. Spoken Moroccan Arabic
120. Islamic Texts
130. Classical Arabic Texts
132. Philosophical and Kalam Texts
141. Modern Arabic Literature
150A-150B. Survey of Arabic Literature in English
199. Special Studies in Arabic
220. Seminar: Islamic Texts
230. Medieval Literary Texts
240. Seminar: Arab Historians and Geographers
250. Seminar: Arabic Literature
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation

Greek (Classics) 213A-213B-213C. Seminars: Later Greek and Byzantine Literature

Hebrew (Near Eastern Languages) 230. Seminar: Medieval Hebrew Literature
231. Texts in Judeo-Arabic

History 106A-106B-106C. Survey of the Middle East from 500 to the Present
107A-107B. Islamic Civilization
108A-108B. History of the Arabs
109A-109B. History of North Africa from the Moslem Conquest
110A-110B. Iranian History
111A-111B. History of the Turks
123A-123B. Byzantine History
188B-188C. History of British India I, II
190A-190B. History of Southeast Asia
204A-204B. Seminars: Near and Middle Eastern History
205A-205B. Seminars: Medieval Middle Eastern History
206A-206B. Seminars: Social History of the Middle East
209A-209B. Seminars: Ottoman and Modern Turkish History
216A-216B. Seminars: Byzantine History
596. Directed Studies
597. Directed Studies for Graduate Examinations
599. Ph.D. Research and Writing

Iranian (Near Eastern Languages) 102A-102B-102C. Intermediate Persian
103A-103B-103C. Advanced Persian
140. Contemporary Persian Belletrists
141. Contemporary Persian Analytical Prose
150A-150B. Survey of Persian Literature in English
169. Civilization of Pre-Islamic Iran
170. Religion in Ancient Iran
190A-190B. Introduction to Modern Iranian Studies
199. Special Studies in Iranian
220A-220B. Classical Persian Texts
221. Rumi, Mystic Poet of Islam
250. Seminar: Classical Persian Literature
251. Seminar: Contemporary Persian Literature
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation

Islamic (Near Eastern Languages) 110. Introduction to Islam
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation

Philosophy 104. Topics in Islamic Philosophy

Political Science 132A-132B. International Relations of the Middle East
164. Government and Politics in the Middle East
C245. Middle Eastern Studies

Semitic (Near Eastern Languages) 215B. Syriac

Althea Reynolds, B.A., Emerita
Maria Grazia Pellegrini, Dottore in Lettere
Pier-Maria Pasinetti, Ph.D., Emeritus
Lucia Re, Ph.D., Emerita
Giovanni Cecchetti, Dottore in Lettere, Emeritus

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 interdepartmental graduate programs in Romance Linguistics and Literature, Comparative Literature, and Folklore and Mythology.

Bachelor of Arts in Italian

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

2326 Murphy Hall, (310) 825-1940

Professors
Luigi Bellerini, Dottore in Lettere, Chair
Franco Bettì, Ph.D.
Marga Cottino-Jones, Ph.D., Dottore in Lettere
Edward F. Tuttle, Ph.D.
Giovanni Cecchetti, Dottore in Lettere, Emeritus
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere, Emeritus

Lecturers
Maria Grazia Pellegrini, Dottore in Lettere
Mirella Chiesanese, Dottore in Legge, Emerita
Atthea Reynolds, B.A., Emerita
constitute the bulk of the program, good know-
ledge of the language is prerequisite to all upper
division literature courses credited toward the
major in Italian. The use 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, 25, and one
course from 42A, 42B, 46, 50A, 50B.

The Major
Required: Twelve upper division Italian courses,
including one course from 102A, 102B, 102C;
one course from 113A through 116B; one
course from 11B through 122; 190; and eight
courses (at least 32 units) from 103A through
197 selected in consultation with the under-
graduate adviser. One course from another hu-
nanities or social sciences department, se-
lected in consultation with the undergraduate
adviser, is also required. Recommended courses
include Art History 106A, 106B, 106C, His-
tory 125A, 125E, 125F, 132A, 132B, Humani-
ties 1A through 1D, C161, C167.

Majors who select courses taught in English
must do additional work from the original Ital-
ian texts in consultation with the course in-
structor, who will meet with them on a regular
basis.

Study in Italy
You 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. You
are also urged to take advantage of summer
language workshops and study programs, either
at American campuses or in Italy. The Depart-
ment of Italian offers an intensive, eight-week
summer Italian studies program. For informa-
tion on Casa Italiana, contact the department 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 eli-
gable to participate in the honors program.
Prerequisites: Italian 102A-102B-102C.

Candidates select three upper division litera-
ture courses in which additional readings are
required. In the last term of your senior year,
you are required to write a thesis on a subject
related to one of the three above-mentioned
courses. The average for the three courses
should not fall below A+. Applications should
be made during the last term of your junior
year.

Bachelor of Arts in Italian and Special Fields
Students with particular interests or profes-
sional goals may select this major, with course-
work divided between Italian and a collateral
field. Study programs fulfilling requirements for
the major have been developed with the de-
partments and programs listed below.

Majors who select courses taught in English
must do additional work from the original Italian
texts in consultation with the course instructor,
who will meet with them on a regular basis.

Anthropology Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, and one course from 42A, 42B, 46, 50A,
50B; Anthropology 8 or 9, and one elective from
33, 34, 60, 60P.

The Major: Italian 102A or 102B or 102C, 195,
and five courses from 103A through 197H
selected in consultation with the under-
graduate adviser; five courses from Anthropology
110, 111, 112, C115R, M115S, 118A, 118B, 130,
132, 133Q, 135A, 135B, 135S, 135T, 138,
139, 139L, M140, 141, 143, 150 through
M154, 161, 182, 183 selected in consultation
with the undergraduate adviser.

Art History Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, and one course from 42A, 42B, 46, 50A,
50B; Art History 50 or 51, 54, 57.

The Major: Italian 102A or 102B or 102C, 195,
and five courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; six courses from Art History M102F,
M102G, M102H, 105A through 105D, 105F,
105A through 106D, 109A, 109C, 110A, 110B,
110D, 110F, 127 selected in consultation with
the undergraduate adviser.

Classics Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, and one course from 42A, 42B, 46, 50A,
50B; Classics 10 or 20, 40 or 41, and Greek 1,
2, 3 and/or Latin 1, 2, 3, or equivalent.

The Major: Italian 102A or 102B or 102C, 195,
and four courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; Greek 100 or Latin 100, one course
from Classics 141 through 197 (except 195),
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 un-
dergraduate adviser.

English Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, and one course from 42A, 42B, 46, 50A,
50B; English 3, 4, 10A, 10B, 10C.

The Major: Italian 102A or 102B or 102C, 195,
and four courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; four courses from English 100, 101
through 119, 121, 140A through M197 selected
in consultation with the undergraduate adviser.

Film and Television Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, 46.

The Major: Italian 102A or 102B or 102C, 195,
and six courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; six courses from Film and Television
110C, 112 through 116, 193A selected in con-
sultation with the undergraduate adviser.

French Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, French 1, 2, 3, 4, 5, 6, 12 or 14.

The Major: Italian 102A or 102B or 102C, 195,
and three courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; one course from French 114A, 114B,
114C, and three courses from 115A through
142 selected in consultation with the under-
graduate adviser.

History Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, and one course from 42A, 42B, 46, 50A,
50B; one course from History 1A, 1B, 1C, 88B
through 88E, 88Q, 88U.

The Major: Italian 102A or 102B or 102C, 195,
and five courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; six courses from History 100A through
102, 119 through 121D, 125A through 127B,
132A, 132B, 135A through 137C selected in
consultation with the undergraduate adviser.

Linguistics Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, Linguistics 20, and six terms of a second
Romance language or Latin or equivalent.

The Major: Italian 102A or 102B or 102C, 190
or 259A, 195, 259B, and one course from 103A
through 197H 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.

Musicology Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, Musicology 1A-1B or 2A-2B, 26A-26B-
26C. Recommended: Music 20A, 20B, 20C.

The Major: Italian 102A or 102B or 102C, 195,
and four courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; five courses from Musicology 122,
126A through C127F, 135A, 135B, 135C, 156
selected in consultation with the undergraduate
adviser.

Philosophy Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, and one course from 42A, 42B, 46, 50A,
50B, one course from Philosophy 1 through 31.

The Major: Italian 102A or 102B or 102C, 195,
and five courses from 103A through 197H se-
lected in consultation with the undergraduate
adviser; Philosophy 100A, 100B, 100C, and
three courses from 101A through 189 selected
in consultation with the undergraduate adviser.

Political Science Field
Preparation for the Major: Italian 1, 2, 3, 4, 5,
25, and one course from 42A, 42B, 46, 50A,
50B; Political Science 10, 20.
The Major: Italian 102A or 102B or 102C, 195, and four courses from 113A through 122, 151B, 190 selected in consultation with the undergraduate adviser; six courses from Political Science 111A through 113, 115 through 1192, 137A, 137B, 139A through 1392, 153, 155, 158A, 167A selected in consultation with the undergraduate adviser.

Portuguese Field
Preparation for the Major: Italian 1, 2, 3, 4, 5, 25, and one course from 42A, 42B, 46, 50A, 50B; Portuguese 1, 2, 3, 25, M42 or M44 or 46.

The Major: Italian 102A or 102B or 102C, 195, and four courses from 113A through 122, 151B, 190 selected in consultation with the undergraduate adviser; three courses from Portuguese 120A through 197 selected in consultation with the undergraduate adviser.

Spanish Field
Preparation for the Major: Italian 1, 2, 3, 4, 5, 25, 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: Italian 102A or 102B or 102C, 195, and three courses from 103A through 197H selected in consultation with the undergraduate adviser; one course from Spanish 120A, 120B, 136A, 136B and three courses from 122 through 133, 137 through M161 selected in consultation with the undergraduate adviser.

Women’s Studies Field
Preparation for the Major: Italian 1, 2, 3, 4, 5, 25, and one course from 42A, 42B, 46, 50A, 50B.

The Major: Italian 102A or 102B or 102C, 195, and five courses from 103A through 197H (122 is recommended) selected in consultation with the undergraduate adviser; one course from Theater 101A, 101B, 101C and five courses from 105, 111A, 111B, 111C, Classics 143, English 142A, 142B, 142C, 166 selected in consultation with the undergraduate adviser.

Master of Arts Degree
Admission
Three letters of recommendation should be sent to the Graduate Adviser, Department of Italian, 2326 Murphy Hall, UCLA, Los Angeles, CA 90024-1535.

Files of prospective graduate students meeting the University minimum requirements are screened by the departmental committee on admissions. Because the department offers the master’s degree as a step toward the Ph.D. degree, all students admitted to the M.A. program are designated as “first-stage doctoral students” in order to distinguish them from students in terminal master’s degree programs. This is for administrative purposes only and has no bearing on your acceptance into the program if you do not indicate on the application that your final degree objective is the Ph.D. Admission on a provisional basis may be recommended in case of deficiencies in preparation.

Major Fields or Subdisciplines
The M.A. degree is available with specializations in Italian literature and Italian language.

Foreign Language Requirement
Reading knowledge of one other foreign language approved by the graduate adviser or successful completion of courses through at least level three is required. This requirement must be met at least one term before the comprehensive examination.

Course Requirements
Italian Literature Specialization —
(1) For the comprehensive examination plan, 12 courses are required, including Italian 205A, 205B, 222A. The other eight courses must be distributed in three main literary periods — Middle Ages, Renaissance, modern (at least two courses in each period). Three of these courses may be upper division if approved by the graduate adviser. Related courses in other departments, such as History 205A-205B and Art History 230, are strongly recommended.
(2) For the thesis plan, 12 courses are required, including Italian 205A, 205B, 222A. At least nine courses must be in the 200 series.

Italian Language Specialization —
For the comprehensive examination plan, knowledge of linguistics equivalent to Linguistics 20 and 110, and broad familiarity with Italian literary and cultural history are required. Also required are 12 or more courses, including Italian 222A-222B-222C and Linguistics 202 or equivalent. At least nine courses must be in the 200 series.

Although you are generally expected to follow the comprehensive examination plan, you may petition to substitute the thesis plan in lieu of the examination.
No 500-series courses may be applied toward the M.A. course requirements.

Comprehensive Examination Plan
In general, the department favors the comprehensive examination plan, which consists of a minimum five-hour written examination to be given before the final examination period in Fall and Spring Quarters. The examination tests your general competency and does not have major and minor fields of emphasis. After the written examination, you are required to take an oral examination. In case of failure, you may be reexamined once, subject to approval by the examination committee and the chair of the department.

Thesis Plan
This plan is recommended for research-oriented students of exceptional merit. If you have completed your first year of graduate work with at least a 3.7 grade-point average, you may be nominated by one of the faculty members of the department for application to the thesis plan.

At this point you must have completed Italian 205A, 205B, and at least two other graduate courses in Italian. On acceptance, the guidance committee helps you select six more graduate courses in preparation for the thesis.

The thesis must be at least 50 pages long and follow the rules and style of the UCLA Ph.D. dissertation regulations. It must be submitted in your sixth term of graduate work. After completion of the thesis, you must pass an oral examination testing your knowledge in the field of the thesis and your general competence in Italian literature.

Ph.D. Degree
Admission
Three letters of recommendation from professionals in the field of Italian studies should be sent to the Graduate Adviser, Department of Italian, 2326 Murphy Hall, UCLA, Los Angeles, CA 90024-1535.

Prerequisite for entering the department’s doctoral program is an M.A. in Italian literature from UCLA or another university in the U.S. or the equivalent.

Students with a master’s degree from another institution, or the equivalent, are required to pass part 1 of the Ph.D. qualifying examinations by the end of their third term in residence. They should expect to take part 2 of the examinations after approximately six terms.

Students holding the M.A. from UCLA normally take part 2 of the qualifying examinations at the end of their sixth term in residence.

Major Fields or Subdisciplines
Two centuries of Italian literature in the medieval, Renaissance and baroque, or modern area comprise the major fields, while two centuries of Italian literature from any of these areas make up the minor fields.

You may select a major in a literary genre or a minor outside the department, provided that it relates to your major field of specialization and has the department’s approval.

Foreign Language Requirement
This requirement is normally met by passing courses through level three in at least two of the following languages: Latin, French, German, Spanish (subject to departmental approval). A foreign language used to satisfy the requirement for the master’s degree in Italian may be applied toward fulfillment of this requirement. The lan-
Preparation for Graduate Division foreign language requirement must be satisfied before taking part 2 of the qualifying examinations, either by Graduate School Foreign Language Test (GSFLT) or departmental examination or by petition for course credit to the Graduate Division.

Course Requirements
In addition to those required for the master's degree, at least 10 other quarter courses, of which no more than two 596 courses may apply, are required. You also take such courses as your guidance committee may prescribe for the qualifying examinations (such as Italian 586 or 597). All courses from Italian 201 on, except 205B, may be applied toward the Ph.D. degree.

Qualifying Examinations
The comprehensive examination for the M.A. in Italian at UCLA corresponds to part 1 of the Ph.D. qualifying examinations.

The department also requires both written and oral qualifying examinations (part 2), which must be taken during the same academic year, although not necessarily during the same term. Normally taken six terms after the M.A. degree, the written examination consists of two parts: an eight-hour examination in your major field and a six-hour examination in your minor field. Additionally, a two-hour University Oral Qualifying Examination is required for advancement to doctoral candidacy. A summary of requirements entitled "Regulations for the Ph.D. Examination" is available in the department. In case of failure, you may reexamine on unanimous approval of the guidance committee, after at least one academic term of additional residence.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
After acceptance of the dissertation in its final form, your doctoral committee may require that you take an oral examination which covers principally the field within which the dissertation falls.

Lower Division Courses
Enrollment in the Italian open language laboratory is required of all students in Italian 1, 1A, 2A, and 3.

1. Elementary Italian — Beginning. Lecture, five hours; laboratory, one hour. Mrs. Cheeseman in charge
2. Elementary Italian — Accelerated (8 units). Lecture, 10 hours; laboratory, two hours. Designed for those students having capacity and desire to learn the language at a much faster pace than normal. Encompasses material ordinarily taken in courses 1 and 2. Mrs. Cheeseman in charge
3. Special Reading Course. Readings, three hours. Open to graduate students in other fields. Preparation for Graduate Division foreign language reading requirement. SU grading.
4. Elementary Italian — Continued. Lecture, five hours; laboratory, one hour. Enforced requisite: course 1. Mrs. Cheeseman in charge

Upper Division Courses
Sixteen quarter units in Italian or equivalent are required for admission to any upper division course. Upper division courses for the majors are conducted in Italian.

2A. Elementary Italian — Accelerated (Continued) (8 units). Lecture, 10 hours; laboratory, two hours. Enforced requisite: course 1A or 2. Designed for those students having capacity and desire to learn the language at a much faster pace than normal. Mrs. Cheeseman in charge

2G. Special Reading Course. Readings, three hours. Open to graduate students in other fields. Preparation for Graduate Division foreign language reading requirement.

3. Elementary Italian — Continued. Lecture, five hours; laboratory, one hour. Enforced requisite: course 2. Mrs. Cheeseman in charge

3A. Intermediate Italian — Accelerated (8 units). Lecture, six hours; laboratory, two hours. Enforced requisite: course 2A or 3. Designed for those students having capacity and desire to learn the language at a much faster pace than normal. Encompasses material ordinarily intended for courses 4 and 5. Mrs. Cheeseman in charge

4. Intermediate Italian. Lecture, five hours; laboratory, one hour. Enforced requisite: course 3. Mrs. Cheeseman in charge

5. Intermediate Italian. Lecture, five hours; laboratory, one hour. Enforced requisite: course 4. Mrs. Cheeseman in charge

7. Elementary Italian Conversation. Lecture, five hours (first six-week session). Encompasses conversational material included in course 1, with emphasis on elements of the foreign language. Mrs. Cottino-Jones

8A-B. Italian Conversazione (3 units each). Discussion, three hours; outside study, six hours. Intended for students who have taken three to six terms of language instruction and have developed considerable skill in Italian. Mrs. Cheeseman in charge

102C. Historical and Cultural Issues from the Age of the Ottonians to the Baroque Age. Lecture, three hours. Emphasis on the High Renaissance of central Italy in its three most popular genres (lyric poetry, chivalric poem, and theater), proceeding through Counter-Reformational culture, especially of northern and southern Italy. Main Enlightenment figures and cultural evolution stemming from them. P/NP or letter grading.

110A. Divine Comedy in English. Lecture, three hours. Italy's basic social structures and cultural institutions delineated through their historical development and as they are manifested in stresses to which the industrializing state currently is subject.

110B. Italian Civilization or Italy through the Ages. Lecture, three hours. Mrs. Cottino-Jones, Mr. Tuttle

110C. Italian Civilization or Italy through the Ages (Formerly numbered 200C.) Lecture, three hours. Mrs. Cottino-Jones

111A. Italian Literature of the Middle Ages. Lecture, three hours. Emphasis on the High Renaissance of central Italy in its three most popular genres (lyric poetry, chivalric poem, and theater), proceeding through Counter-Reformational culture, especially of northern and southern Italy. Main Enlightenment figures and cultural evolution stemming from them. P/NP or letter grading.

112A. Italian Literature of the Middle Ages. Lecture, three hours. Mrs. Cottino-Jones, Mr. Tuttle


118. Italian Literature of the 18th Century. Lecture, three hours. Emphasis on Goldoni, Parini, Alfieri. Mrs. Betti

119. Italian Literature of the 19th Century. Lecture, three hours. Survey of the Romantic age as it expresses national and spiritual aspirations of 19th-century Italy. Mrs. Betti

120. Italian Literature of the 20th Century. Lecture, three hours. Mrs. Betti

121. Italian Drama. Lecture, three hours. Comparative study of specific literary works and their translation into films and of different techniques in the two forms of expression. Texts include literary works, screenplays, and works on literary and film theory. Mrs. Betti

122. Italian Theater. Lecture, three hours. Emphasis on what is alive today (read and performed) in Italian theater. Texts range from the Renaissance to the present. Mrs. Betti

123. Italian Romantic Literature. Lecture, three hours. Mrs. Betti
130. Advanced Grammar and Composition within a Literary Context. Lecture, three hours. Prerequisite: completion of 20A or 20B. Study in depth of idiomatic phenomena of the language from both grammatical and syntactical points of view within a literary context.

Mrs. Cheeseman

131. Reading and Reciting. Lecture, three hours. Prerequisite: consent of instructor based on sufficient knowledge of Italian. Emphasis on dictation, interpretation, and performance of one-act plays as vehicles for perfection of pronunciation, comprehension, and fluency. May be repeated twice for credit.

M140. From Boccaccio to Basile (In English). (Same as Folklore M140.) Lecture, three hours. Study of origins and development of the Italian novella in its themes, structure, historical context, and European ramifications. Designed for students in other departments who wish to become acquainted with either the premises or growth of similar literary genres. Also intended for students majoring in folklore and mythology, who are given insight into Italian popular tales when these (as in the case of Boccaccio) were translated into highly sophisticated literary forms, as well as when (as in the case of Basile) they become embedded into the folk tradition of the Western world.

Mrs. Cottino-Jones

150. Italian Fiction in Translation. Lecture, three hours; outside study, nine hours.

Mr. Ballerini, Ms. Re

M158. Women in Italian Culture. (Same as Women's Studies M158.) Lecture, three hours. Designed with intent of examining role that women have played in Italian society. Concentration alternatively on the world of medieval and Renaissance "matriarch" and on "liberated" women of our times. Historical and political documents and social and religious taboos presented and discussed, together with other data derived from literature and art. Italian majors required to read texts in Italian and to prepare papers written in Italian.

Mrs. Cottino-Jones, Ms. Re

190. History of the Italian Language. Lecture, three hours. Main forces which have shaped literary or standard Italian and specific ways in which the language has evolved. Tracing of its changing relations with other European languages and survey of effects brought by historical events, changes in taste, and altered social functions.

Mr. Tuttle

195. Special Fields Research (2 units). Limited to students majoring in folklore and mythology. Unscheduled tutorial in which paper (15 to 20 pages) is to be written in either Italian or English which requires students to unify and synthesize their experience of combining two disciplines of study. Paper graded by ad hoc committee of faculty from department, with the chair in charge.

197A-197H. Variable Topics in Italian Studies. Discussion, three hours; outside study, nine hours. Seminars focusing on themes and issues outside the uniquely Italian literature topics covered in regular departmental undergraduate courses.

199. Special Studies (2 to 4 units). Prerequisite: consent of instructor. Course of independent study for advanced undergraduates who wish to pursue a special research project under direction and close supervision of a faculty member.

Graduate Courses

201. Bibliography and Methods of Research. Lecture, three hours.

205A-205B. Studies in Criticism. (Formerly numbered 205A-205B-205C.) Lecture, three hours; outside study, 18 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. Mr. Tuttle

214A-214F. Studies in Medieval Literature. (Formerly numbered 214A-214G.) Lecture, three hours; outside study, 18 hours. S/U or letter grading.

214A. La Divina Commedia. Mrs. Cottino-Jones

214B. Dante's Other Works. Mrs. Cottino-Jones

214C. Petrarch's Canzoniere. Mrs. Cottino-Jones

214D. Boccaccio's Decameron. Mrs. Cottino-Jones

214E. Boccaccio's Other Works. Mrs. Cottino-Jones

214F. Variable Topics. Variable-content seminar on themes and issues of medieval literature, with coverage of authors such as St. Francis of Assisi or Jacopone de Todi.

Mr. Cottino-Jones


215A. Variable Topics. Variable-content seminar on themes and issues of 15th-century literature, with coverage of authors such as Pulci or Poliziano.

Mr. Bett

215B. Age of Lorenzo de Medici and Poliziano.

215A-216E. Studies in the Renaissance. Lecture, three hours; outside study, 18 hours. S/U or letter grading.

216A. Machiavelli and Renaissance Political Thought. Mrs. Cottino-Jones

216B. Ariosto and Renaissance Epic. Mrs. Cottino-Jones

216C. Tasso. Mrs. Cottino-Jones

216D. Renaissance Theater. Mrs. Cottino-Jones

216E. Variable Topics. Variable-content seminar on themes and issues of Renaissance literature, with coverage of authors such as Vasari, Leonardo, or Bembo.

Mr. Betti

217. Studies in 17th-Century Literature. (Formerly numbered 217A-217B-217C.) Lecture, three hours; outside study, 18 hours. Topics include Galileo and birth of scientific prose, Giordano Bruno, Gian Batista Marino, and baroque poetry. S/U or letter grading.

Mrs. Cottino-Jones

218A-218D. Studies in 18th-Century Literature. (Formerly numbered 218A-218E.) Lecture, three hours; outside study, 18 hours. S/U or letter grading.

218A. Vico. Mr. Betti

218B. Alieneri. Mr. Betti

218C. Goldoni. Mr. Betti

218D. Marx. Variable Topics. Variable-content seminar on themes and issues of 18th-century literature, with coverage of authors such as Vico or Ludovico.

Mr. Betti


219A. Foscolo. Mr. Betti

219B. Leopardi. Mr. Betti

219C. Manzoni. Mr. Betti

219D. Variable Topics. Variable-content seminar on themes and issues of 19th-century literature, with coverage of authors such as Carducci, Tommaso, or Nievo.

Mr. Betti

220. Studies in Turn-of-the-Century Literature. (Formerly numbered 220A-220B-220C.) Lecture, three hours; outside study, 18 hours. Topics include Verga and Verismo, poetry, prose, and theater of D'Annunzio, and poetry of Carducci and Pascoli. S/U or letter grading.

Mr. Ballerini, Ms. Re

221A-221E. Studies in 20th-Century Literature. Lecture, three hours; outside study, 18 hours. S/U or letter grading.

221A. Variable Topics. Variable-content seminar on themes and issues of 20th-century literature, with coverage of authors such as D'Annunzio, Verga, Marinetti, and Pirandello.

Mr. Ballerini

221B. Contemporary Poetry: Analysis of legacy of two major figures in Italian poetry from World War II through the 1990s. Mr. Ballerini

221C. 20th-Century Narrative to World War II. Analysis of turn-of-the-century narrative path (Gabriele D'Annunzio) and analysis of radical innovations brought about by such towering figures as Pirandello, Svevo, Bernini, Marinetti, etc.

Mr. Ballerini, Ms. Re

221D. 20th-Century Narrative since World War II. In-depth exploration of some major works that have made contemporary Italian literature famous throughout the world, with special emphasis on study of formalistic modes adopted by the neo-avant-garde.

Mr. Ballerini, Ms. Re

221E. Pirandello and Contemporary Theater. Through reading of theatrical texts, accompanied by analysis of how the plays have been realized on stage by important directors such as Strehler, Ronconi, and the playwrights/actors themselves. Emphasis on ritualistic implications of the theatrical performances.

Mr. Ballerini, Ms. Re

222A-222B-222C. Studies in History of Italian Language. (Formerly numbered 229A-229B-229C.) Lecture, three hours; outside study, 18 hours. Prerequisites: graduate standing. S/U or letter grading.

222A. History of the Italian Language. Historical survey of development of the language from medieval times to unification of the country (1861). Questione della lingua, general acceptance of Florentine speech, and its evolution into the national language.

222B. Structure of Modern Italian. Various tendencies in modern and contemporary Italian. Foreign influences in today's Italian language. Relationship between national language and the various dialects.

Mr. Tuttle

222C. Italian Dialectology. Historical differentiation of Italian dialects considered in its areal dimension. Specific geopolitical problems and solutions illustrating growth of the discipline up to its present merging with sociolinguistics as Italian dialects become more clearly defined.

Mr. Tuttle


M253A-253B-253C. Seminars: Chivalric Poetry of Italy. Seminar, three hours. Relationship between the genre and its French medieval sources, with study of its evolution in Italy through Pucci, Boiardo, Ariosto, and Tasso.

Mrs. Cottino-Jones

254. Seminar: Machiavelli. Seminar, three hours.


Mrs. Cottino-Jones

256A-256B. Seminars: 18th Century. Seminar, three hours.

257A-257B. Seminars: Romanticism. Seminar, three hours.

258A-258B. Seminars: Contemporary Italian Literature. Seminar, three hours.

Mr. Ballerini, Ms. Re
260A. Alternative Perspectives in Italian Culture: Studies of Folk Tradition in Italian Literature. (Same as Folklore M260.) Lecture, three hours; outside study, 18 hours. Open to undergraduates with consent of instructor. The conspicuous diversity animating Italian society articulated through class, gender, and ethnolinguistic groups to be studied across a range of texts, some selected from the literary canon, but others purely oral (tales, songs, proverbs, curses, and secular and ritual drama).

280B. Women in Italian Culture. Lecture, three hours; outside study, 18 hours. Prerequisite: graduate standing. Conditions of women within Italian society, with concentration on specific works produced by women and/or representing women's conditions in either medieval/Renaissance or contemporary time. S/U or letter grading.

280C. Studies in Italian Cinema. Lecture, three hours; outside study, 18 hours. Prerequisite: graduate standing. Italian cinema compared with other European countries' and Hollywood's cinema, with focus on its development from its origins through Fascist times to neorealism, its legacy, different genres, and contemporary scene. S/U or letter grading.

298. Variable Topics in Italian Studies. Lecture, free hours; discussion, one hour. Prerequisite: graduate standing or consent of instructor. Seminar focusing on themes and issues outside the uniquely Italian literary topics covered in regular departmental graduate courses.


375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

495A-495D. Techniques in Teaching Italian Conversation; 495D. Techniques in Teaching Italian Literature; 495A-495D. Teaching Apprentice Practicum. 4 units each. Prerequisite: graduate standing or consent of instructor. The conspicuous diversity animating Italian society articulated through class, gender, and ethnolinguistic groups to be studied across a range of texts, some selected from the literary canon, but others purely oral (tales, songs, proverbs, curses, and secular and ritual drama).

495A-495D. Techniques in Teaching Italian Conversation; 495D. Techniques in Teaching Italian Literature; 495A-495D. Teaching Apprentice Practicum. 4 units each. Prerequisite: graduate standing or consent of instructor. The conspicuous diversity animating Italian society articulated through class, gender, and ethnolinguistic groups to be studied across a range of texts, some selected from the literary canon, but others purely oral (tales, songs, proverbs, curses, and secular and ritual drama).


Scope and Objectives
This special undergraduate program is intended to coordinate and enrich offerings on the workplace's connections to the social, political, and economic forces that surround it. Students become acquainted with institutions of the labor market such as public policies, employment practices, and unions. Faculty members from various disciplines are actively engaged in research on some aspect of employee relations, employee organizations, or workplace concerns in the U.S. or other countries. Administration of the program is coordinated through the Institute of Industrial Relations.

Special Undergraduate Program
The specialization must be taken in conjunction with a major in the social sciences or in psychology. Students with other majors may be admitted by petition.

Upper Division
Required: Management 150; Political Science 142C or History 155B; three other courses selected from Chicano Studies 120, Economics 103C, 150, 151, 152, 181B, 183, Geography 155, History 155A, 155B, Political Science 142C, 169A, Psychology M137E, Sociology M163, 171, 173, Women's Studies M164. 170. All students take a one-term specialization seminar designed for the exchange of disciplinary perspectives and directed research toward the end of the program. Courses in the specialization may also be applied toward the requirements of the major where appropriate.

For further information, contact the Institute of Industrial Relations (310-794-0385) or Professor Sanford M. Jacoby (310-825-2505).

Latin American Studies
(Interdepartmental)

10347 Bunche Hall, (310) 206-6571

Professors
Paul R. Abramson, Ph.D. (Psychology)
Rodolfo Alvarez, Ph.D. (Sociology)
Mauricio de la Puente, Ph.D. (Anthropology)
Paula M. Becerra, Ph.D. (Social Welfare)
Olga Benitez, Ph.D. (Spanish)
Frank Bennis, Ph.D. (Geography)
Esther Berger, Ph.D. (Anthropology, Geography, Geophysics)

Carole H. Bowner, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)

Timothy Earle, Ph.D. (Anthropology)

Sebastian Edwards, Ph.D. (Economics, Management)

Alfred F. Frisch, Ph.D. (Management)

Jeffry A. Frieden, Ph.D. (Political Science)

John Friedmann, Ph.D. (Urban Planning)

Mario Gelis, Ph.D. (Computer Science)

Josué de la Fuente, Ph.D. (History)

Edward Gonzalez, Ph.D. (Political Science)

Patricia M. Greenfield, Ph.D. (Psychology; Distinguished Teaching Award)

Peter B. Hammond, Ph.D. (Anthropology)

Dominique M. Hanssens, Ph.D. (Management)

Arnold C. Harberger, Ph.D. (Economics)

John N. Hawkins, Ph.D. (Education)

Neomi C. Hendley, Ph.D. (Economics)

Allen W. Johnson, Ph.D. (Anthropology)

Marvin Karno, M.D., in Residence (Psychiatry and Biobehavioral Sciences)

Celcia E. Klein, Ph.D. (Art History)

David M. Kunzel, Ph.D. (Art History)

Axel Leijonhufvud, Ph.D. (Economics)

James Lockhart, Ph.D. (History)

Gerardo Luizuriaga, Ph.D. (Economics)

Pamela L. Munro, Ph.D. (Linguistics)

Alfred K. Neumann, M.D. (Community Health Sciences)

Park S. Nobile, Ph.D. (Biology)

Antony R. Orme, Ph.D. (Geography)

Carlos Quirolo, Ph.D. (Portuguese, Romance Linguistics)

David M. Kunzel, Ph.D. (Art History)

Geoffrey B. Saxe, Ph.D. (Education)

Hans Schollihammer, D.B.A. (Management)

Susan C. Schirmish, Ph.D. (Anthropology, Community Health Sciences)

Edward W. Soja, Ph.D. (Urban Planning)

Robert M. Stevenson, Ph.D. (Musicology)

Michael Storper, Ph.D. (Urban Planning)

Fernando M. Torres-Gil, Ph.D. (Social Welfare)

артум Walther, Ph.D. (Geography)

Louis Jolyon West, M.D. (Psychiatry and Biobehavioral Sciences)

Dr. Williams, Ph.D. (Psychology), Cochair

Maurice Zeitlin, Ph.D. (Sociology)

Professors Emeriti

Lester Breslow, M.D., M.P.H. (Health Services)

William O. Bright, Ph.D. (Distinguished Teaching Award)

Herbert D. Brown, Ph.D. (Psychiatry)

E. Bradford Burns, Ph.D. (History; Distinguished Teaching Award)

Robert N. Burr, 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 courses 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, coordinated through UCLA's Latin American Center, 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 project.

Cooperative degree programs with the UCLA Schools of Architecture and Urban Planning, Education and Information Studies, Engineering and Applied Science, Management, and Public Health provide the opportunity to combine the M.A. in Latin American Studies with a master's degree in a professional field.

Bachelor of Arts Degree

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. You 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, you may take Portuguese 102A-102B which are designed for students with a background in Spanish. An indigenous language of Latin America (i.e., Quechua) may be substituted for the minor language.

Course Limitations

You may not take more than eight units of Latin American Studies 199 for letter-grade credit nor more than eight 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, you must have advanced junior standing and an overall GPA of 3.0, or senior standing.

Double Majors

Through judicious use of electives, you 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 undergraduate adviser in Latin American Studies.

Study in Latin America

You 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. Proposals must be presented in writing to the interdepartmental committee.

Core Areas

You select one of three core areas as the focus of your major: arts and humanities, social sciences, or ecology and environment. Requirements for each core area are listed below.

Core I: Arts and Humanities

Preparation — Two courses from History 8A, 8B, 8C; Latin American Studies 99 (or 197 with department consent); Spanish and Portuguese M44; Art History 55A or 55B or Ethnomusicology and Systematic Musicology 91K and Dance 73B.

Core Area — Ten upper division courses from the approved list of Latin American courses distributed as follows:

(1) Core Concentration — Five courses from literature and folklore or the arts (music, dance, theater arts) or linguistics. Only one course from the electives list may be applied toward the core concentration.

(2) Theory and Methods — One course from theory and methods.

(3) Internal Breadth — Four additional courses from the arts and humanities core area but outside the core concentration. No more than two of these may be electives.

External Breadth — From the approved list, six upper division courses outside the arts and humanities core area distributed as follows: two courses in each of two core concentrations such that at least one core concentration is selected from the social sciences core (e.g., history) and at least one is developed within the ecology and environment core (e.g., public health). No more than three external breadth courses may be electives.

Approved Undergraduate Course List

(1) Literature and Folklore

Folklore and Mythology M149. Folk Literature of the Hispanic World

History 169. Latin American Elitelore

Portuguese (Spanish and Portuguese) 130A-130B. Survey of Brazilian Literature
C131. Colonial Brazilian Literature
C132. Romanticism in Brazilian Literature
C133. Naturalism, Realism, and Symbolism in Brazilian Literature
C134. 20th-Century Brazilian Literature: Poetry and Drama
C135. 20th-Century Brazilian Literature: Novel
Spanish (Spanish and Portuguese) 136A-136B. Survey of Spanish-American Literature
137. Literature of Colonial Spanish America
138. Romanticism and Realism in Spanish-American Literature
140. Modernismo
142. 20th-Century Spanish-American Literature: Fiction and the Essay
143. 20th-Century Spanish-American Literature: Poetry and Drama
144. Mexican Literature
M149. Folk Literature of the Hispanic World
151B. Women in Hispanic Literature: Spanish America
151L. Film and Literature of the Spanish-Speaking World
170B. Senior Honors Seminar: Topics in Spanish-American Literature
197A. Studies in Hispanic Culture and Civilization

Theory and Methods
Folklore and Mythology 101. Introduction to Folklore
190. Selected Topics in Folklore and Mythology Studies
199. Special Studies in Folklore
Portuguese (Spanish and Portuguese) 199. Special Studies
Spanish (Spanish and Portuguese) 119A. Introduction to Study of Literature: Prose
119B. Introduction to Study of Literature: Poetry
119C. Introduction to Study of Literature: Drama
199. Special Studies

(2) Fine Arts
Art History C117A. Pre-Columbian Art of Mexico
C117B. Pre-Columbian Art of the Maya
C117C. Pre-Columbian Art of the Andes
118A. Arts of Oceania
Dance C173B. Dance of Mexico
C180B. Studies in Dance Ethnography
183. Dance in Latin American Cultures
Ethnomusicology and Systematic Musicology 108A-108B. Music of Latin America
M10A-M110B. The Afro-American Musical Heritage
113. Music of Brazil
115. Musical Aesthetics in Los Angeles
Film and Television 106C. History of African, Asian, and Latin American Film

Theory and Methods
Anthropology *118A. Museum Studies
*139R. Aesthetic Systems
Art History *199. Special Studies in Art
Dance *199. Special Studies in Dance
Ethnomusicology and Systematic Musicology *110. Analysis of Traditional Music
C190A-C190B. Proseminars: Ethnomusicology
*199E. Special Studies in Ethnomusicology
Film and Television 199. Special Studies in Film and Television

(3) Linguistics
Portuguese (Spanish and Portuguese) 100A. Phonology and Morphology
*100B. Syntax
*M118A. History of Portuguese and Spanish: Phonology

*118B. History of Portuguese and Spanish: Morphology and Syntax
Spanish (Spanish and Portuguese) *100A. Introduction to Study of Spanish Grammar: Phonology and Morphology
*100B. Introduction to Study of Spanish Grammar: Syntax
*115. Applied Linguistics
*M116A. History of Portuguese and Spanish: Phonology
*M118B. History of Portuguese and Spanish: Morphology and Syntax
119A. Introduction to Study of Literature: Prose
119B. Introduction to Study of Literature: Poetry
119C. Introduction to Study of Literature: Drama
170C. Senior Honors Seminar: Topics in Hispanic Linguistics

Theory and Methods
Anthropology *143. Field Methods in Linguistic Anthropology
Linguistics *103. Introduction to General Phonetics
*110. Introduction to Historical Linguistics
120A. Phonology I
120B. Syntax I
165A. Phonology II
165B. Syntax II
*199. Special Studies in Linguistics
Portuguese (Spanish and Portuguese) *199. Special Studies
Spanish (Spanish and Portuguese) *199. Special Studies

(4) Electives
Ethnomusicology and Systematic Musicology *110A-M110B. The Afro-American Musical Heritage
Film and Television 112. Film and Social Change
Folklore and Mythology *118. Folk Art, Folk-life, and Material Culture
190. Selected Topics in Folklore and Mythology Studies
Latin American Studies 197. Interdisciplinary Topics in Latin American Studies
199. Special Studies in Latin American Studies

*Special courses which may be applied toward the M.A. degree requirements with advanced departmental approval. 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.

Core II: Social Sciences
Preparation — Two courses from History 8A, 8B, 8C; Latin American Studies 99 or 197 with department consent); Economics 1 and 2, or 100; Economics 40 or Sociology 18 or Statistics 50.

Core Area — Ten upper division courses from the approved list of Latin American courses distributed as follows:

(1) Core Concentration — Five courses from anthropology and sociology or economics or geography or history or political science. Only one course from the electives list may be applied toward the core concentration.

(2) Theory and Methods — One course from theory and methods.

(3) Internal Breadth — Four additional courses from the social sciences core area but outside the core concentration. No more than two of these may be electives.

External Breadth — From the approved list, six upper division courses outside the social sciences core area distributed as follows: two courses in each of two core concentrations such that at least one core concentration is selected from the arts and humanities core (e.g., fine arts) and at least one is developed within the ecology and environment core (e.g., public health). No more than three external breadth courses may be electives.

Approved Undergraduate Course List

(1) Anthropology and Sociology
Anthropology 114P. Ancient Civilizations of Western Mexico (Maya Sphere)
114Q. Ancient Civilizations of Eastern Middle America (Nahuatl Sphere)
114R. Ancient Civilizations of Andean South America
M172T. Ethnohistory of Hispanic Cultures in the U.S. Southwest
173Q. Latin American Communities
174P. Ethnography of South American Indians
174Q. Ethnology of South American Indians
Sociology 186. Latin American Societies

Theory and Methods
Anthropology *115P. Archaeological Field Training
*115R. Strategy of Archaeology
*M116Q. Dating Techniques in Environmental Sciences and Archaeology
*M116A. Field Methods in Anthropology
*M116B. History of Portuguese and Spanish: Phonology and Syntax
*M118A. History of Portuguese and Spanish: Morphology and Syntax
119A. Introduction to Study of Literature: Prose
119B. Introduction to Study of Literature: Poetry
119C. Introduction to Study of Literature: Drama
170C. Senior Honors Seminar: Topics in Hispanic Linguistics

(2) Economics
Economics *110. Economic Problems of Underdeveloped Countries
*111. Theories of Economic Growth and Development
*112. Policies for Economic Development
*190. International Economics
*191. International Trade Theory
*192. International Finance

Theory and Methods
Economics *103A-103Z. Upper Division Research Seminars: Applications of Economic Theory
*M135. Economic Models of Public Choice
*M136. Economic Models of Political Conflict and Conflict Resolution
199. Special Studies in Economics
Management *197. Special Topics in Management

(3) History
History 165A. Early Latin America
165C. Indians of Colonial Mexico
166. Latin America in the 19th Century
167A-167D. Latin America in the 20th Century
168. History of Latin American International Relations
169. Latin American Folklore
170A. Latin American Cultural History
170B. Classic Travel Accounts of Latin America since 1735

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Core III: Ecology and Environment Preparation — Two courses from History 8A, 8B, 8C; Latin American Studies 99; Geography 5, Statistics 50.

Core Area — Ten upper division courses from the approved list of Latin American courses distributed as follows:

1. Core Concentration — Five courses from the core area. Only one course from the elective list may be applied toward the core concentration.
2. Theory and Methods — One course from theory and methods.
3. Internal Breadth — Four additional courses from the ecology and environment core area to be selected from theory and methods, core courses or electives.
4. External Breadth — From the approved list, six upper division courses outside the ecology and environment core area distributed as follows: two courses in each of two core concentrations such that at least one core concentration is selected from the arts and humanities core (e.g., fine arts) and at least one is developed within the social sciences core (e.g., history). No more than three external breadth courses may be electives.

Approved Undergraduate Course List

Community Health Sciences 132. Health, Disease, and Health Services in Latin America

Geography 121. Conservation of Resources: Underdeveloped World

M128. Global Environment: Problems and Issues

M142. Population Geography

M181. Mexico, Central America, Caribbean

M182A. Spanish South America

M182B. Brazil

M199. Special Studies

Theory and Methods

Anthropology 142. Technology and Environment

M154. Women in Culture and Society

M161. Development Anthropology

M167. Urban Anthropology

M168. Health in Culture and Society

Economics 120. Introduction to Urban and Regional Economics

M121. Urban Economic Analysis

M180. Comparative Systems: Transformation of Socialists Economies

Geography 108. World Vegetation

M129. Seminar: Environmental Studies

M140. Political Geography

History M159A, M159B. History of the Chicano People

Latin American Studies 197. Interdisciplinary Topics in Latin American Studies

M199. Special Studies in Latin American Studies

Political Science 124. International Political Economy

M144A. Ethnic Politics: Chicano/Latino Politics

Core Courses

M167A, Ideology and Development in World Politics

M167B. Comparative Development and Administration

Sociology 116. Social Demography

M153. Evolution of Human Societies

M167. Urban Anthropology

M168. Health in Culture and Society

Community Health Sciences 130. Nutrition and Health

Economics 120. Introduction to Urban and Regional Economics

Electives

Anthropology 132. Technology and Environment

M153. Evolution of Human Societies

M167. Urban Anthropology

M168. Health in Culture and Society


Major Fields or Subdisciplines

You are expected to develop and integrate three fields in Latin American studies, to be selected from the following: anthropology, art, economics, education, engineering, folklore, geography, history, law, library science, linguistics, management, music, political science, Portuguese, public health, sociology, Spanish, theater arts, and urban planning. At least one of the selected fields must be a social science.
Foreign Language Requirement
Proficiency equivalent to 24 quarter units of university-level Spanish and 12 quarter units of university-level Portuguese or 16 quarter units of university-level Portuguese and 20 units of university-level Spanish is required. Only coursework taken within five years of the award of the M.A. degree may be used to demonstrate current proficiency. Since these courses may not be applied toward the M.A. degree, you are encouraged to pass these proficiency levels by examination. A major Indian language of Latin America (i.e., Quechua) may be substituted for either Spanish or Portuguese. You must fulfill the foreign language requirement by examination or petition for a waiver of the examination if you have gained competency in another manner (i.e., native speaker, upper division coursework, Peace Corps service).

Course Requirements
Two plans are available. For the comprehensive examination plan, a minimum of nine courses is required, including a one-term core course (Latin American Studies 205) and eight additional courses to be distributed among three fields or disciplines on a 3-3-3 basis. Of the nine courses, five must be at the graduate level, with at least one in each of the three fields.

For the thesis plan (which requires prior approval), a minimum of 10 courses is required, including a one-term core course and nine additional courses to be distributed on a 4-3-2 basis among three fields. Three graduate-level courses are required in the first field, with one each in the two minor fields.

All courses must be selected from the department-approved list of courses. Other courses must be petitioned in advance.

Courses numbered in the 300 and 400 series are not applicable toward the M.A. degree.

No more than eight units of 500-series courses may be applied toward the total course requirement for the M.A. degree; no more than four units may be applied toward the five graduate courses required for the degree.

Graduate courses may be repeated unless they are lecture courses.

Comprehensive Examination Plan
In addition to course requirements, you must submit three research papers written for at least two of your three fields of study. At least two of the papers must have been submitted for graduate courses in the 200 series. A three-member faculty committee representing your three fields evaluates the papers and grades them pass, pass subject to revision of one or more of the research papers, or fail. No reexamination is permitted. The M.A. degree is awarded on recommendation of the faculty committee. Copies of your papers must be filed in the Academic Programs Office of the Latin American Center.

Thesis Plan
Although you are generally expected to follow the M.A. comprehensive examination plan, in special cases you may be allowed to follow the M.A. thesis plan. You must develop a carefully prepared proposal that provides sound justification for the thesis plan, including provisions for funding any planned field research.

Once the thesis plan option has been approved, you select a three-member faculty thesis committee to work with you in the development of the thesis and to read, evaluate, and approve the drafts and final version. Once the final version is approved, the thesis committee recommends the award of the M.A. degree. By the end of the term before graduation, you must file for advancement to candidacy with the Graduate Division.

Cooperative Degree Programs
Several options are available to combine the M.A. in Latin American Studies with a professional degree. After acceptance by both the Latin American Studies Program and the respective professional school, you may pursue both degrees simultaneously. Articulated degree programs are currently available with the School of Education and Information Studies (M.Ed. in Curriculum and M.L.I.S.), Engineering and Applied Science (M.S. in Engineering), and Public Health (M.P.H.); articulated programs do not allow course credit to be applied toward more than one degree. Concurrent degree programs are available with the Department of Urban Planning (M.A. in Urban Planning) and the John E. Anderson Graduate School of Management (M.B.A.).

Lower Division Course
99. Introduction to Latin American Problems.
Limited to 15 students. Interdisciplinary seminar for lower division students. May be repeated for credit with topic change.

Upper Division Courses
197. Interdisciplinary Topics in Latin American Studies. Advanced interdisciplinary course for upper division students. May be repeated for credit with topic change.
199. Special Studies in Latin American Studies (4 or 8 units). Prerequisite: upper division standing. Intensive directed research program in which students conduct interdisciplinary research or complete internships with an international agency or program dealing with Latin America. Faculty sponsorship and written reports required.

Graduate Courses
M200. Latin American Research Resources. (Same as History M255 and Library and Information Science M255.) 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. Mr. Lauerhass
201. Statistical Resources for Latin American Research. Contemporary statistical materials important for research in Latin American studies. Discussion on qualitative and interpretative aspects of the material, especially as it relates to data developed for publication in Latin American Center's Statistical Abstract of Latin America and its Supplement Series.

205. Latin Americanist Scholarship. Lecture, three hours. Prerequisite: consent of instructor. Panoramic introduction to methods and issues in various disciplines that study Latin America, with guest lecturers from various fields. (Latin American Studies core course.) Mr. Moya
M225. Computer Methodologies in Latin American Studies and Anthropology. (Same as Anthropology M289.) Lecture, three hours. Prerequisite: consent of instructor. Basic principles of computing and information processing, along with their potential application in Latin American research. Exploration of impact that computers are having in Latin American society.
M250A. Indians of South America. (Same as Anthropology M272.) Lecture, three hours. Prerequisite: consent of instructor. Survey of literature and research topics related to indigenous cultures of South America. May be repeated for credit.

250B. Interdisciplinary Seminar: Latin American Studies. Three hours. Prerequisite: consent of instructor. Problem-oriented seminar on critical areas stressed in University's cooperative programs in Latin America.

250C. Interdisciplinary Topics in Latin American Studies. Prerequisite: consent of instructor. Reading knowledge of Spanish or Portuguese normally required. Seminar devoted to selected topics of interdisciplinary nature.

M268A-M268B. Seminars: Recent Latin American History. (Same as History M268A-M268B.) Seminar, three hours. Prerequisite: consent of instructor. Reading knowledge of Spanish and Portuguese normally required. Seminar devoted to selected topics of an interdisciplinary nature. In Progress grading. Mr. Wilkie

501. Cooperative Program (2 to 8 units). Prerequisite: 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 units). May be repeated, but only four units may be applied toward the minimum graduate course requirement. S/U or letter grading.

597. Preparation for M.A. Comprehensive Examination. Ordinarily taken only during term in which student is being examined. S/U grading.

598. Research for and Preparation of M.A. Thesis. Only four units may be applied toward the minimum graduate course requirement. S/U grading.

Approved Graduate Course List
Refer to the Latin American Studies undergraduate section for the lists of approved under-graduate courses.

Fine Arts
Art History *201. Topics in Historiography of Art History
C218A. Pre-Columbian Art of Mexico
C218B. Pre-Columbian Art of the Maya
C218C. Pre-Columbian Art of the Andes
219B. Pre-Columbian Art
220. Oceanic, Pre-Columbian, African, and Native North American Art
596. Directed Individual Study or Research
Dance *260A-260B. Advanced Studies in Dance Ethnology
Ethnomusicology and Systematic Musicology
208. Seminar: Latin American Music
*290. Seminar: Ethnomusicology
596. Directed Individual Studies
Film and Television *298A-298B. Special Studies in Film and Television
Languages

Indigenous Languages of the Americas (Linguistics) *118A-118B-118C. Elementary Quechua

Portuguese (Spanish and Portuguese) *1. Elementary Portuguese
2. Elementary Portuguese
3. Intermediate Portuguese
25. Advanced Portuguese
*101A. Advanced Reading and Conversation
102A-102B. Intensive Portuguese
*105. Advanced Composition and Style

Spanish (Spanish and Portuguese) *1. Elementary Spanish
*1G. Reading Course for Graduate Students
2. Elementary Spanish
2G. Reading Course for Graduate Students
3. Elementary Spanish
4. Intermediate Spanish
5. Intermediate Spanish
25. Advanced Spanish
*105. Spanish Composition

Linguistics

Anthropology 204. Core Seminar: Linguistic Anthropology

Linguistics *210A. Field Methods I
*210B. Field Methods II
*220. Linguistic Areas
*225. Linguistic Structures

Portuguese (Spanish and Portuguese) *202. Synchronic Morphology and Phonology
*204A-204B. Generative Grammar
*M205A-M205B. Development of Portuguese and Spanish Languages

Spanish (Spanish and Portuguese) *202A. Phonology
*202B. Morphology
*204A-204B. Generative Syntax and Semantics
*M205A-M205B. Development of Portuguese and Spanish Languages

Dialectology

*206A-256B. Studies in Spanish Linguistics

*257. Studies in Dialectology

Literature

Portuguese (Spanish and Portuguese) C231. Colonial Brazilian Literature

C234. 20th-Century Brazilian Literature: Poetry and Drama

C235. 20th-Century Brazilian Literature: Novel

M249. Folk Literature of the Spanish and Portuguese Worlds

254. Studies in Early Brazilian Literature

255. Studies in Modern Brazilian Literature

Spanish (Spanish and Portuguese) 237. Literature of the Spanish Conquest

238. Baroque, Enlightenment, and Neoclassicism in Colonial Literature

239. Romanticism and Realism in Spanish-American Literature

240. Major Currents in Modern Spanish-American Literature

241A-241B. Contemporary Spanish-American Short Story

243A-243B. Contemporary Spanish-American Poetry

244A-244B. Contemporary Spanish-American Novel

245. Contemporary Spanish-American Essay

246. Contemporary Spanish-American Drama

M249. Folk Literature of the Spanish and Portuguese Worlds

277A-277B. Studies in Colonial Spanish-American Literature

278A-278B. Studies in 19th-Century Spanish-American Literature

280A-280B. Studies in Contemporary Spanish-American Literature

*M266A-M266B. Studies in Hispanic Folk Literature

290. Special Topics: Latin American Literature

Professional

Community Health Sciences *231. Maternal and Child Nutrition

*M232. Medical Anthropology in Public Health

*M240. Culture and Human Reproduction

Education *204. Educational Anthropology

*204B. Introduction to Comparative Education

*204C. Education and National Development

*204F. Nonformal Education in Comparative Perspective

*207. Politics of Education

217D. Language Development and Education

*238. Cross-National Analysis of Higher Education

*252A. Seminar: Education and Social Change

*253A. Seminar: Current Problems in Comparative Education

*253D. Seminar: Latin American Education

*253F. Seminar: Education in Revolutionary Societies

*M253H. Seminar: The Chicano/Hispanic and Education

*260F. Seminar: Research Topics in Bilingual/Multicultural Education

*290. Seminar: Epidemiology — Infectious and Tropical Disease

*291. Seminar: Epidemiology — Methodology

Health Services *240. Health Care Issues in International Perspective

Law *270. International Law

*271. International Business Transactions

*290A. International Environmental Law

Library and Information Science *207. International Issues and Comparative Research in Library and Information Science

*223. Literature of the Social Sciences

*224. Literature of the Humanities and Fine Arts

*259. Latin American Research Resources

*259. Directed Individual Study or Research

Management *205A. International Business Economics

*205B. Comparative Market Structure and Competition

*260. International Accounting

*234A. International Financial Markets

*234B. Financial Management of Multinational Corporations

*261B. Global Marketing Management

*M293B. Morality of Capitalism

*M296A. International Business Management

*297A. Comparative and International Management

*297C. International Business Law

*297D. International Business Negotiations

*298B. Special Topics in International and Comparative Management

*M298C. Special Topics in Sociotechnical Systems

*298D. Special Topics in Management

Public Health *596. Directed Individual Study or Research (selected from any of the public health departments)

Urban Planning *232B. Spatial Planning: Regional and International Development

*M235A-235B. Urbanization and Rural Development in Third World Countries

*M236A. Urban and Regional Economic Development

*M236B. Urban and Regional Economic Development I

239. Special Topics in Urban and Regional Development Policy

246. Housing in Social and Economic Development Policy

266. City and Countryside in the Third World

267A. Resource-Based Development Planning

267B. Rural Development Issues

596P. Research in Planning

Social Science

Anthropology *214. Selected Topics in Prehistoric Civilizations of the New World

*232Q. Myth and Ritual

*M232R. South American Folklore and Mythology Studies

*260. Urban Anthropology

*M262P. Culture and Human Reproduction

*M272. Indians of South America

*M289. Urban Theories of Latin American Studies and Anthropology

Archaeology *259. Fieldwork in Archaeology

596. Individual Studies for Graduate Students

Economics *281A. International Trade Theory

*286A. Economic Development

*286B. Analysis and Appraisal of Development Projects

287A-287Z. Topics in Development Economics

596. Individual Study

Folklore and Mythology *200B. Folklore Collecting and Field Research

248. Theory and Method in Latin American Folklore Studies

*M249. Folk Literature of the Spanish and Portuguese Worlds

*M286A-M286B. Studies in Hispanic Folk Literature

Geography *223. Seminar: Humid Tropics

281. Middle America

282. South America

*292. Advanced Regional Geography: Selected Regions

596. Directed Individual Study or Research

History 2001. Advanced Historiography: Latin America

2011. Topics in History: Latin America

*M265. Latin American Research Resources

266A-266B. Seminars: Colonial Latin American History

267A-267B. Seminars: Latin American History, 19th and 20th Centuries

*M266A-M266B. Seminars: Recent Latin American History

Latin American Studies *219. Latin American Research Resources

205. Latin Americanist Scholarships

M225. Computer Methodologies in Latin American Studies and Anthropology

*M250A. Indians of South America

250B. Interdisciplinary Seminar: Latin American Studies

250C. Interdisciplinary Topics in Latin American Studies
Political Science 230. Contending Perspectives on International Political Economy
231. Markets, States, and International Political Economy
239. Selected Topics in International Relations
240. Comparative Politics
244. Latin American Studies
255. Seminar: Political Change
259. Selected Topics in Comparative Politics
Sociology 235. Theories of Ethnicity
259. Social Structure and Economic Change: Historical and Comparative Perspectives
265. Social Stratification
265C. Special Topics in Sociology: Race Relations in Brazil

Languages

3125 Campbell Hall, (310) 825-0634

Professors
Raimo A. Antilla, Ph.D. (Indo-European and General Linguistics)
Susan R. Curtiss, Ph.D.
Bruce P. Hayes, Ph.D.
Thomas J. Himesbach, Ph.D. (Linguistics, African Languages)
Patricia A. Keating, Ph.D. (Distinguished Teaching Award)
Edward L. Keenan, Ph.D.
Pamela L. Munro, Ph.D.
Russell G. Schuh, Ph.D. (Linguistics, African Languages)
Donca Steriade, Ph.D.
Robert P. Stockwell, Ph.D. (Distinguished Teaching Award)
George D. Bedell, Ph.D., Emeritus
William O. Bright, Ph.D., Emeritus
Victoria A. Fromkin, Ph.D., Emerita (Distinguished Teaching Award)
Mazli R. Kunene, Ph.D., Emeritus
Peter N. Ladefoged, Ph.D., Emeritus (Distinguished Teaching Award)
Paul M. Schachter, Ph.D., Emeritus (Distinguished Teaching Award)

Associate Professors
Nina M. Hyams, Ph.D.
Hilda J. Koopman, Ph.D. (Linguistics, African Languages)
Dominique L. Sportiche, Ph.D. (French, General Linguistics)
Edward P. Stabler, Ph.D.
Timothy A. Stowell, Ph.D., Chair
Anna Szabolcsi, Ph.D.

Assistant Professors
Sun-Ah Jun, Ph.D.
Ancop Mahajan, Ph.D.

Adjunct Professor
Ian Maddison, Ph.D.

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 English and familiar European languages found in linguistic 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 which 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.

In a recent survey conducted by the Conference Board of the Associated Research Councils, UCLA’s Linguistics Department was judged second best in the nation in the quality of its faculty. 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 which concentrates entirely on general linguistics, (2) several majors which combine the basic courses of the general program with a language concentration or other related fields, and (3) a major which concentrates entirely on an African language area. The combined 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.

Bachelor of Arts in Linguistics

This major is designed for students with an exceptional interest in and aptitude for the study of languages and linguistics. It enables the undergraduate 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, one cultural anthropology course; completion of the equivalent of the sixth term in each of two foreign languages or the sixth term in one foreign language and the third term in each of two other foreign languages.

If you complete an advanced language course, you are considered to have completed the equivalent of whatever courses are prerequisite to that one (e.g., if you complete French 100, you have automatically satisfied the requirement of the sixth term of work in one language). You 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.

The Major

Required: A minimum of 13 upper division or graduate courses, including Linguistics 103, 110, 120A, 120B, and two courses from 125, 165A, 165B (you may substitute courses 200A and 200B for 165A and 165B respectively if you receive grades of A in 120A and 120B respectively and have consent of instructor), both courses 165A and 165B, or 200A and 200B, are recommended for students planning linguistics graduate work. The remaining seven courses are electives, three of which must be linguistics courses. The other four may be in linguistics or in certain other fields as listed below. Electives have generally been selected from the following list (courses not on the list may be used as electives only in consultation with an adviser): Linguistics 104, 114, 115M, 125, 127, 130, C135, 140, M146, M150, 165A (or 200A for qualified students), 165B (or 200B for qualified students), 170, 175, M176A, C180, C185A, C185B, 195, 196A, 196B, 199 (if four units), Afri- Can Languages M190, Anthropology 143, English 121, 122, Philosophy 127A, 127B, 172, Psychology 122, 123, or upper division courses in a foreign language beyond the sixth term. Not all of these elective courses are necessarily given every year; consult an adviser regarding electives to be offered in a given year.

Linguistics 195 or 196A/196B are recommended for students planning to pursue graduate work in linguistics, since they provide an opportunity to engage in independent research and to write a paper which can be submitted to graduate admissions committees. To enroll in the courses, you must consult with the department's senior essay and honors counselor.

Specialization in Computing

Students in any of the linguistics majors (except linguistics and computer science) may select a specialization in computing by (1) satisfying all the requirements for a bachelor's degree in the specified major and (2) completing Program in Computing 10A, 10B, 10C, 60, Linguistics C180,
The Major
Required: Fourteen upper division courses as follows: Linguistics 103, 104, 120A, 120B, 165A or 165B (or 200A or 200B with a grade of A in 120A or 120B respectively and consent of instructor; 165B/200B are most strongly recommended for this major), C180, C185A, C185B, Computer Science 131, 132, 141, 161 or 163, 181.

Bachelor of Arts in Linguistics and East Asian Languages and Cultures
Preparation for the Major
Required: Completion of the sixth term in either Chinese or Japanese; Linguistics 20, Philosophy 31; one cultural anthropology course; either Chinese 50 or Japanese 50, as appropriate; completion of the sixth term in one other foreign language or the third term in each of two other foreign languages.

The Major
Required: Linguistics 103, 104, 110, 112A, 112B, 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, C149; for the modern Japanese track: Japanese 100A-100B-100C, CM122, 130B; for the classical Chinese track: Chinese 110A-110B-110C, four courses from 140A, 140B, 140C, 165, 170, 195; for the modern Chinese track: Chinese 100A-100B-100C, four courses from 101A, 101B, 101C, 130A, 130B.

Bachelor of Arts in Linguistics and English
Preparation for the Major
Required: Linguistics 20, English 3, 10A, 10B, 10C, Philosophy 31, completion of the sixth term in each of two foreign languages or the sixth term in one foreign language and the third term in each of two other foreign languages.

The Major
Required: Fourteen 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, English 121, 122, 140A, and four electives from 141A, 141B, 142A, 142B, 143, the 150 series (one course only), the 160 series (one course only), the 170 series (one course only).
Bachelor of Arts in Linguistics and Scandinavian Languages

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 sixth term in one other foreign language or the third term in each of two other foreign languages.

The Major

Required: Thirteen 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, Scandinavian 105 and 106, or 110 twice, 199 (in a topic related to Scandinavian linguistics, under the direction of a Scandinavian or linguistics faculty member), and three upper division electives in Scandinavian.

Bachelor of Arts in Linguistics and Spanish

Preparation for the Major

Required: Linguistics 20, Spanish 1, 2, 3, 4, 5, 25, M42, M44, completion of the sixth term in one other foreign language or the third term in each of two other foreign languages.

The Major

Required: Fourteen 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 additional upper division courses in linguistics (preferably 130 and 170), Spanish 100A-100B, 115 or M118A, 119A, 119B, and two additional upper division Spanish courses.

Bachelor of Arts in African Languages

Preparation for the Major

Required: Linguistics 20, nine courses from African Languages 1A through 42C and 199 (six in one language and three in another).

The Major

Required: A minimum of 13 upper division courses, including three courses in an African language; African Languages M190, Linguistics 103; two courses from Folklore M155, French 121A, Film and Television 106C, Theater 102E, or one or more special four-unit African Languages 199 tutorials focusing on literature in an African language; three courses from English 114, Ethnomusicology and Systematic Musology 136A, 136B, Geography 189, History 125A, 125B, 125C, 126A, 126B, 127A, 127B, 128A, 128B, Linguistics 110, 120A, 120B or 127, 140, M146, 170, Political Science 166A, 166B, 166C. Linguistics 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: Afrikanas, Arabic, Dutch, French, German, Portuguese.

Graduate Study

The programs leading to the M.A. and Ph.D. degrees in Linguistics are open to qualified graduate students who are interested in descriptive, theoretical, and historical linguistics. Preparation for graduate study in linguistics should be equivalent in as many respects as possible to the undergraduate curriculum in linguistics.

There is also a graduate program leading to a Ph.D. in Applied Linguistics. It is administered by an interdepartmental committee, not by the Department of Linguistics. The requirements of the program are stated earlier in this chapter.

Master of Arts Degree

Admission

Students are normally admitted to begin residence in Fall Quarter only (exceptions may be made by the chair). The deadline for submission of applications for Fall Quarter is December 15 of the previous year. This deadline may occasionally be extended for applicants who do not wish to be considered for fellowship support.

Applicants are asked to submit a statement of purpose, which should include their background for graduate study in linguistics and their immediate and long-range goals in the field. They should also have three scholars under whom they have studied submit letters to the department about their qualifications. Scores on the verbal, quantitative, and analytical sections of the Graduate Record Examination (GRE) must be submitted with the application. There is no minimum score requirement. In addition, applicants must submit a copy of some research paper or other piece of writing in linguistics or a closely related field.

While not required for admission, Linguistics 103, 110, 120A, 120B, 165A, 165B are prerequisites to graduate courses in their respective areas. At the time of admission, students are notified which, if any, of the above courses are required due to deficiencies. However, if there is any question of whether courses taken elsewhere are equivalent to the above courses, students must discuss this with their advisers.

Prospective students may request an information brochure from the Administrative Analyst, Department of Linguistics, 3125 Campbell Hall, UCLA, Los Angeles, CA 90024-1543. This brochure explains, in particular, advising methods and procedures for the formation of M.A. and Ph.D. guidance committees.

Specialization

At the M.A. level, three survey courses in phonology, syntax, and language change are required. You must also select four additional survey courses from a list of 11. These choices allow for a certain amount of specialization. The remaining two courses (of the nine graduate courses required) may be in any area of linguistics and provide additional opportunities for specialization.

Foreign Language Requirement

You must demonstrate knowledge of one research language before receiving the M.A. and a second research language before advancement to candidacy. Knowledge can be demonstrated by one of four methods: (1) a reading examination administered by the department, (2) a research paper based on extensive sources in the language, (3) a conversation examination showing knowledge in depth, (4) a Graduate School Foreign Language Test (GSFLT) with a score of 650 or better. One of the languages must have substantial literature on linguistics; the other may serve as a contact language for field research. The latter option must be approved by the departmental language committee. Native speakers of languages other than English may use English to meet one of the foreign language requirements. If this is done, the second language must be other than the native language. The departmental brochure provides details about the departmentally administered language examinations.

Course Requirements

The M.A. degree requires the completion, with a B average or better, of nine graduate courses in linguistics. All students, regardless of prior background, are required to take Linguistics 200A, 200B, 201, 202, and 206. The remaining four survey courses must be selected from Linguistics 203 through 218. All first-year graduate students must take courses 411A-411B, and all second-year students who have not yet been admitted to the Ph.D. program must take course 444.

The following undergraduate courses or the equivalent are prerequisite to graduate courses in the corresponding areas: Linguistics 103, 110, 120A, 120B, 165A, 165B. Course 103, or an examination in practical phonetics, must be passed with a grade of B or better as a prerequisite to course 210A, a required course for the Ph.D. that may be taken at the pre-M.A. level. A proficiency examination in elementary logic, which may be waived on the basis of appropriate coursework, is prerequisite to course 206.

No more than two courses (with grades of B or better) from institutions outside the University of California may be applied toward the M.A.

You must complete all degree requirements in a maximum of seven regular academic terms.

Thesis Plan

After completing the required courses and the foreign language examination, students select...
ing this plan submit a thesis based on original research to a thesis committee for approval. All students intending to proceed to the Ph.D. must adopt this plan.

If you wish to be considered for advancement into the doctoral program, a copy of the thesis, complete and clearly legible, but not necessarily in final typed form, must be in the hands of the committee at least two weeks before the last day of classes in the term. Limits on the length of the thesis are stipulated in the departmental brochure.

Requirements for receiving an M.A. include the filing of a Petition for Advancement to Candidacy form early in the term during which you expect to take the degree. The thesis must be typed according to regulations set by the University. Information on these regulations and procedures is available from the Graduate Division.

Comprehensive Examination Plan
After completing the required courses and the foreign language examination, you must pass a comprehensive examination administered by a four-member committee of the faculty, appointed by the chair. This is normally an oral examination, general in scope, and results in a terminal M.A. degree.

Ph.D. Degree
Admission
General admission requirements are the same as those listed for the M.A. Students who have done their earlier graduate work at UCLA are considered for admission into the Ph.D. program on the basis of the following: (1) completion of all requirements for the M.A. and (2) the faculty's evaluation of the quality of the M.A. thesis and of the student's overall work and promise.

If you have already received an M.A. in Linguistics from another department or institution, you must fulfill all the requirements expected of an M.A. candidate, including the coursework, unless work elsewhere is equivalent and satisfies the course requirements. Then there are two possible procedures: (1) you may submit a master's thesis written at another institution or department or (2) if you have not written a thesis elsewhere, you must submit a paper equal in depth and scope to a thesis. In either case an examination committee is appointed and, once the committee has approved the thesis or paper, it is submitted to the entire faculty who evaluates its universality, its diversity, and its quality. The examination deals with the background necessary for you to pursue research on the specific topic. Reexamination is possible on recommendation of the committee. You are expected to take the examination and be advanced to candidacy no later than six terms after being admitted to the doctoral program.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree in advance of candidacy for the Ph.D.

Final Oral Examination
A final defense of the dissertation is required. The defense is not restricted to the doctoral committee and is scheduled at a time, and with advance notice, that will enable a substantial number of students and faculty to attend.

General Linguistics

Foreign Language Requirement
A doctoral committee cannot be officially appointed until the foreign language requirement has been met. Details are given above under the "Foreign Language Requirement" for the M.A. degree.

Course Requirements
Candidates for the Ph.D. are required to have taken 36 units of graduate coursework beyond the M.A. requirements. These units must include Linguistics 210A, 210B, and eight units in an area distinct from that of your major area of concentration. The 36 units may not include courses 275, 597, or 599. Of the 36 units, no more than 12 units may be in course 596A. A maximum of four two-unit seminars may be included in the 36 units. At some time, you are expected to present some of the results of your research at a meeting of the Linguistics Department Colloquium. This is a requirement for the degree.

Qualifying Examinations
In order to be advanced to candidacy, you are required to prepare two original research papers in different areas or fields of linguistics. These papers are to be submitted to and approved by a doctoral guidance committee. A written prospectus of the dissertation must be submitted to the guidance committee, with a copy for the department file, one month prior to the oral examination. At this time, provided the language requirement has been met, an official doctoral committee must be established.

The University Oral Qualifying Examination is administered by the doctoral committee, based primarily on the topic of the dissertation research. The examination deals with the background necessary for you to pursue research on the specific topic. Reexamination is possible on recommendation of the committee. You are expected to take the examination and be advanced to candidacy no later than six terms after being admitted to the doctoral program.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree in advance of candidacy for the Ph.D.

Final Oral Examination
A final defense of the dissertation is required. The defense is not restricted to the doctoral committee and is scheduled at a time, and with advance notice, that will enable a substantial number of students and faculty to attend.

Major Fields or Subdisciplines
You may specialize in syntax, semantics, phonology, phonetics, language change, morphology, typology, sociolinguistics, neurolinguistics, psycholinguistics, computational linguistics, and many language areas, notably African languages and American Indian languages. Other specializations may be possible, depending on the availability of faculty expertise.

Lower Division Courses

1. Introduction to Study of Language. Summary of 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.

(F,W,Sp)

10. Structure of English Words. Lecture, three to four hours. 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.

Mr. Stockwell (W)

20. Introduction to Linguistics. (Formerly numbered 100.) 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.

(F,W,Sp)

88. Lower Division Seminar. Seminar, three hours. Limited to freshmen. Variable topics; consult Schedule of Classes, College of Letters and Science, or department for topics to be offered in a specific term. May be repeated for credit.

99. Special Studies in Linguistics (2 to 4 units). Supervised research or training. May be repeated for credit. P/NP or letter grading.

Upper Division Courses

103. Introduction to General Phonetics. Lecture, three hours; laboratory, two hours. Prerequisite: one prior linguistics course or course 20 concurrently. Phonetics of a variety of languages and phonetic phenomena that occur in languages of the world. Extensive practice in perception and production of such phenomena.

Ms. Keating (F,W)

104. Experimental Phonetics. Lecture, four hours; discussion, one hour. Prerequisite: course 103. Survey of principal techniques of experimental phonetics. Use of laboratory equipment for recording and measuring phonetic phenomena.

Ms. Keating

110. Introduction to Historical Linguistics. Prerequisites: 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.

Mr. Antilla, Mr. Bedell, Ms. Munro (F,Sp)

114. American Indian Linguistics. Strongly recommended (but not prerequisite): course 103. Survey of genetic, areal, and typological classifications of American Indian languages; writing systems for American Indian languages; American Indian languages in social and historical context. One or more languages may be investigated in detail.

Ms. Munro (W or Sp)

M115. Survey of African Languages. (Same as African Languages M190.) Prerequisite: course 20. Introduction to languages of Africa, their distribution and classification, and their phonological and grammatical structures; elementary practice in several languages.

Ms. Koopman, Mr. Schuh

120A. Phonology I. Prerequisites: courses 20, 103. Introduction to phonological theory and analysis. Rules, representations, underlying forms, derivations. Justification of phonological analyses. Emphasis on practical skills with problem sets.

Mr. Hayes, Ms. Steriade (W,Sp)

120B. Syntax I. Prerequisite: course 20. Course 120A is not prerequisite to 120B. Descriptive analysis of morphological and syntactic structures in natural languages; emphasis on insight into nature of such structures rather than linguistics formalization.

Ms. Koopman, Mr. Sportiche, Mr. Stowell (F,W)

125. Semantics. Lecture, four hours; discussion, one hour. Prerequisite: course 120B. Survey of most important theoretical and descriptive claims about the nature of meaning.

Mr. Keenan, Ms. Szabolcsi
175. Linguistic Change in English. Prerequisites: courses 110, 120A, 120B. Principles of linguistic change as exemplified through detailed study of history of English pronunciation, lexicon, and syntax. Ms. Stowell (Sp)

M176A. Structure of Japanese I. (Same as Japanese CM122.) Lecture, three hours. Prerequisites: Japanese 120 or equivalent or consent of instructor, two years of Japanese. Discussion of many seemingly idiosyncratic characteristics of Japanese syntax and semantics in light of word-order typology and universal grammar, often in a form of a contrastive analysis of Japanese and English. Ms. Akatsuka

M176B. Structure of Japanese II. (Same as Japanese CM127.) Lecture, three hours. Prerequisites: two or more years of Japanese language study or consent of instructor. Survey of Japanese language at three different levels of organization: (1) word level — words, verb class, verbal morphology; (2) clause/sentence level — tense, aspect, modality; (3) discourse level — point of view, ellipsis, topicalization. Mr. Iwasaki

M177. Structure of Korean. (Same as Korean CM120.) Lecture, three hours. Prerequisites: two years of Korean or one year of Korean and some knowledge of linguistics. Discussion of major syntactic, semantic, and pragmatic characteristics of Korean in light of linguistic universals, with brief introduction to formation, typological features, and phonological structure of Korean. Ms. Sohn

M178. Contrastive Analysis of Japanese and Korean. (Same as Japanese CM127 and Korean CM127.) Lecture, three hours. Prerequisites: two years of Japanese or Korean, one introductory linguistics course. Critical reading and discussion of selected current research papers in syntax, pragmatics, discourse, and sociolinguistics from the perspective of contrastive study of Japanese and Korean. May be repeated for credit with consent of instructor. Ms. Akatsuka, Ms. Sohn

C160. Mathematical Linguistics I. Prerequisites: courses 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, morphemes and inferring, speech error models of sentence production, and computation of syntactic structure during production. Ms. Curtiss, Ms. Hyams

135. Theoretical Issues in Disorders of Language Development. Prerequisites: courses 1 or 20, and 130, or consent of instructor. Introduction to the field of language disorders of children. Some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and relationship of these disorders to each other. Such questions as relationship of cognition to linguistic ability. Concurrently scheduled with course C235.

140. Linguistics in Relation to Language Teaching. Prerequisites: courses 120A, 120B. Aspects of linguistics in relation to teaching of language, with particular focus on special problems entailed in teaching non-European languages. Mr. Schuh, Mr. Stockwell

M146. Language in Culture. (Same as Anthropology M140.) Prerequisites: upper division standing or consent of instructor. Study of language as an aspect of culture; relation of habitual thought and behavior to language; and language and the classification of experience. Holistic approach to study of language, with emphasis on relationship of linguistic anthropology to fields of biological, cultural, and social anthropology, as well as on cultural anthropology. Mr. Kroch

M150. Introduction to Indo-European Linguistics. (Same as Indo-European Studies M150.) Prerequisites: one year of college-level study (course 3 or better, eight units minimum) of either Greek or Latin and either German or Russian. Survey of Indo-European languages from ancient to modern times; their relationships and chief characteristics. Mr. Anttila (Sp)

160. Field Methods (6 units). Discussion, four hours; individual or group sessions, one to two hours. Prerequisites: courses 103, 120A, 120B. Analysis of a language unknown to members of class from data elicited from a native speaker of the language. Ms. Koopman, Ms. Munro

165A. Phonology II. (Formerly numbered C165A.) Prerequisite: course 120A (undergraduates with grade of A in course 120A may replace course 165A with 200A, with consent of instructor). Further study in phonological theory and its articulatory, segmental, syllabic, structural, metrical, and phonological stages. Ms. Hayas, Ms. Steriade (Sp)

165B. Syntax II. (Formerly numbered C165B.) Prerequisite: 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. Mr. Mahajan, Mr. Sportache, Mr. Stowell (Sp)

170. Language and Society: Introduction to Sociolinguistics. Prerequisite: course 20 or consent of instructor. Study of patterned covariation of language and society; social dialects and social styles in language; problems of multilingual society. Mr. Stockwell

175. Linguistic Change in English. Prerequisites: courses 110, 120A, 120B. Principles of linguistic change as exemplified through detailed study of history of English pronunciation, lexicon, and syntax. Ms. Stowell (Sp)

196A. Honors Essay. Prerequisites: 3.5 GPA, courses 165A/200A or 165B/200B (may be taken concurrently). Recommended (but not required): completion of both courses 165A and 165B (or 200A and 200B) before or during term in which course 196A is taken. Draft of extended piece of writing on a linguistic topic selected by the student is prepared under supervision of a faculty member. Consult professor in charge to enroll. Ms. Hayes, Mr. Steriade (Sp)

196B. Honors Essay (2 units). Prerequisite: course 196A. Piece of writing drafted in course 196A is presented in a seminar, revised, and put into final form under supervision of a faculty member. Consult professor in charge to enroll. Ms. Hayes (Sp)

199. Special Topics in Linguistics. Prerequisite: course 1 or 20 or consent of instructor. Variable topics selected from any undergraduate linguistics course area in which students desire greater in-depth knowledge. May be repeated for credit with topic change.

200A. Phonological Theory I. (Formerly numbered C200A.) Prerequisite: graduate standing in linguistics or grade of A in course 120A or equivalent course in phonology. Courses 200A and 200B form two-semester survey of current research in phonological theory. Interaction of phonology with morphology and syntax, syllable structure, stress. Mr. Hayes, Ms. Steriade (F)

200B. Syntactic Theory I. (Formerly numbered C200B.) Prerequisite: graduate standing in linguistics or grade of A in course 120B or equivalent course in syntax. In-depth introduction to selected topics in the theory of grammatical structure. Topics include arguments, and grammatical relations. Topics include levels of representation. X-bar theory, case theory, thematic roles, the lexicon, grammatical function-changing rules, head-complement relations. Ms. Koopman, Mr. Mahajan, Mr. Stowell (F)

201. Phonological Theory II. Prerequisite: course 200A. Continuation of 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. Mr. Hayes, Ms. Steriade (W)

202. Language Change. Prerequisites: courses 110, 200A, 200B. Survey of current theories and research problems in language change. Mr. Anttila, Mr. Stockwell (Sp)

203. Phonetic Theory. Prerequisite: course 120A. Preliminaries to speech analysis. Functional anatomy of vocal organs; fundamental principles of acoustics and of acoustic theory of speech production; issues in perception of speech; nature and design of feature systems for phonetic and phonological analysis. Ms. Keating

204. Experimental Phonetics. Prerequisite: course 103 or equivalent. Use of laboratory equipment to investigate articulatory, acoustic, and perceptual properties of speech. Topics include experimental design and statistics; theoretical basis of acoustic structure of speech sounds; computer-based speech processing, analysis, and modeling; perceptual and acoustic evaluation of synthetic speech. Ms. Keating

206. Syntactic Theory II. Prerequisite: course 200B or consent of instructor. In-depth introduction to selected topics in theory of movement processes and topics selected from following areas: WH-movement and related rules; theory of current approaches to movement; ECP and related conditions on distribution of empty categories; resumptive pronoun construction; parametric variation in movement construction; LF in syntax: filtering, reconstruction; parasitic gaps; barriers theory; control theory; null subject parameter.

Mr. Mahajan, Mr. Sportiche, Mr. Stowell (W)


Mr. Keenan

C206. Mathematical Linguistics I. Prerequisites: courses 120A, 120B, 1265B/200B (may be taken concurrently). Prior mathematics knowledge not assumed. Introduction to selected topics in set theory, logic and formal systems, modern algebra, and automata theory, with elementary applications to linguistics. Topics vary each term. Concurrently scheduled with course C180. Graduate students expected to add additional problem sets.

Mr. Keenan (F)

C209A. Natural Language Processing I. Prerequisites: courses 120B, C180, Program in Computing 103B. Recommended: courses 120A or 200B, Program in Computing 80. Survey of recent events in the field of natural language processing, including basic syntactic parsing strategies, with brief glimpses of semantic representation, reasoning, and response generation. Concurrently scheduled with course C180B.

Mr. Stabler (W)

C209B. Natural Language Processing II. Prerequisite: course C185A/C209A or consent of instructor. Extensions of basic language processing techniques to natural language processing. Recent models of syntactic, semantic, and discourse analysis, with particular attention to their linguistic sophistication and psychological plausibility. Concurrently scheduled with course C185B.

Mr. Stabler (Sp)

210A. Field Methods I (6 units). Prerequisites: courses 200A, 200B, grade of B or better in course 103 or in examination on practical phonetics. Analysis of a language unknown to members of class from data elicited from a native speaker. Texts are to be relatively full descriptive sketches of the language. May be repeated for credit with topic change.

Ms. Koopman, Mr. Munro

210B. Field Methods II (6 units). Prerequisite: course 210A in preceding term. Because different languages are investigated in different years, course 210B can only be taken as a continuation of 210A in same year. When there are multiple sections, continuation must be in same section. May be repeated for credit with topic change.

Ms. Koopman, Mr. Munro

212. Learnability Theory. Prerequisite: course C180/C206 or consent of instructor. Survey of some of the major issues in the field of learnability: orderings of language; given precise assumptions about their memory, time, and computational power, and precise assumptions about information provided by the environment.

Ms. Hyams, Mr. Stabler

213. Psycholinguistics. Prerequisites: courses 200A, 200B. Survey of recent empirical and theoretical research in several subareas of psycholinguistics, including grammatical and lexical development in first language acquisition; psycholinguistic constraints on grammatical processing, especially syntactic parsing; brain bases for language acquisition; language breakdown.

Ms. Hyams

214. Survey of Current Syntactic Theories. Prerequisite: course 200B. Survey of several syntactic theories, compared with one another and with theory discussed in course 200, from point of view of theories' relative descriptive and explanatory power.

Mr. Stowell

215. Syntactic Typology. Prerequisite: course 200B. Current results in word-order universals; genetic classification of the world's languages; cross-linguistic properties of specific construction types, in particular of locative and pro-drop languages; conference systems, agreement systems, deixis systems, and types of sentence complements.

Mr. Keenan

216. Syntactic Theory III. Prerequisite: course 206 or consent of instructor. 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 movement; passive and parallel variation in binding; quantifier movement; existentials, indexed grammatical relations; collective binding; strong and weak crossover; superiority; scope interactions; complex quantifier structures.

Ms. Koopman, Mr. Sportiche, Mr. Stowell (Sp)

218. Mathematical Linguistics II. Prerequisite: course C180/C206 or consent of instructor. Applications of automata and formal language theory to natural language: Chomsky hierarchy; whether natural languages are finite state, context free, context sensitive, categorial grammar, indexed grammar, tree adjoining grammar, feature systems, languages as models of first-order theories.

Mr. Keenan, Mr. Stabler

220. Linguistic Areas. Prerequisites: courses 200A and 120B or 127. Recommended: courses 165A/165B, 200B/200A, 200B/200A. 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 topic change.

225. Linguistic Structures. Prerequisites: courses 120A, 120B, and 1265B/200B. Recommended: courses 165A/200A, 165B/200B. Phonological and grammatical structure of a selected language and its genetic relationships to others of its family. May be repeated for credit with topic change.

230. History of Linguistics. Prerequisites: 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.

235. Theoretical Issues in Disorders of Language Development. Prerequisites: courses 1 or 20, 130, or consent of instructor. Introduction to the field of language disorders of children. Some clinical syndromes which affect the development of language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and relationship of these disorders to each other. May be repeated for credit.

Ms. Curtiss

236. Topics in Linguistic Anthropology. (Same as Anthropology M246C). Prerequisite: consent of instructor. Problems in relations of language, culture, and society. May be repeated for credit.

Mr. Keenan

C235. Topics in Linguistic Anthropology. (Same as Anthropology M246C). Prerequisite: consent of instructor. Problems in relations of language, culture, and society. May be repeated for credit.

Ms. Curtiss

C253. Topics in Language Variation I: Proseminar (2 or 4 units). Prerequisite: course 259A. Course 252 may be required. Specialized topics in language variation. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. Meets with course 257A. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

254. Topics in Linguistics I: Proseminar (2 or 4 units). Lecture, four hours. Prerequisites: courses 200A, 200B, consent of instructor. Core course 110. Course 202 may be required. Specialized topics in language variation. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. Meets with course 258A. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

255. Topics in Linguistics II: Proseminar (2 or 4 units). Prerequisite: course C110. Course 203 or 204 may be required. Individual semesters on topics such as child language, sociolinguistics, neurolinguistics, computational linguistics, psycholinguistics, etc. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. Meets with course 259A. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

256A. Topics in Phonetica and Phonology II: Proseminar (2 or 4 units). Prerequisite: course 256A. May be repeated for credit. Meets with course 252. In Progress grading (credit to be given only on completion of course 252).

256B. Topics in Phonetics and Phonology II: Proseminar (2 or 4 units). Prerequisites: courses 200A, 200B, consent of instructor. Course 201, 203, or 204 may be required. Specialized topics in phonetics and phonology. May be repeated for credit. Meets with course 252. In Progress grading (credit to be given only on completion of course 252).

257A. Topics in Syntax and Semantics II: Proseminar (2 units). Prerequisite: course 257A. Specialized topics in syntax and semantics. May be repeated for credit.

257B. Topics in Syntax and Semantics II: Proseminar (2 units). Prerequisite: course 257A. Specialized topics in syntax and semantics. May be repeated for credit.

258A. Topics in Language Variation II: Proseminar (2 units). Prerequisite: course 258A. 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 253).

258B. Topics in Language Variation II: Proseminar (2 units). Prerequisite: course 258A. Specialized topics in language variation. May be repeated for credit.

259A. Topics in Linguistics II: Proseminar. Prerequisites: courses 200A, 200B, consent of instructor. Course 201, 202, 203, 204, 205, 206, 207, 208, C209A, C208B, 212, 213, 214, 215, 216, or 218 may be required. Individual semesters 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 254).

259B. Topics in Linguistics II: Proseminar (2 units). Prerequisite: course 259A. Individual semesters on topics such as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May be repeated for credit.

Seminars numbered 260A through 264C may be taken for either two or four units. If a seminar is taken for four units, an oral presentation is required. Seminars may be taken for two units credit only by students who have been formally admitted to the doctoral program. All others must enroll for four units.
African Languages

**Lower Division Courses**

1A-1B-1C. Elementary Swahili. Lecture, five hours. Course 1A is enforced requisite to 1B, which is enforced requisite to 1C. Major language of East Africa, particularly Tanzania.

2A-2B-2C. Intermediate Swahili. Enforced requisite: course 1C. Course 2A is enforced requisite to 2B, which is enforced requisite to 2C.

7A-7B-7C. Elementary Zulu. 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.

8A-8B-8C. Intermediate Zulu. Enforced requisite: course 7C. Course 8A is enforced requisite to 8B, which is enforced requisite to 8C.

11A-1B-11C. Elementary Yoruba. Lecture, five hours. Course 11A is enforced requisite to 11B, which is enforced requisite to 11C. Major language of Western Nigeria.

12A-12B-12C. Intermediate Yoruba. Enforced requisite: course 11C. Course 12A is enforced requisite to 12B, which is enforced requisite to 12C.

31A-3B-31C. Elementary Bambara. 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 West Africa; includes Maninka (Malinje), Dyula, and other mutually intelligible dialects.

32A-3B-32C. Intermediate Bambara. Enforced requisite: course 31C. Course 32A is enforced requisite to 32B, which is enforced requisite to 32C.

41A-4B-41C. Elementary Hausa. Lecture, five hours. Course 41A is enforced requisite to 41B, which is enforced requisite to 41C. Major language of Northern Nigeria and adjacent areas.

42A-4B-42C. Intermediate Hausa. Enforced requisite: course 41C. Course 42A is enforced requisite to 42B, which is enforced requisite to 42C.

51A-5B-51C. Elementary Amharic. Lecture, five hours (15 hours for intensive course). Course 51A is enforced requisite to 51B, which is enforced requisite to 51C. Major language of Ethiopia. P/NP (undergraduates), SU (graduates), or letter grading.

**Upper Division Courses**

103A-103B-103C. Advanced Swahili. Prerequisite: course 2C. Course 103A is prerequisite to 103B, which is prerequisite to 103C. Readings in Swahili literature and the contemporary press. Discussions mainly in Swahili.

123A-123B-123C. Advanced Yoruba. Prerequisite: course 120C. Course 123A is prerequisite to 123B, which is prerequisite to 123C. Readings in Yoruba literature and the contemporary press. Discussions mainly in Yoruba.

133A-133B-133C. Advanced Bambara. Prerequisite: course 32C. Course 133A is prerequisite to 133B, which is prerequisite to 133C. Readings in Bambara literature and the contemporary press. Discussions mainly in Bambara.

143A-143B-143C. Advanced Hausa. Prerequisite: course 123B. Course 143A is prerequisite to 143B, which is prerequisite to 143C. Readings in Hausa literature and the contemporary press. Discussions mainly in Hausa.

153A-153B-153C. Advanced Amharic. Lecture, five hours (15 hours for intensive course). Prerequisite: course 52C. Course 153A is prerequisite to 153B, which is prerequisite to 153C. Readings in Amharic literature and the contemporary press. Discussions mainly in Amharic.

M190. Survey of African Languages. (Formerly numbered 190.) (Same as Linguistics M115.) Prerequisite: Linguistics 20. Introduction to languages of Africa, their distribution and classification, and their phonological and grammatical structures; elementary practice in several languages.

199. Special Studies in African Languages (1 to 6 units). Prerequisite: consent of instructor. Instruction at advanced level or supervised research, based on needs of individual students, in any language or group of languages for which appropriate facilities are available.

**Graduate Courses**

202A-202B-202C. Comparative Bantu. Prerequisites: Linguistics 110, 165A, 165B. Recommended: three quarter courses in one language selected from 1A through 8C, 199. Investigation of relationships among the Bantu languages; extent and external relationships of Bantu.

596. Directed Studies (1 to 6 units). Directed individual study or research. Four units may be applied toward M.A. course requirements. May be repeated for credit. S/U grading.

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206A-206B-206C. Seminars: Phonetics (2 or 4 units each). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U (graduating).

216A-216B-216C. Seminars: Phonology (2 or 4 units each). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

260A-260B-260C. Seminars: Syntax and Seman- tics (2 or 4 units each). Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

263A-263B-263C. Seminars: Language Variation (2 or 4 units each). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

264A-264B-264C. Seminars: Special Topics in Lin- guistic Theory (2 or 4 units each). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

275. Linguistics Colloquium. Prerequisite: comple- tion of M.A. requirements. Varied linguistic topics, generally presentations of new research by students, faculty, and visiting scholars. S/U grading.

276. Linguistics Colloquio (No credit). Prerequi- site: graduate standing. Same as course 275, but taken without credit by students not presenting a colloquium. S/U grading.

403. Practical Phonetics Training (1 unit). Extensive practice in production, perception, and transcription of sounds from a wide range of languages. Concurrently scheduled with practical sections of course 103. SU (Graduating).

411A-411B. Research Orientation (2 units each). Prerequisite: graduate standing. Sequence of lec- tures 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 units). Prerequisite: graduate standing. Workshop in examina- tion of phonetic data, including sound charts, 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. 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 units). Prerequisite: graduate standing. Required of all new teaching assistants. Seminars, workshops, and ap- prentice teaching. Selected topics, including curricu- lum development, various teaching methods and their effects, teaching evaluation, and other topics on college teaching. Students receive unit credit toward full-time equivalence but not toward any degree re- quirements. S/U grading.
Indigenous Languages of the Americas

Lower Division Courses

18A-18B-18C. Elementary Quechua. Lecture, five hours. Course 18A is enforced requisite to 18B, which is enforced requisite to 18C. Language of the Incas and its present-day dialects, as spoken in Andean South America.

Upper Division Courses

119A-119B-119C. Advanced Quechua. Prerequisite: course 18C. Course 119A is prerequisite to 119B, which is prerequisite to 119C. Readings in Quechua. Dialectal and stylistic variation. Discussions mainly in Quechua.

Mr. Bedell

Graduate Course

596. Directed Studies in Quechua (1 to 8 units). Prerequisites: courses 119A-119B-119C or consent of instructor. 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.

Related Courses in Other Departments (Other than Language Courses)

Anthropology 143. Field Methods in Linguistic Anthropology
Armenian (Near Eastern Languages) 210. History of the Armenian Language
English 121. History of the English Language
122. Introduction to Structure of Present-Day English
210. History of the English Language
218. Celtic Linguistics
240. Studies in History of the English Language
241. Studies in Structure of the English Language
Folklore and Mythology 217. Folk Speech
French 210A. Phonology and Morphology from Vulgar Latin to French Classicism
210B. Syntax and Semantics from Vulgar Latin to French Classicism
German (Germanic Languages) 129. Language and Linguistics
217. History of the German Language
230. Survey of Germanic Philology
C28. Linguistic Theory and Grammatical Description
251. Seminar: Syntax and Phonology of German
252. Seminar: Historical and Comparative Germanic Linguistics
Hebrew (Near Eastern Languages) 190A-190B. Survey of Hebrew Grammar
210. History of the Hebrew Language
Indo-European Studies 210. Indo-European Linguistics: Advanced Course
280A-280B. Seminars: Indo-European Linguistics
Italian 222A. History of the Italian Language
222B. Structure of Modern Italian
222C. Italian Dialectology
Japanese (East Asian Languages) CM122. Structure of Japanese I
225A-225B. Seminars: Linguistic Analysis of Japanese Narratives
Latin (Classica) 240. History of the Latin Language
Philosophy 127A, 127B. Philosophy of Language
172. Philosophy of Language and Communication
287. Seminar: Philosophy of Language
Portuguese (Spanish and Portuguese) 100A. Phonology and Morphology
100B. Syntax
M118A. History of Portuguese and Spanish Phonology
M118B. History of Portuguese and Spanish Morphology and Syntax
M205A-M205B. Development of Portuguese and Spanish Languages
M251A-M251B. Studies in Galician-Portuguese and Old Spanish
Psychiatry 257A-257B-257C. Communication Disorders Associated with Developmental Disabilities and Psychiatric Disorders
Psychology 123. Psycholinguistics
260A-260B-260C. Prosemantics: Cognitive Psychology
Russian (Slavic Languages) 123. Historical Commentary on Modern Russian
204. Introduction to History of the Russian Language
241. Topics in Russian Phonology
242. Topics in Russian Morphology
243. Topics in Historical Russian Grammar
263. Russian Dialectology
264. History of the Russian Literary Language
265. Topics in Russian Syntax
266. Russian Lexicology
Semantics (Near Eastern Languages) 280A-280B-280C. Seminars: Comparative Semitics
Slavic (Slavic Languages) 202. Introduction to Comparative Slavic Linguistics
242. Comparative Slavic Linguistics
251. Introduction to Baltic Linguistics
262A-262B. West Slavic Linguistics
263A-263B. South Slavic Linguistics
281. Seminar: Slavic Linguistics
282. Seminar: Structural Analysis
Slovak (Slavic Languages) 222. Structure of Slovak Sociology CM124A. Conversational Structures I
266. Selected Problems in Analysis of Conversation
267. Selected Problems in Communication
Spanish (Spanish and Portuguese) 100A. Introduction to Study of Spanish Grammar: Phonology and Morphology
100B. Introduction to Study of Spanish Grammar: Syntax
115. Applied Linguistics
M118A. History of Portuguese and Spanish Phonology
M118B. History of Portuguese and Spanish Morphology and Syntax
202A. Phonology
202B. Morphology
204A-204B. Generative Syntax and Semantics
M205A-M205B. Development of Portuguese and Spanish Languages
209. Dialectology
M251A-M251B. Studies in Galician-Portuguese and Old Spanish
256A-256B. Studies in Spanish Linguistics
257. Studies in Dialectology
Teaching English as a Second Language and Applied Linguistics 241. Interlanguage Analysis
260. Psycholinguistics and Language Teaching
Turkish Languages (Near Eastern Languages) 230A-230B-230C. Historical and Comparative Survey of Turkish Languages

Mathematics

6363 Math Sciences, (310) 825-4701

Professors

Christopher R. Anderson, Ph.D.
Kirby A. Baker, Ph.D. (Distinguished Teaching Award)
Program in Computing Director
Madan Bhargava, Ph.D.
Don M. Blasius, Ph.D.
Robert J. Blattner, Ph.D.
Robert F. Brown, Ph.D.
Russell Caviglia, Ph.D. (Applied Mathematics Director)
Lennart Carlsen, Ph.D.
Tony F.C. Chan, Ph.D.
S.Y. Alice Chang, Ph.D.
Jennifer T. Chayes, Ph.D.
Lincoln Chayes, Ph.D.
S.Y. Cheng, Ph.D.
F. Michael Christ, Ph.D.
Philip C. Curtis, Jr., Ph.D.
Jan de Leeuw, Ph.D.
Robert D. Edwards, Ph.D.
Edward G. Effros, Ph.D.
Richard S. Elman, Ph.D.
Bjorn E. Engvig, Ph.D.
Gregory I. Eskin, Ph.D.
Hector J. Fattorini, Ph.D.
Thomas A. Ferguson, Ph.D.
Lloyd S. Shapley, Ph.D.
John B. Garnett, Ph.D. (Distinguished Teaching Award, Chair)
David A. Gieseker, Ph.D.
David Gillman, Ph.D.
Mark L. Green, Ph.D., Administrative Vice Chair
Robert G. Greene, Ph.D.
Nathaniel Grossman, Ph.D.
Haruo Hida, Ph.D.
Robert I. Jennrich, Ph.D.
Heinz-Otto Kreiss, Ph.D.
Robert K. Lazarfeld, Ph.D.
Ker-Chau Li, Ph.D.
Thomas M. Liggett, Ph.D.
D. Anthony Martin
Ronald J. Mich, Ph.D.
Yiannis N. Moschovakis, Ph.D.
William I. Newman, Ph.D.
Stanley J. Osher, Ph.D.
Sorin T. Popa, Ph.D.
Sidney C. Port, Ph.D.
James V. Ralston, Jr., Ph.D.
Paul H. Roberts, Ph.D., D.Sc.
Jonathan D. Rogawski, Ph.D.
Bruce L. Rothschild, Ph.D.
Murray V. Schachter, Ph.D., Graduate Vice Chair
Roberto Schonmann, Ph.D.
Lloyd S. Shapley, Ph.D.
Christopher Sogge, Ph.D.
John R. Steel, Ph.D.
Masamichi Takesaki, Ph.D.
V.S. Varadarajan, Ph.D., Undergraduate Vice Chair
James H. White, Ph.D. (Distinguished Teaching Award)
N. Donald Ylvisaker, Ph.D., Statistics Division Director
Lai-Sang Young, Ph.D.

Professors Emeriti

Richard F. Arens, Ph.D.
Donald G. Babbitt, Ph.D.
David G. Cantor, Ph.D.
C.C. Chang, Ph.D.
Basil Gordon, Ph.D. (Distinguished Teaching Award)
John W. Green, Ph.D.
Alfred W. Hales, Ph.D.
Paul G. Hoel, Ph.D.
Alfred Horn, Ph.D.
S.T. Hu, Ph.D., D.Sc.
Paul B. Johnson, Ph.D.
Barrett O'Neill, Ph.D.
Lowell J. Paige, Ph.D.
Associate Professors

Rodolfo De Sapio, Ph.D.

Jun Li, Ph.D.

Jeffrey Mess, Ph.D.

Thomas Mountford, Ph.D.

Peter Petersen, Ph.D.

Lecturers

David Cohen, M.A. (Distinguished Teaching Award)

Kathleen Neumann, Ph.D. (Program in Computing)

John C. Williams, Ph.D. (Program in Computing)

Adjunct Professor

Herbert Enderton, Ph.D.

Adjunct Assistant Professors

Amnon Besser, Ph.D. (Hedrick)

Albert Fannjiang, Ph.D. (C.A.M.)

Douglas Jungreis, Ph.D. (Hedrick)

Charles Li, Ph.D. (Hedrick)

Rachel Lunnon, Ph.D. (Program in Computing)

Atsushi Moriwaki, Ph.D. (Hedrick)

Alex Strohbehn, Ph.D. (Program in Computing)

Tamir Tassa, Ph.D. (C.A.M.)

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 courses 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 majors.

Preliminary Examination in Mathematics

If you wish to enroll in Mathematics 1, 3A, or 31A, you must pass the Mathematics Diagnostic Test.

This examination may be taken at any one of several times, including all sessions of the summer Orientation Program. It will also be given on Monday, September 26, 1994, for Fall Quarter 1994; Wednesday, November 16, 1994, for Winter Quarter 1995; and Wednesday, March 1, 1995, for Spring Quarter 1995. For information, 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 4 or 5 receive four units of credit and Mathematics 31A equivalency; those with a score of 3 receive four units of calculus and analytic geometry credit. You may petition for 31A equivalency, or you may take course 31A at UCLA. Students who take the BC Test and obtain a score of 4 or 5 receive eight units of credit and Mathematics 31A, 31B equivalency; those with a score of 3 receive eight units of calculus and analytic geometry credit. You may petition for 31A, 31B equivalency, or you may take courses 31A, 31B at UCLA.

If you received a score of 3 on the AB or BC examination, you should consult the undergraduate mathematics counselor prior to enrolling in a calculus course at UCLA. If you had calculus in high school but do not have Advanced Placement Test credit, you may take beginning calculus (Mathematics 3A or 31A), or you may seek advanced placement by passing examinations in the subject. Consult the Student Services Office for further details.

Credit Limitations

Credit is given for at most one course in each of the following groups: (1) 3A, 31A, 31AH, 31AQ; (2) 3B, 31B, 31BH, 31BQ, 31E; (3) 3C, 32A, 32AH, 32AQ; (4) 32B, 32BH, 32BQ; (5) 110A, 117; (6) 132, 132H; (7) 140A, 141A; (8) M150A, Statistics M152A, 154A.

Mathematics 2, 38A, 38B, and Statistics 50 are not open for credit to students with credit for any course from Mathematics 110A through 199.

Mathematics 140A-140B-140C and 141A-141B are not open for credit to students with credit for Electrical Engineering 103.

Mathematics M150A and Statistics M152A are not open for credit to students with credit for Electrical Engineering 131A.

You may not take a mathematics course for credit if you have credit for a more advanced course which has the first course as a prerequisite. This applies in particular to the repetition of courses (e.g., if you wish to repeat Mathematics 31B, you must do so before completing course 32A).

Undergraduate Majors

The Mathematics Department offers five majors: mathematics, applied mathematics, mathematics of computation, mathematics/applied science, and general mathematics.

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 general mathematics major for students planning to teach mathematics or pursue graduate study in 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 and operations research.

Courses taken to fulfill any of the requirements for any of the mathematics majors must be taken for at least a letter grade.

If you plan to pursue graduate study in mathematics, you are strongly encouraged to take a three-term sequence of graduate-level courses during your senior year.

Bachelor of Science in Mathematics

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 10A, Physics 8A, 8C, and two additional courses from Biology 6, Chemistry and Biochemistry 11A, 11B, Economics 11, Philosophy 31, 32, Physics 6B, 6C, 8B, 8D, 8E. Each course must be passed with a minimum grade of C-, and you must have a minimum overall GPA of 2.0 for the courses.

The Major

Required: Mathematics 110A-110B, 115A, 131A-131B, 132, one course from 120A, 121, 123, and at least five additional courses from 106 through 199 and Statistics M152A through 154B. The 12 courses must be passed with a minimum overall GPA of 2.0.

Bachelor of Science in Applied Mathematics

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 10A, Physics 8A, 8C, and one additional course from Physics 8B, 8D, 8E, Chemistry and Biochemistry 11A, 11B. Each course must be passed with a minimum grade of C-, and you must have a minimum overall GPA of 2.0 for the courses.

The Major

Required: Mathematics 115A, 131A, either 131B or 132, 142; two two-term sequences
Bachelor of Science in Mathematics of Computation

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61, Program in Computing 10A, 10B, 10C or 30, Physics 8A, 8C, and one additional course from Physics 8B, 8D, 8E, Chemistry and Biochemistry 11A, 11B. Each course must be passed with a minimum grade of C –, and you must have a minimum overall GPA of 2.0 for the courses.

The Major

Required: Eleven Mathematics Department courses, including Mathematics 115A, 117, 131A, two additional courses from 110A through 199 and Statistics M152A through 154B, and six courses from Plan A (scientific computing) — courses 131B or 132, 140A-140B-140C, and 135A-135B or 145-146, or Plan B (computational theory) — courses 114A-114B-114C and 118A-118B-118C, or Plan C (computational statistics) — courses 140A or 141A, 150A or Statistics M152A, Statistics 152B-152C, and 153A-153B; three upper division computer science courses (12 units).

If you plan to pursue this major, see the undergraduate adviser in 6356 Math Sciences. There is a chance that courses 114A-114B-114C and 118A-118B-118C will be offered in alternating years.

Bachelor of Science in Mathematics/Applied Science

The 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. You may also select one of the established programs: the actuarial plan, the mathematics/economics plan, or the operations research plan. In the past, mathematics/applied science majors have combined the study of mathematics with fields such as physics, biology, chemistry, biochemistry, economics, and geography.

If you are interested in designing an individual program, you should meet with the undergraduate adviser, 6356 Math Sciences, during your sophomore year. A proposed program is drawn up, then forwarded 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 you must have a minimum overall GPA of 2.0 for the courses. Additional preparation, varying with the individual program, may be required.

The Major

Required: Fourteen courses, seven in the Mathematics Department selected from Mathematics 110A through 199 and Statistics M152A through 154B 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 GPA 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. If you will have 135 or more units by the end of the term in which you plan to enter the program, you will not be admitted to the major.

Actuarial Plan

Preparation for the Major: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 10A, Economics 1 and 2 (or 100), 11. Economics 100 may not be applied as one of the upper division courses for the major. You must have a minimum overall 2.5 GPA in the six calculus courses.

The Major: Seven Mathematics Department courses, including Mathematics 115A, 140A or 141A, 144, M150A or Statistics M152A or 154A, and 152B or 154A-154B, and two courses from 113, 140B or 141B, 151, Statistics 152C, 153A; six outside courses, including Economics 101, 102, 147A, 160, and two additional courses from Management 130A, 130B, 190, English 131A through 131J, Economics 145 through 199.

Mathematics/Economics Plan

Preparation for the Major: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Economics 1, 2, 11, Program in Computing 10A.

The Major: Seven Mathematics Department courses, including Mathematics 110A or 117, 115A, 131A, 144, M150A or Statistics M152A or 154A, Statistics 152B or 154B, and one additional course from 110A through 199 and Statistics M153A, M153B; six economics courses, including Economics 101, 102, and four additional upper division courses, with at least three from 105AH, 105BH, and 141 through 148.

Operations Research Plan

Preparation for the Major: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Economics 1 and 2 (or 100), 11, Management 1A, Program in Computing 10A, 10B, and two courses from 10C, 15, 30, 60.

The Major: Seven courses in the Mathematics Department and six in economics and management. Consult the department for recommended courses. Programs are designed so that students in this plan qualify for a specialization in computing.

Bachelor of Science in General Mathematics

The 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, Program in Computing 10A, and three courses from the Physics 6 or 8 sequence, the Chemistry and Biochemistry 11 sequence, or Program in Computing 10B, 10C, 30, 60. Each course must be passed with a minimum grade of C –, and you must have a minimum overall GPA of 2.0 for the courses.

Specialization in Computing

Majors in mathematics, applied mathematics, mathematics/applied science, or general mathematics may select a specialization in computing by (1) satisfying all the requirements for a bachelor's degree in the specified major, (2) completing Mathematics 61 or 113, Program in Computing 10A, 10B, and two courses from 10C, 15, 30, 60, with a minimum grade of C – in each course and a combined GPA of at least 2.0, and (3) completing at least two courses from Mathematics 141A, 141B, 149, 149HS. You must petition for admission to this major and are advised to do so after you complete Program in Computing 10B (petitions should be filed in the Student Services Office). You graduate with a bachelor's degree in your major and a specialization in computing.

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. Call the department (310-206-1286) for further details.

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. You may apply any time after completing four courses from the calculus sequence or from upper division mathematics courses with an overall GPA of 3.6 or better. The program entails taking a specified sequence of courses as part of your 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.

If you complete the program, you are awarded honors at graduation; if you demonstrate exceptional achievement (i.e., at least a 3.8 GPA in upper division mathematics courses taken for the major), you are awarded highest honors. Consult the department for further information.

Graduate Study
Admission
Prospective graduate students in mathematics need not have an undergraduate mathematics major, but they should have completed at least 12 quarter courses (or eight semester courses) in substantial upper division mathematics — particularly algebra, differential equations, analysis, and differential geometry or topology. For admission to a master's degree program, you must have earned in those upper division mathematics courses a cumulative grade-point average of at least 3.2; for direct admission to the doctoral program, at least 3.5. If you have already obtained a master's degree, you must have maintained an average of better than 3.6 in graduate study.

You must take the Graduate Record Examination (GRE) General Test and Subject Test in Mathematics and must submit three letters of recommendation from mathematicians who know your recent work.

Applications are available from the Graduate Adviser, Department of Mathematics, 6356 Math Sciences, UCLA, Los Angeles, CA 90024-1555.

Master of Arts Degree
You may earn the M.A. degree in Mathematics under the comprehensive examination plan, either in the basic (pure mathematics) program, in an interdisciplinary program in applied mathematics, or in statistics.

Foreign Language Requirement
There is no foreign language requirement for master's students.

Course Requirements
Eleven courses are required for the M.A. degree, of which at least eight must be graduate courses, while the remaining three may be approved upper division courses. Each course must be passed with a grade of B — or better. With consent of the graduate vice chair, students in the applied mathematics and statistics programs may take up to five of the required 11 courses in other departments, provided that these courses are in professional or scientific fields closely related to research in applied mathematics or statistics respectively. You may enroll in Mathematics 596 any number of times and may apply up to two courses toward the 11-course requirement for the M.A., provided you receive a B or better in these courses (not the grade S).

Comprehensive Examination Plan
You must pass two written qualifying examinations at the M.A. level within seven terms of full-time study. By program, the following examinations are required: (1) pure mathematics — algebra and either real analysis or complex analysis; (2) applied mathematics — one in real analysis or complex analysis and one in numerical analysis or applied differential equations; (3) statistics — two from probability, theoretical statistics, or applied statistics. These examinations are offered early in Fall Quarter and toward the end of Spring Quarter. You may take one or both of the examinations at one sitting and may retake them any number of times until you pass them.

Master of Arts in Teaching
The M.A.T. program serves the needs of present and prospective mathematics teachers in high school and junior college.

Foreign Language Requirement
There is no foreign language requirement for M.A.T. students.

Course Requirements
Eleven courses are required, as follows.

Core Courses — You must take Mathematics 201A-201B-201C and 202A-202B. Normally, you also take one term of course 596 while fulfilling the essay requirement described below.

CREDENTIAL REQUIREMENTS — If you plan to teach in secondary schools and do not already have valid credentials for such teaching, you should enroll in the single subject instructional credential program in the Graduate School of Education and Information Studies. Of the courses required by this program, you may receive M.A.T. credit only for the following: Education 100A-100B, 112, 312, 330A, 330B. Actual receipt of the credential is not a degree requirement. You should check with the Graduate School of Education and Information Studies for a full and up-to-date description of credential requirements and should submit a Graduate School of Education and Information Studies application for admission to the credential program.

Additional Courses — Besides the six core courses described above, you must take a seventh upper division or graduate course in mathematics. Particularly recommended are Mathematics 106, 110B, 110C, 111A, 111B, 131B, 135A, and Statistics 152B. Candidates on the junior college track normally take five 100- or 200-level courses in mathematics in addition to the six core courses. However, with prior approval of the graduate vice chair, such students may present for degree credit one course of a predominantly mathematical nature taken in another department.

You may not receive degree credit for Mathematics 104 or 370. In addition, you may not receive degree credit for more than two terms of course 596 or for more than two terms of any 300-series courses.

Essay Requirement — You must prepare a master's essay on some subject in mathematics related to your prospective teaching. You write this under the direction of a faculty member while enrolled in Mathematics 596.

Teaching Experience
Teaching experience is not a formal requirement for the M.A.T. degree, although students working for a secondary credential must take the supervised teaching course. M.A.T. students are eligible for teaching assistantships.

Comprehensive Examination Plan
In the M.A.T. program, you take one examination in mathematical subject matter and one in content and philosophy of secondary school mathematics. Ordinarily, these are administered in conjunction with Mathematics 201A-201B-201C and 202A-202B. Reexamination after failure is allowed.

Ph.D. Degree
Students may earn the Ph.D. degree in Mathematics at UCLA either in the classical (pure mathematics) program, in an interdisciplinary program in applied mathematics, or in statistics. There are many possible choices of fields within these programs, and you are urged to read the booklet, Graduate Studies in Mathematics, UCLA, where the specialties of the faculty and the active research areas in the department are described in some detail.

Language Requirement
Prior to advancement to candidacy, you must pass a written departmental language examination in French, German, or Russian. In order to take an alternate non-English examination such as Italian, you must petition to the graduate vice chair. The examinations are offered in Fall and Spring Quarters and require the translation of material in some basic field of mathematics (a dictionary may be used). They may be retaken any number of times until passed.

Course Requirements
In the pure mathematics and statistics programs, you must pass (with a grade of B or better) at least 12 courses from Mathematics...
In the applied mathematics program, you must pass (with a grade of 3.0 or better) at least 18 approved graduate courses, including at least 12 courses from Mathematics 205A through 285L.

Qualifying Examinations
You must pass four written qualifying examinations, at least two of which must be passed at the Ph.D. level. One examination (any level) must be passed within three terms of full-time study, three examinations must be passed within six terms of full-time study, and all four examinations must be passed within seven terms of full-time study. Students in the applied mathematics program are allowed to substitute an outside examination (at the M.A. level) for one of the regular departmental examinations. By program, the following examinations are required: (1) pure mathematics — algebra and analysis (either one or both may be passed at the M.A. level, subject to the above restriction on the number of M.A. passes); (2) applied mathematics — real analysis and either numerical analysis or applied differential equations; (3) statistics — real analysis and probability at the M.A. level; theoretical statistics and applied statistics at the Ph.D. level. These examinations are offered early in Fall Quarter and toward the end of Spring Quarter.

After passing the four qualifying examinations, you may set up the doctoral committee which administers the University Oral Qualifying Examination for advancement to candidacy.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
The final oral examination may be waived by the doctoral committee, with the approval of the graduate vice chair.

Mathematics

Lower Division Courses
A. Intermediate Algebra (No credit). Lecture, five hours. Mathematics A displaces four units on student's Study List but yields no credit toward degree. May not be applied toward Letters and Science general education requirements. Not open to students with credit for other mathematics courses. Designed for students requiring review of intermediate algebra. Polynomials, rational exponents, linear and quadratic equations and inequalities, coordinate geometry, systems of equations, theory of equations. (F,W,Sp)

1. Precalculus. Lecture, three hours; discussion, one hour. Enforced requisite: course A (C or better). Function concept. Linear and polynomial functions and their graphs, applications to optimization. Inverse, exponential, and logarithmic functions. Trigonometric functions. P/NP or letter grading.


3A. Calculus for Life Sciences Students. Lecture, three hours; discussion, one hour. Requisites: three and one-half years of high school mathematics (including trigonometry) and successful completion of Mathematics Diagnostic Test, or course 1 (C or better). Not open for credit to students with credit in another calculus sequence. Students with credit for course 5 will receive only two units of credit for this course in understanding and applications of differentials. Introduction to the integral. P/NP or letter grading.

3B. Calculus for Life Sciences Students. Lecture, three hours; discussion, one hour. Enforced requisite: course 3A (C or better). Functions of several variables, vectors, partial differentiation, and vector-valued functions. P/NP or letter grading.

3C. Calculus for Life Sciences Students. Lecture, three hours; discussion, one hour. Enforced requisite: course 3B (C or better). Functions of several variables, vectors, partial differentiation, and vector-valued functions. P/NP or letter grading.

5. Calculus for Liberal Arts Students. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 3A, 3B, 3C, 31A through 33B, or 310A through 199. Brief look at concepts, techniques, and applications of both differential and integral calculus. Emphasis on intuitive ideas in place of mathematical proofs.

9. Mathematics: A First View (1 unit). Introductory course to acquaint freshmen with nature of mathematics, its larger vistas, and its increasingly dominant role in understanding and advancing the world around us. P/NP or letter grading. (F,W,Sp)

31A. Calculus and Analytic Geometry. Lecture, three hours; discussion, one hour. Preparatory course to accommodate freshmen with a variety of backgrounds, including high school algebra, geometry, trigonometry, and calculus. P/NP or letter grading.

31BH. Calculus and Analytic Geometry (Honors). Lecture, three hours; discussion, one hour. Preparation: successful completion of Mathematics Diagnostic Test or other honors placement examination. Honors section parallel to courses 31A, 31B.

31AQ. Calculus and Analytic Geometry with Computer Laboratory (5 units). Formerly numbered 31APC.) Lecture, three hours; discussion, one hour. Enforced: at least three and one-half years of high school mathematics (including some coordinate geometry and trigonometry). Successful completion of Mathematics Diagnostic Test, or course 1 (C or better). Same material as course 31A with one additional computer laboratory hour. P/NP or letter grading.

31B. Calculus and Analytic Geometry. Lecture, three hours; discussion, one hour. Enforced requisite: course 31A (C or better). Calculus of several variables, including some coordinate geometry and trigonometry. P/NP or letter grading.

31BQ. Calculus and Analytic Geometry with Computer Laboratory (5 units). Formerly numbered 31BPC.) Lecture, three hours; discussion, one hour; laboratory, one hour. Enforced: at least three and one-half years of high school mathematics (including some coordinate geometry and trigonometry). Successful completion of Mathematics Diagnostic Test, or course 1 (C or better). Same material as course 31A with one additional computer laboratory hour. P/NP or letter grading.

32A. Calculus of Several Variables. Lecture, three hours; discussion, one hour. Enforced requisite: course 31B (C or better). Introduction to differential calculus of several variables. P/NP or letter grading.

32AH-32BH. Calculus of Several Variables (Honors). Lecture, course 31BH (or 31B, A or better). Honors sequence parallel to courses 32A, 32B.

32A. Calculus of Several Variables with Computer Laboratory (5 units). Formerly numbered 32APC.) Lecture, three hours; discussion, one hour; laboratory, one hour. Enforced requisite: course 32A (or 32AC, C or better). Same material as course 32A with one additional computer laboratory hour. P/NP or letter grading.

32B. Calculus of Several Variables. Lecture, three hours; discussion, one hour. Enforced requisite: course 32A (C or better). Introduction to integral calculus of several variables, vector field theory, line and surface integrals. P/NP or letter grading.

32BH. Calculus of Several Variables with Computer Laboratory (5 units). Lecture, three hours; discussion, one hour; laboratory, one hour. Enforced requisite: course 32A (or 32AC, C or better). Same material as course 32A with one additional computer laboratory hour. P/NP or letter grading.

32A. Matrices and Differential Equations. Lecture, three hours; discussion, one hour. Enforced requisite: course 32A or 32AH or 32AQ. Introduction to matrix theory, differential equations, and systems of differential equations.

32AH-32BH. Matrices, Differential Equations, and Infinite Series (Honors). Lecture, three hours; discussion, one hour. Enforced requisite: course 32AH or 32B, A or better. Honors sequence parallel to courses 32A, 32B, P/NP or letter grading.

33B. Infinite Series. Lecture, three hours; discussion, one hour. Enforced requisite: course 32AH or 32A, A or better. Honors sequence parallel to courses 33A, 33B, P/NP or letter grading.

33A. Matrices and Differential Equations. Lecture, three hours; discussion, one hour. Preparatory: successful completion of Calculus Diagnostic Test or other honors placement examination. Honors section parallel to courses 32A, 32B, and 104 form one-year sequence for prospective elementary teachers in Diversified Liberal Arts Program. Counting numbers and other subsystems of real numbers; sets; operations; relations, algorithms, applications and problem solving. Emphasis on understanding algorithmic procedures. P/NP or letter grading.

33B. Fundamentals of Mathematics for Elementary Teachers. Lecture, three hours; discussion, one hour. Preparatory: successful completion of Calculus Diagnostic Test or other honors placement examination. Honors sequence parallel to courses 32A, 32B, and 104 form one-year sequence for prospective elementary teachers in Diversified Liberal Arts Program. Counting numbers and other subsystems of real numbers; sets; operations; relations, algorithms, applications and problem solving. Emphasis on understanding algorithmic procedures. P/NP or letter grading.

61. Introduction to Discrete Structures. Lecture, three hours; discussion, one hour. Enforced requisite: courses 31A, 31B, and (Program in Computing 10A or 10B). Other topics appropriate for students with credit for course 113. Discrete structures commonly used in computer science and mathematics, including sets and relations, permutations and combinations, graphs and trees, induction, Boolean algebra.
Upper Division Courses

Mathematics 113, 115A, 117, 131A, 132, 141A, 142, 144, 147, and Statistics 15A-15B 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.

General and Teacher Training

104. Fundamental Concepts of Geometry. Lecture, three hours; discussion, one hour. Prerequisites: courses 38A and 38B or equivalent, or consent of instructor. Designed for prospective elementary teachers. Informal geometry and topology, motion geometry, measurement of geometric figures, LOGO computer language, models and constructions appropriate for elementary classrooms.

105. History of Mathematics. Prerequisite: course 22A. Topics in history of mathematics, with emphasis on development of modern mathematics.

Algebra, Number Theory, and Logic

109. Transition to Upper Division Mathematics. Lecture, three hours; discussion, one hour. Prerequisite: course 38B or consent of instructor. Not open for credit to students with credit for course 131A or 131B. Introduction to mathematical proof. Principle of mathematical induction. Proof by contradiction. Developing and writing mathematical proofs. Proofs of basic theorems for limits and infinite series. Completeness property of the real number system. P/NP or letter grading.

110A-110B-110C. Algebra. Lecture, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. Not open for credit to students with credit for course 117. Ring of integers, integral domains, fields, polynomial domains, unique factorization. 110B. Groups, structure of finite groups. 110C. Further topics in rings and modules, field extensions, Galois theory, applications to geometric constructions, and solvability by radicals.

110A-110BH-110CH. Algebra (Honors). Prerequisite: consent of instructor. Honors sequence parallel to courses 110A-110B-110C.

111A-111B-111C. Theory of Numbers. Lecture, three hours; discussion, one hour. Prerequisites: courses 110A or 117, and 115A, or consent of instructor. Divisibility, congruences, Diophantine analysis, selected topics in theory of numbers, algebraic number theory, Diophantine equations.

112A. Introduction to Set Theory. (Formerly numbered 112A.) (Same as Philosophy M134.) Lecture, three hours; discussion, one hour. Prerequisite: course 31B or Philosophy 32 or consent of instructor. Axiomatic set theory as framework for mathematical concepts; relations and functions, numbers, cardinality, axiom of choice, transfinite numbers. P/NP or letter grading.

112B-112C. Logic. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 32B. Predicate logic, formalized theories; Gödel completeness and incompleteness theorems. P/NP or letter grading.

113. Combinatorics. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Permutations and combinations, counting principles, recursion relations and generating functions, combinatorial designs, graphs and trees with applications including games of complete information. Combinatorial existence theorems, Ramsey theorem.

114A-114B-114C. Computation Theory and Logic. Lecture, three hours; discussion, one hour. Prerequisite: course 61. Turing machines and other models of computation; recursive functions; thesis of Church; Gödel numbering of computations; universal machines; unsolvability results. Recursive and recursively enumerable sets; reducibilities; relative recursiveness. Propositional and predicate logic; syntax and semantics; formal deductions; completeness and compactness; effective enumerability of valid sentences. Formal number theory; representation of recursive functions; incompleteness and undecidability; theorems of Gödel, Tarski, Church. Complexity of computations; time and space limitations; nondeterministic machines; polynomial classes P and NP; complete problems; measures of complexity; speed-up and gap theorems; lengths of proofs. P/NP or letter grading.

115A-115B. Linear Algebra. Lecture, three hours; discussion, one hour. P/NP or letter grading. 115A. Prerequisite: course 33A. Abstract vector spaces, linear transformations, and matrices; determinants; inner product spaces; eigenvector theory. 115B. Prerequisite: course 115A. Linear transformations, conjugate spaces, duality; theory of a single linear transformation, Jordan normal form; bilinear forms, quadratic forms; Euclidean and unitary spaces, symmetric skew and orthogonal linear transformations, polar decomposition.

117. Algebra for Applications. Lecture, three hours; discussion, one hour. Prerequisite: course 115A. Not open for credit to students with credit for course 110A. Integers, congruences, fields, applications of finite fields; polynomials; permutations, introduction to groups.

118A-118B-118C. Combinatorial Algorithms. Lecture, three hours; discussion, one hour. Prerequisites: courses 33B, 61, 115A, 117 (latter may be taken concurrently with course 118A). Introduction to discrete mathematics and algorithms as used in computer science and related fields. Topics include asymptotic analysis, arithmetic algorithms, computer-oriented algorithms, graphs and matroids, coding theory and designs.

Geometry and Topology

120A-120B. Differential Geometry. Lecture, three hours; discussion, one hour. Prerequisites: 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, isometrics, geodesics, Gauss/Bonnet theorem.

121. Introduction to Topology. Prerequisite: course 131A. Metric and topological spaces, topological properties, completeness, mappings and homeomorphisms, metrization problem.

122. Projective Geometry. Lecture, three hours; discussion, one hour. Prerequisites: courses 110A-110B, 115B. Projective plane, projective spaces, duality, collineations, cross ratios, projective coordinates.

123. Foundations of Geometry. Lecture, three hours; discussion, one hour. Prerequisite: course 121. Axioms and models, Euclid geometry, Hilbert axioms, neutral (absolute) geometry, hyperbolic geometry, Poincaré model, independence of parallel postulate.

Analysis

131A-131B. Analysis. (Formerly numbered 131A-131B-131C.) Lecture, three hours; discussion, one hour. Prerequisite: course 131A. Prerequisite: course 33B. Rigorous introduction to foundations of real analysis; real numbers, point set topology in euclidean space, functions, continuity, differentiability, integrability. Prerequisites: courses 33B, 115A, 131A. Derivatives, Riemann integral, sequences and series of functions, power series, Fourier series.

131AH-131BH. Analysis (Honors). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Honors sequence parallel to courses 131A-131B. Courses 131AH-131BH and 132H form a full honors sequence in analysis.

132. Complex Analysis for Applications. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Introduction to basic complex analysis 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.

132H. Complex Analysis (Honors). Lecture, three hours; discussion, one hour. Prerequisite: course 131A. Honors course parallel to course 132. Courses 131AH-131BH and 132H form a full honors sequence in analysis.

133. Integration on Manifolds. Prerequisite: course 131B. Integration theory for functions of several variables, multilinear algebra, differential forms, Stokes theorem on manifolds.

134. Measure and Integration. Prerequisite: course 131B or consent of instructor. Introduction to Lebesgue measure and integration.

135A-135B. Ordinary Differential Equations. Lecture, three hours; discussion, one hour. Prerequisites: courses 33A, 33B, 115A. Systems of differential equations, linear systems with constant coefficients, analytic coefficients, periodic coefficients, and linear systems with regular singular points; existence and uniqueness results; linear boundary and eigenvalue problems; two-dimensional autonomous systems; phase plane analysis; stability and asymptotic behavior of solutions.

136. Partial Differential Equations. Lecture, three hours; discussion, one hour. Prerequisites: courses 32A, 33B. Linear partial differential equations, particularly second order equations, heat equation, and Laplace equation; appropriate boundary, initial value problems, and eigenvalue problems.

Applied Mathematics

140A-140B-140C. Numerical Analysis. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B, 115A, and Program in Computing 3 or 10A or equivalent. Not normally open for credit to students with credit for course 141A, 141B, or Electrical Engineering 103. Emphasis on both theory, with error analysis, and applications. Analysis of numerical methods for following areas: 140A. Nonlinear equations, systems of linear equations, and eigenvalue problems. 140B. Interpolation, approximation, fast Fourier transforms, differentiation, and integration, 140C. Differential equations, systems of nonlinear equations, and optimization.

141A-141B. Applied Numerical Methods. Lecture, three hours; discussion, one hour. Prerequisites: courses 32A, 32B, 33A, 33B, 115A, and Program in Computing 3 or 10A or equivalent. Not open for credit to students with credit for course 140A, 140B, or Electrical Engineering 103. Introduction to scientific computing, with emphasis on programming, algorithms, and applications. Case studies. Numerical methods and computer implementation for following areas: 141A. Nonlinear equations, systems of linear equations, optimization, interpolation, differentiation, and integration. 141B. Differential equations, least-squares approximation, and Monte Carlo methods.
142. Mathematical Modeling. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B and 33B, or consent of instructor. Introduction to fundamental principles and principles of applied mathematics. Emphasis on hands-on applications. Mathematical models are constructed for physical problems. Illustrations from many fields of endeavor (e.g., physical sciences, biology, economics, traffic dynamics, etc.).

143. Analytic Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: course M15A or Statistics M152A. 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.

144. Linear Programming. Lecture, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. Not open for credit to students with credit for course Electrical Engineering 136. Principles of linear programming, duality theory, simplex methods; applications to industrial and business problems. Additional topics such as sensitivity analysis, integer programming, and transportation algorithms, and applications to game theory.

145. Fourier Methods for Differential Equations. Lecture, three hours; discussion, one hour. Prerequisite: course 33B. Fourier series and integral transforms, separation of variables, eigenfunction expansions. Applications from such areas as mechanical vibrations, fluid dynamics, heat conduction, and electromagnetics.

146. Methods of Applied Mathematics. Lecture, three hours; discussion, one hour. Prerequisite: course 33B. Integral equations, Green's function, and calculus of variations. Selected applications from control theory, optics, dynamical systems, and other engineering problems.

147. Game Theory. Lecture, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. Games in sets of totally ordered, strategic equilibrium, matrix games and minimax theorem, cooperative and noncooperative solutions of bimatrix games and Lemke-Howson algorithm. Possible additional topics include combinatorial games, stochastic games, coalitional games and the core, matching problem, and cost allocation. P/NP or letter grading.


149. Mathematics of Computer Graphics. Lecture, three hours; discussion, one hour. Prerequisites: course 115A, and Program in Computing 10A or equivalent knowledge of programming in either PASCAL or C language. Study of homogeneous coordinates, projective transformations, interpolating and approximating curves, representation of surfaces, and other mathematical topics useful for computer graphics.

149H. Honors Seminar: Mathematics of Computer Graphics. Lecture, three hours. Prerequisite: course 149, consent of instructor. Limited enrollment (admission to be based on performance in course 149; participants need not be in an honors program). Parcipation seminar on topics not covered in course 149. Each student prepares substantial course project and presents it to class.

Probability

150A-150B. Probability Theory. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B and 33B. Not open to students with credit for Statistics M152A, 154A, or Electrical Engineering 131A. Probability distributions, random variables and stochastic processes, expectation, normal distribution, convergence in distribution, laws of large numbers, Poisson processes, random walks.

151. Stochastic Processes. Lecture, three hours; discussion, one hour. Prerequisites: course M150A or Statistics M152A, and consent of instructor. Discrete Markov chains, continuous-time Markov chains and semi-Markov processes, renewal theory, Brownian motion.

172A-172B. Actuarial Mathematics. Lecture, three hours; discussion, one hour. Prerequisite: course 70. Survival distributions and life tables, life insurance and annuities, net premiums, net premium reserves. 172B. Prerequisites: course 172A. Statistics 154A-154B. Multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models, nonforfeiture benefits and dividends.

Special Studies

190. Honors Mathematics Seminar. Lecture, three hours. Prerequisite: consent of instructor. Participating seminar on advanced topics in mathematics. Content varies from year to year. May be repeated for credit by petition.

191. Upper Division Seminar (2 to 4 units). Prerequisites: courses 32A, 32B, 33A, 33B, consent of instructor. Limited to 15 students. Each term department offers a limited number of seminars in various branches of mathematics under the supervision of a student participant. May be repeated for credit.

199. Special Studies in Mathematics (1 to 4 units). Prerequisite: consent of department chair and instructor. At discretion of chair and subject to availability of staff, individuals or groups may study topics suitable for undergraduate course credit but not specifically offered as separate courses. May be repeated for credit. Further requirements. May be repeated for credit, but no more than one 199 course may be applied toward upper division courses required for a major offered by Mathematics Department.

Graduate Courses

Teacher Preparation

201A-201B. 201C. Topics in Algebra and Analysis. Prerequisite: bachelor's degree in mathematics or equivalent. Designed for students in mathematics/education program. Important ideas of algebra, geometry, and calculus leading effectively from elementary to modern mathematics. Approaches to number system, 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. Prerequisite: bachelor's degree in mathematics or equivalent. Designed for students in mathematics/education program. Development of mathematical theories describing various empirical situations. Basic characterizing postulates; development of a logical structure of theories. 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.

210A-210B. 210C. Topics in Algebra. Prerequisite: course 210A or consent of instructor. Topics from commutative ring theory, including techniques of localization, prime ideal structure in commutative Noetherian rings, principal ideal theorem, Dedekind rings, modules, projective modules, Serre conjecture, regular local rings.

213A-213B. Theory of Groups. Prerequisite: course 210A or consent of instructor. Modules over a ring, homomorphisms, ideals, and primary decomposition. Selected topics and derived functions, homological dimension of rings and modules.

214A-214B. Introduction to Algebraic Geometry. Prerequisites: course 210A or consent of instructor. 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. Prerequisite: course 210A or consent of instructor. Topics from commutative ring theory, including techniques of localization, prime ideal structure in commutative Noetherian rings, principal ideal theorem, Dedekind rings, modules, projective modules, Serre conjecture, regular local rings.

216. Further Topics in Algebraic Geometry. Prerequisites: courses 210A-214B or consent of instructor. 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.

Logic and Foundations

220A-220B-220C. Mathematical Logic and Set Theory. Prerequisites: courses M112A, 112B-112C, or equivalent. Model theory: compactness theorem. Lowenheim/Skolem theorems; definability; ultraproducts; preservation theorems; interpolation theorems. Recursion function theory: thesis of Church; recursively enumerable sets; hierarchies; degrees. Formal proofs: consistency; theorems of Godel; incompleteness; recursively enumerable sets, un decidable and undecidable theories; quantifier elimination. Set theory: Zermelo/Fraenkel and von Neumann/Godel axioms; cardinal and ordinal numbers; continuum hypothesis; constructible sets; independence results and forcing.

222A-222B. Lattice Theory and Algebraic Systems. Lecture, three hours. Prerequisite: course 210A or consent of instructor. Partially ordered sets, lattices, distributivity, completion, completion in algebraic systems, interaction with combinatorics, topology, and logic; algebraic systems, congruence lattices, subdirect decomposition, congruence laws, equational bases, applications to lattices.

223A. Model Theory. Prerequisites: courses 220A-220B-220C. Topics in model theory, ultraproducts, preservation theorems, interpolation theorems, saturated models, omitting types, categoricity, two cardinal theorems, enriched languages, soft model theory, and applied model theory.

223B. Set Theory. Prerequisites: courses 220A-220B-220C. Topics include constructibility theory. Cohen extensions, large cardinals, and combinatorial set theory.

223C. Recursion Theory. Prerequisites: 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.

Geometry and Topology

225A. Differentiable Manifolds. Lecture, three hours. Prerequisites: courses 121 and 131A-131B, or consent of instructor. Smooth manifolds and maps, basic examples and properties, orientability, tangent and cotangent spaces, differential forms, the fundamental theorem and transversality, vector fields and integral curves, Lie brackets and Frobenius theorem, Lie derivative, tensors, differential forms and exterior derivative, Stokes theorem, and homotopy group.

225B. Introduction to Algebraic Topology. Lecture, three hours. Prerequisite: course 225A or consent of instructor. Elementary concepts of homotopy theory; covering spaces and fundamental group. Singular homology theory, axioms of homotopy invariance, hopf sequence, calculation of homology of standard spaces, applications, Betti numbers and Euler characteristic, cell complexes and cellular homology.

225C. Further Topics in Geometry and Topology. Lecture, three hours. Prerequisites: courses 225A and 225B, or consent of instructor. Topics may include cohomology (singular, cellular, de Rham), duality theorems, de Rham theorem, degree theory, cup products, higher homotopy groups, transversality theorem, Morse theory, Riemannian metric.

226A-226B-226C. Differential Geometry. Lecture, three hours. Prerequisite: course 225A or consent of instructor. 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, comparison geometry, Kahler manifolds, symmetric spaces.

227A-227B. Algebraic Topology. Lecture, three hours. Prerequisite: course 225B or consent of instructor. CW complexes, fiber bundles, homotopy theory, cohomology theory, spectral sequences.


233. Partial Differential Equations on Manifolds. Lecture, three hours. Prerequisites: courses 226A and 251A, or consent of instructor. Topics may include Laplacian operator on a Riemannian manifold, eigenvalues, Atiyah-Singer index theorem, isoperimetric inequalities, elliptic estimates, harmonic functions, function 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. Lecture, three hours. Prerequisites: courses 226A-226B or consent of instructor. Complex and Kahler geometry. Hedge 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 by petition.

235. Topics in Manifold Theory. Lecture, three hours. Prerequisites: courses 225A and 225B, or consent of instructor. Emphasis on 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. Lecture, three hours. Prerequisites: courses 225A and 225B, or consent of instructor. 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. Lecture, three hours. Prerequisites: courses 227A-227B or consent of instructor. Fixed-point theory, fiber spaces and classifying spaces, characteristic classes, generalized homology and cohomology theories. Topics vary from year to year. May be repeated for credit by petition.

Analysis and Differential Equations


245A-245B-245C. Real Analysis. Lecture, three hours. Prerequisites: courses 121, 131A-131B, or equivalent. Students may not receive M.A. degree credit for course 245A. Basic measure theory. Measure theory on locally compact spaces. Radon measure. Examples of Borel and analytic sets, Choquet theorem.


250C. Advanced Topics in Ordinary Differential Equations. Prerequisites: courses 250A, 250B. Selected topics, such as spectral theory or ordinary differential operators, nonlinear boundary value problems, celestial mechanics, approximation of solutions, and Volterra equations.


251B-251C. Topics in Partial Differential Equations. Prerequisite: consent of instructor. In-depth introduction to topics of current interest in partial differential equations or their applications.

252A-252B-252C. Topics in Complex Analysis. Lecture, three hours. Prerequisites: courses 245A-245B-245C and 246A-246B-246C, or consent of instructor. Potential theory, subharmonic functions, harmonic measure; Hardy spaces; entire functions; univalent functions; Riemann surfaces; extremal length, variational methods, quasi-conformal mappings. Topics vary from year to year.

253A-253B. Several Complex Variables. Prerequisites: courses 245A-245B-245C, 251A-251B. Orthonormal bases. Introduction to analytic functions of several complex variables. The topology, Cousin problems, domains of holomorphy, complex manifolds.

254A-254B. Topics in Real Analysis. Prerequisites: courses 245A-245B-245C, 246A-246B-246C. Selected topics in analysis and its applications to geometry and differential equations. Topics may vary from year to year. May be repeated for credit by petition.

Functional Analysis


255B-255C. Topics in Functional Analysis. Prerequisite: course 255A. Topics include Banach algebras, operators on Banach spaces and Hilbert space, semi-groups of operators, linear topological vector spaces, and their applications. Functional analysis.

256A-256B-256C. Topological Groups and Their Representations. Lecture, three hours. Prerequisite: course 255A or consent of instructor. Topological groups and their basic properties. Haar measure. Compact groups and their representations. Duality and Fourier analysis on locally compact abelian groups. Induced representations. Frobenius reciprocity. Representations of special groups (Lorentz, Galilean, etc.). Projective representations. Representations of totally disconnected groups.


Applied Mathematics

260. Introduction to Applied Mathematics. Prerequisite: course 142 or consent of instructor. Construction, analysis, and interpretation of mathematical models of problems which arise outside of mathematics.

261. Multiperson Game Theory. Lecture, three hours. Prerequisite: graduate standing in mathematics or consent of instructor. Nonadditive set functions; games in characteristic function form, imputations and domination; von Neumann/Morgenstern solutions; the core; totally balanced games; kernel and nucleolus; multilinear extension and Shapley value; fixed-point theorems; Nash equilibrium; nontransferable utility; lambda-maximal extension method. Applications to market games, cost allocation, assignment and marriage problems, voting power.

264. Applied Complex Analysis. Prerequisite: course 246A or consent of instructor. Topics include conformal mapping and extremal mapping, differential equations in complex plane, special functions, asymptotic series, Fourier and Laplace transforms, singular integral equations.


266B-266C. Applied Partial Differential Equations. Prerequisite: course 266A or consent of instructor. Classification of equations, classical potential theory, Dirichlet and Neumann problems. Green's functions, spectrum and eigenvalues of second order linear equations in bounded domains, first-order equations, wave equations, Cauchy problem, energy conservation, heat equation, fundamental solution, equations of fluid mechanics and magnetohydrodynamics.


268A. Applied Functional Analysis. Lecture, three hours. Prerequisites: courses 115A-115B, 131A-131B, and 132, or consent of instructor. Topics may include Hilbert spaces, distributions, Fourier transforms, L^2 space, the Laplacian, linear operators, spectrum and resolvent, self-adjoint and unitary operators, problems of evolution in Banach spaces, well-posed initial value problems, semigroups, applications to applied problems.

268B-268C. Topics in Applied Functional Analysis. Prerequisite: course 255A. Topics include spectral theory with applications to ordinary differential equations, boundary value problems for differential equations, generalization of systems, and partial differential equations.


270A-270F. Mathematical Aspects of Scientific Computing. Lecture, three hours. Prerequisites: courses 115A, 140A or 141A-141B, and Program in Computing 10A or equivalent, or consent of instructor. Techniques of Scientific Computing. Mathematically oriented techniques for computation, with special emphasis on numerical methods, algorithm design, and scientific programming languages, software development, implementation of numerical algorithms on different architectures, case studies.

270B-270C. Computational Linear Algebra. Direct, fast, and iterative algorithms, overdetermined systems; singular value decomposition, regularization, sparse systems, algebraic eigenvalue problem.

270D. Computational Fluid Dynamics. Basic equations, finite difference, finite element, pseudo-spectral, and vortex methods; stability, accuracy, shock capturing, and boundary approximations.

277F. Parallel Algorithmic Number Theory. Prerequisites: courses 270B-270C. Recommended: courses 270A-270B-270C. Design, analysis, and implementation of numerical algorithms on parallel and vector computers. Discussion of classical numerical algorithms and novel parallel algorithms. Emphasis on applications to PDEs.

271A. Tensor Analysis. Prerequisite: course 131A or consent of instructor. Algebra and calculus of tensors on n-dimensional manifolds. Curvilinear coordinates and coordinate-free methods. Covariant differentiation. Green/Stokes theorem for differential forms. Application to topics such as continuum and particle mechanics.


272D. Wave Mechanics. Formerly numbered 273. Prerequisite: consent of instructor. General concepts of mechanical systems (states, space-time, "loci," etc.). Classical and quantum examples. Correspondence principle.


272B. Mathematical Aspects of Fluid Mechanics. Lecture, three hours. Prerequisite: course 272A or consent of instructor. Review of basic theory of moving continua, fluid equations, conservation of energy; solutions generated by slowly moving bodies, flows where viscosity is negligible, vortices, boundary layers and their separation, water waves, ship waves, compressional waves, shock waves, turbulence theory (overview).


274A. Asymptotic Methods. (Formerly numbered M274A.) Lecture, three hours. Prerequisite: course 132 or equivalent. Fundamental mathematics of asymptotic analysis, hyperbolic expansions of Fourier integrals, methods of stationary phase. Watson lemmas, methods of steepest descent, uniform asymptotic expansions, elementary perturbation problems. S/U or letter grading.

274B-274C. Perturbation Methods. Lecture, three hours. Prerequisite: course 266A or equivalent. Boundary layer theory, matched asymptotic expansions, WKBJ theory. Problems with several time scales, slow passage through a region, averaging techniques, multiple-scale analysis. Application to eigenvalue problems, nonlinear oscillations, wave propagation, and bifurcation problems. Examples from various fields of science.

275A. Stochastic Processes. Lecture, three hours. Prerequisite: course 275B or consent of instructor. Brownian motion, continuous-time martingales, Markov processes, potential theory. S/U or letter grading.

275B. Stochastic Calculus. Lecture, three hours. Prerequisite: course 275C or consent of instructor. Stochastic integration, stochastic differential equations, Ito formula and its applications, S/U or letter grading. (Alternates yearly with course 275E.)

275E. Stochastic Particle Systems. Lecture, three hours. Prerequisite: consent of instructor. Introduction to particle systems, including interacting particle systems, Ito stochastic ising model, and exclusion processes; percolation theory. S/U or letter grading. (Alternates yearly with course 275E.)

276A-276B. Statistical Theory. Lecture, three hours. Prerequisite: Statistics 152C or consent of instructor. Sufficiently, exponential families, least squares, maximum likelihood estimation, Fisher information, Cramer-Rao inequality, confidence intervals. 276B. Asymptotic properties of tests and estimates, consistency and efficiency, likelihood ratio tests, chi-squared tests.

276C. Statistical Decision Theory. Prerequisite: course 276A. Invariant estimates and tests; best unbiased estimators and tests; decision problems; application to general linear model; other topics.

277. Data Analysis. Lecture, three hours. Prerequisites: courses 276A and Statistics M153A, or consent of instructor. Outline of principles of applied statistics, followed by survey of specific data analyses from physical, life, and social sciences. Methods include regression, analysis of variance and covariance, survival analysis, categorical data analysis, and simple time-series analysis. Illustration of transformation, plotting, model selection and evaluation, and estimation and decision procedures.

278. Multivariate Analysis. Lecture, three hours. Prerequisite: course 276B or consent of instructor. Distribution in several dimensions, partial and multiple correlation. Normal distribution theory, Wishart distribution, Hotelling's T^2. Principal components, canonical correlation, discriminant analysis. Introduction to linear structural relations and factor analysis.

278N. Nonparametric and Robust Statistics. Lecture, three hours. Prerequisite: course 276B or consent of instructor. Development of nonparametric and robust procedures for hypothesis testing, estimation in linear and non-linear regression, multiple classification, density estimation.

278C. Decision Theory. Lecture, three hours. Prerequisites: courses 131A and 276B, or consent of instructor. Introduction to decisions under uncertainty and dynamical decision problems. Invariant tests and estimates, best unbiased tests, locally best tests. Application to general linear model.

278D. Sequential Analysis. Lecture, three hours. Prerequisites: courses 131A and 276B, or consent of instructor. Bayes sequential decision problems, stopping rule problems, optimality of sequential probability ratio test, Wald identity, asymptotic theory, and other topics.

M279A-M279B. Linear Statistical Models. (Formerly numbered M279A-M279B-M279C.) (Same as Biostatistics M250A-M250B.) Lecture, three hours, discussion, one hour. Prerequisite: one upper division three- term biological 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, and matrix approach to regression. S/U or letter grading.

M280. Statistical Computing. (Same as Biomathematics M280 and Biostatistics M280.) Lecture, three hours. Prerequisites: course 115A, Statistics 152C, or equivalent. Introduction to theory and design of statistical computing packages for linear and nonlinear regression, dealing with constraints, robust estimation, and general maximum likelihood methods.
Special Studies

285A-285L. Seminars. Prerequisite: consent of instructor. 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.

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. Statistics.

290. Seminar: Current Literature. Intended for Ph.D. candidates. Readings and presentations of papers in mathematical literature under supervision of a staff member.

296A-296M. Participating Seminars (1 to 4 units each). (Formerly numbered 286A-286M.) Prerequisite: consent of instructor. Seminars and discussion by staff and students. S/U grading.

295A. History and Development of Mathematics.
295B. Number Theory.
295C. Algebra.
295D. Logic.
295E. Geometry.
295F. Topology.
295G. Analysis.
295H. Differential Equations.
295I. Functional Analysis.
295J. Applied Mathematics.
295K. Probability.
295L. Statistics.
295M. Mathematics.

370. Teaching Mathematics. Lecture, three hours. Prerequisites: course 3B or 31B, senior standing. Critical inquiry into present-day tendencies in teaching mathematics.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

495. Teaching College Mathematics (2 units). Lecture/discussion (four 50-minute 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 mathematics. S/U grading.

596. Directed Individual Study or Research (2 to 8 units). Supervised individual reading and study on project approved by a faculty member, which may be preparation for M.A. examination. May be repeated for credit, but only two 596 courses (eight units) may be applied toward M.A. degree unless departmental consent is obtained.

599. Research in Mathematics (2 to 12 units). Prerequisite: advancement to doctoral candidacy. Study and research for Ph.D. dissertation. May be repeated for credit.

Program in Computing

Program in Computing is designed for students who wish a broad, general introduction to the topic of computers and computation. It is strongly recommended for those who wish to take course 3 or 10A, but who have no prior experience in computing.

Students who would like one course in programming should take either course 3 (uses FORTRAN) or 10A (uses C++), depending on the advice of their major department.

The sequence (courses 10A, 10B, 10C, 15, 30, 60) provides an extensive education in basic computer science. It is intended for Letters and Science majors who are completing a specialization in computing and for those planning to take upper division coursework in computer science. These students should take all or part of the sequence, depending on the advice of their major department.

Lower Division Courses

1. Introduction to Computers and Computing. Lecture, three hours; laboratory, one hour; computer assignments, five hours. Fundamentals of computers and computing: applications software, editors, spreadsheets, file manager; machine organization and computer hardware. Brief introduction to programming.

6. Introduction FORTRAN Programming (5 units). Lecture, three hours; discussion, two hours; laboratory, eight hours. Students with credit for course 10A will receive only two units of credit for this course. Basic principles of programming, using FORTRAN as example language. Terminal course intended for physical sciences and engineering majors who need to use the extensive library of existing FORTRAN programs. Students who wish to take more advanced programming courses should take course 10A rather than this course.

10A. Introduction to Programming (5 units). Lecture, three hours; discussion, two hours; laboratory, eight hours. Recommended prerequisite for students with no prior computing experience: course 1. Students with credit for course 3 will receive only two units of credit for this course. Basic principles of programming, using FORTRAN as example language. Terminal course intended for physical sciences and engineering majors who need to use the extensive library of existing FORTRAN programs. Students who wish to take more advanced programming courses should take course 10A rather than this course.

10B. Intermediate Programming (5 units). Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced prerequisite: course 10A. Arrays, pointers, classes, abstract data types, object-oriented programming; text processing, recursion, linked lists, stacks, queues, trees, and applications. Example language to be C++.

10C. Advanced Programming (5 units). Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced prerequisite: course 10B. Sorting and searching: lexical analysis and parsing; algorithmic analysis; programming in UNIX environment.

15. Introduction to LISP and Symbolic Computation (5 units). Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced prerequisite: course 1. 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.

30. Machine Organization and Assembly Language Programming (5 units). Lecture, three hours; discussion, two hours; laboratory, eight hours. For credit to students with credit for former Computer Science 30. Description of machine organization and operation. Representation of information, instruction sets and formats, addressing modes, memory organization and management, I/O processing and interrupts.


Special Topics in Programming. Lecture, three hours; discussion, one hour. Enforced prerequisite: 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. Introduction to Concurrent Computation. Lecture, three hours; discussion, two hours; laboratory, eight hours. Enforced prerequisite: course 10C or equivalent familiarity with programming in C or C++ language. Introduction to programming of concurrent (parallel) computing. Shared and distributed memory parallel architectures; currently available concurrent machines; parallel algorithms and development of concurrent programs; estimation of algorithmic performance; selected advanced topics.

197. Advanced Topics in Programming. Lecture, three hours; discussion, two hours. Prerequisite: consent of instructor. Variable topics in programming and the 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

285. Seminar: Logic and Theory of Computation. Prerequisite: consent of instructor. Topics in various aspects of logic and theory of computation. Course is considered equivalent to a Mathematics 285 course for purpose of degree requirements.

296. Participating Seminar: Logic and Theory of Computation (1 to 4 units). (Formerly numbered 286.) Prerequisite: consent of instructor. Seminar and discussion by staff and students. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

Statistics

Lower Division Course

50. Elementary Statistics. Lecture, three hours; discussion, one hour. Preparation: three years of high school mathematics. Descriptive statistics, elementary probability, random variables, binomial and normal distributions. Large and small sample inference concerning means.

Upper Division Courses

Students planning to pursue advanced degrees in statistics should enroll in the M152A, 152B-152C sequence. The 154A-154B sequence is less comprehensive than the 152 series. In particular, probability topics do not receive the same level of coverage. Courses 154A-154B 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.
Microbiology and Molecular Genetics

1602 Molecular Sciences, (310) 825-8482

Professors
Arnold J. Berk, M.D.
Frederick A. Eisnerling, Ph.D.
C. Fred Fox, Ph.D.
Robert P. Gunsalus, Ph.D.
H. Ronald Kaback, M.D.
Aidons J. Lusis, Ph.D.
Jeffrey H. Miller, Ph.D.
Sherrie L. Morrison, Ph.D., Chair
Donald P. Nierlich, Ph.D.
Eli E. Sercarz, Ph.D.
Jack Stevens, D.V.M., Ph.D.
Bernadine J. Wisnieski, Ph.D.
Owen N. Witte, M.D. (President's Professor of Developmental Immunology)
June Lascelles, Ph.D., Ementus
Rafael J. Martinez, Ph.D., Emeritus
M.J. Pickett, Ph.D., Emeritus
Sydney C. Rittenberg, Ph.D., Emeritus (Distinguished Teaching Award)
William R. Romig, Ph.D., Ementus (Distinguished Teaching Award)

Associate Professors
Robert W. Simons, Ph.D.
Fuyuhiko Tamanoi, Ph.D.

Assistant Professors
Douglas L. Black, Ph.D.
Virginia L. Miller, Ph.D.

Adjunct Assistant Professor
Ralph Robinson, Ph.D.

Scope and Objectives
Microbiology at UCLA is a diverse science that includes bacteriology, virology, 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 and molecular genetics prepare for careers in biomedical research, medicine or dentistry, biotechnology and genetic engineering, industrial microbiology, and agricultural or environmental sciences, among others. The courses presented by the department lead to a Bachelor of Science degree and depend heavily on preparation in chemistry, biology, physics, and mathematics. They provide preparation for careers in microbiology or for further advanced study leading to the doctorate.

The graduate program emphasizes the areas of molecular genetics, cell biology, immunology, cell and virus structure and morphogenesis, 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 at the undergraduate level and depth and training in independent study and research for graduate students.

Note: Several upper division and graduate courses in this department are multiple-listed with those in the Microbiology and Immunology Department in the UCLA School of Medicine. If you are interested in a doctoral program with a fundamentally disease-oriented approach to microbiology, see the Microbiology and Immunology Department description in Chapter 15.

Bachelor of Science Degree

Premicrobiology and Molecular Genetics Major

While you are completing the preparation courses for the major, you are considered a premicrobiology and molecular genetics major. After completing the preparation courses with a minimum grade-point average of 2.0, you should petition to enter the major in the Student Affairs Office, 1602B Molecular Sciences. All preparation courses must be taken for a letter grade. If you enter with 80 or more units of credit, in order to specify premicrobiology and molecular genetics as your major, you must have completed one year of general chemistry; Biology 5, 9, or equivalent; at least one of the following: organic chemistry with laboratory (two courses), calculus-based physics (one year), calculus (one year).

Preparation for the Major

Required: Microbiology and Molecular Genetics 101, 102, C106, C119, M158A; Chemistry and Biochemistry 153C; four additional upper division courses from the departmental list or from related departments selected with approval of your faculty adviser. All major courses must be taken for a letter grade, with a minimum overall 2.0 GPA in the major. A maximum of four units of Microbiology and Molecular Genetics 199, taken for a letter grade, may be applied toward the major. Credit for 199 courses from other departments may not be applied.

Honors Program

An overall grade-point average of 3.2 and a 3.5 in the premajor and major respectively are required to apply for departmental honors. In addition you must have junior standing and the sponsorship of a faculty adviser. The core of the program consists of three terms (minimum) of Microbiology and Molecular Genetics 199H research, culminating in a thesis. If the thesis is accepted by the honors committee, you are awarded the bachelor's degree with departmental honors. The department also offers an honors seminar course each Spring Quarter for the elective program. For further information, contact the Student Affairs Office, 1602B Molecular Sciences.

Master of Arts Degree

Admission

Requirements for admission are the same as for the Ph.D. degree, with the addition of a research proposal. Students who select this program must obtain sponsorship for a laboratory research problem prior to submitting an application.

The department accepts relatively few students whose objective is a master's degree; applicants must contact a potential faculty sponsor at the time of application.

Ph.D. Degree

Admission

Admission is through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.

Under special circumstances, new Ph.D. students may be admitted directly to the department, in which case the following criteria apply. You must have completed an undergraduate
major in microbiology or a related field with super-
ior scholastic achievement. You should have pre-
paration in calculus, physics, biology, gen-
etics, organic and biological chemistry, and
microbiology. Physical chemistry is strongly rec-
ommended. You may be admitted with back-
ground deficiencies to be remedied prior to or
concurrent with graduate studies. Submit scores
on the Graduate Record Examination (GRE)
General Test directly to the department. The
Subject Test in Biology, Biochemistry, or Chem-
istry is recommended. Evidence (via letters of
recommendation, interviews, or direct knowl-
edge) of superior research potential and motiva-
tion is also required. Completion of a master's
degree is not normally required.

Applications, brochures, and additional infor-
action on the master's and Ph.D. programs are
available from the Graduate Adviser, Student Af-
airs Office, Department of Microbiology and Mo-
lecular Genetics, 1602B Molecular Sciences,
UCLA, Los Angeles, CA 90024-1489.

Course Requirements

Formal Lecture/Laboratory Courses

Biochemistry — Chemistry and Biochemistry
CM253 (six units; offered only in Fall Quarter, to
be completed during the first year) is required.

Cell Biology — Chemistry and Biochemistry
M267 or Anatomy and Cell Biology M209A is
required.

A total of eight additional units of 200-level
workcourse to be selected from at least two of
the following four subject areas is required: (1)
general microbiology, (2) host/parasite interac-
tions and virology, (3) immunology, (4) genetics
and regulation. Acceptable courses are listed in
the Student Affairs Office.

You are expected to complete a course in
physical chemistry (Chemistry and Biochemis-
ty 156). This requirement can be waived on
the basis of work done before entering UCLA.

Student-Participation Seminar Courses

Each term, seminar courses in which students
read and report on current scientific research
literature are organized. You must enroll in five
such courses (10 units) prior to completing your
degree.

Laboratories

During your first 12 months in residence, you
rotate for one term each through three labora-
tories. You normally enroll in Microbiology and
Molecular Genetics 596 for four units of credit
for each laboratory rotation.

First-Year Proposal

By August 15 of your first year of study you
must submit an original research proposal of ap-
proximately five pages. The topic may be based
on a subject presented in a departmen-
tal professional seminar or on material from
one of the seminar courses. Suggestions and
evaluations are returned to you and used by
the faculty to evaluate continuation into the
second year.

Teaching Experience

The department considers teaching experience
to be an integral part of the graduate program.
All Ph.D. candidates are required to serve as teaching assistants or in some other
formal teaching capacity for three terms. Under
special circumstances, one term may be waived
with consent of the graduate adviser. Prior ex-
perience at another institution is acceptable when
approved by the graduate adviser.

Qualifying Examinations

The oral examination must be taken within 24
months of entry into graduate school and must
be passed, if reexamination is required, no lat-
ter than 27 months from the date of entry.
(These periods may be extended with the writ-
ten consent of the departmental graduate ad-
viser and your mentor.)

The examination is administered by the doctoral
committee which normally serves as the thesis
committee as well. As a major part of the exami-
nation, you prepare and defend a written re-
search proposal. Before presentation to the doc-
toral committee, you are encouraged to present
the proposal before a student seminar group.

The University Oral Qualifying Examination
covers both your proposal and general scienti-
ﬁc background. It is not restricted to the topics
of the proposal. The committee may arrange
alternate ways to assess your preparation and
qualifications.

Dissertation/Final Oral Examination

A dissertation on a subject of your choice select-
ed in consultation with your major professor is
required. The final oral examination, adminis-
tered by the doctoral committee, is a defense
of the completed dissertation, presented as a pro-
fessional seminar and open in part to the public.

Lower Division Courses

6. Introduction to Microbiology
Lecture, three hours. Not open for credit to stu-
dents with credit for course 101, Biology 5, or equiv-
alent courses. Designed for nontechnical stu-
dents; introduction to biology of micro-
organisms (bacteria, viruses, protozoa, algae, fungi),
their significance as model systems for understanding
fundamental cellular processes, and their role in human
affairs.

M. Robinson (F,W,Sp)

7. Developments in Biotechnology
Lecture, three hours; demonstration, one hour; outside study, eight
hours. Recommended (but not requisite): course 6 or
Biolog 2 or 5. Not open for credit to students with
credit for course 101. 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 examina-
tion of wide variety of topics, including alternate ener-
gy sources, pollution, cleanup, genetic fingerprinting,
genetic engineering, and agricultural and food micro-
biology. P/NP or letter grading.

M. Robinson (F,W)

10. General Microbiology for Nursing Students
Lecture, three hours; laboratory, five hours; outside study, eight
hours. Enforced requisites: Biology 5, Chemistry 15.
Designed for prenursing stu-
dents. Not open for credit to students with credit
for course 101; does not substitute for course 101 in
the major. Introduction to biology of bacteria and their role
in diseases of humans.

M. Robinson (Sp)

Upper Division Courses

101. Fundamentals of Bacteriology
Lecture, three hours; laboratory, six hours; outside study, nine
hours. Prerequisites: Biology 100A, Chemistry 153A. Recom-
mented: Biology 153A. Histological foundations of the
science; introduction to bacterial struc-
ture, physiology, biochemistry, genetics, and ecology.

M. Gunsalus (W)

102. Introductory Virology
Lecture, three
hours; laboratory, four hours; outside study, eight
hours. Prerequisites: Biology 100A, 108. Recom-
mented: Chemistry 153A. Biological properties of bacterial
and animal viruses; replication, methods of detection;
interactions with host cells and intracellular hosts.

M. Berk, M. Witte (W)

C104A. Mammalian Cell as a Microorganism
Lecture, three hours; discussion, four hours.
Prerequisites: Biology 100A, Chemistry 152A, 152B, 153A. Recom-
mented: Chemistry 153B, 153C. Cultured man-
mammalian cell as an experimental system for study of
normal regulatory processes and disease mechanisms.
Contents include regulation of cell growth in chemically defined
medium, establishment, cloning, and characterization of cell lines,
cultured cells as model systems in study of normal growth and
development, disease mechanisms and cancer. May be concurrently
scheduled with course C204A. P/NP or letter grading.

M. Fox (F)

C104B. Mammalian Cell Genetics
Lecture, two hours; discussion, two hours.
Prerequisites: biochemistry, introductory genetics. Topics include
cytogenetics, chromosome and gene mapping, somatic cell mutants
and hybrid cells, oncogenes and cancer genetics, mouse genetics,
targeted mutagenesis, analysis of simple and complex genet-
ics diseases. Reading material includes reviews and recent
publications. May be concurrently scheduled with course C204B.

M. Lusis (W)

C104C. RNA Tumor Viruses
Lecture, three hours. Prerequisite: consent of instructor. Inter-
actions of RNA tumor viruses with differentiating tissue-
such as immune system and erythroid development.
Concurrently scheduled with course C204C. P/NP grading.

M. Witte (Sp, five weeks)

C106. Molecular and Genetic Basis of Bacterial In-
fections
Lecture, three hours; discussion, one hour.
Prerequisites: course 101, Biology 100A. Recom-
mented: Biology 108. Biochemical and genetic properties of
bacteria which afford potential for pathogenicity. Epide-
mological and transmission of disease; chemotherapy
and drug resistance. Regulation of virulence factors.
Concurrently scheduled with course C206.

Ms. Miller (W)

C111. Biology of Protozoan Cell
Lecture, three hours; discussion, one hour.
Prerequisite: courses 101 and Chemistry 153C, or consent of instructor. Review of
current knowledge of structural organization of prokary-
atic cells. Emphasis on isolation methods, chemical composi-
tion, structure and assembly of subcellular components,
including membranes, walls, flagella, riboso-
mcs, and virus. Concurrently scheduled with course C211.

Ms. Wisnieski (Sp)

C112. Molecular Biology of Bacterial Growth
Lecture, three hours; discussion, one hour.
Prerequisite: courses 101, Biology 101, Chemistry 153A, 153L. Anal-
ysis of growth, development, and physiological adapta-
tions of bacteria, with emphasis on their molecular and genetic
machinery. Analysis of complex regulatory mecha-
nisms that underlie cell cycle and other multicompo-
nent cellular systems from perspective of contempo-
rary research techniques. Concurrently scheduled with course C212.

M. Gunsalus, M. Nierlich, M. Simons (Sp)

C119. Microbial Genetics and Molecular Biology
Lecture, three hours; discussion, two hours.
Prerequisites: Biology 106 and Chemistry 153A, or consent of instructor. Recommen-
ded: Chemistry 153B. Integrated, conceptual analysis of classical and modern molecular genetics of microbes, especially
bacteria and their viruses, with emphasis on nature of the gene and control of gene expression. Concurrently
scheduled with course C219.

M. Simons (Sp)


253. Principles, Practices, and Policies in Biotechnology (2 units). (Same as Biological Chemistry M233, Biology M233, Chemical Engineering M233, Chemistry M233, Microbiology and Immunology M233, and Radiological Sciences M233.) Prerequisite: consent of instructor. Reading and discussion of current literature on various aspects of microbial pathogenesis. May be repeated for credit. S/U or letter grading.

254. Pre-mRNA Processing in Cellular Metabolism and Differentiation (2 units). Seminar, three hours. Prerequisite: graduate standing or consent of instructor. Reading and discussion of current literature on pre-mRNA processing in cellular metabolism and differentiation. May be repeated for credit. S/U or letter grading.
continuing ucla-wide, general graduate-level seminar grading. mr. sercarz (F, five weeks) and B cell levels, and Ir gene control. S/U or letter grading. Mr. Braun (F, W, Sp) faculty, postdoctoral immunologists, and presented and discussed at advanced frontier level. M185A. Broad range of current topics in immunology M258F. S/U or letter grading. Reading and discussion of current research articles on immunoglobulin I and II, consensus of instructor. Reading and discussion of current research articles on B cell function, including receptors and activation pathways, memory, tolerance, and specialized subjects and their functions. Mr. Clark (Sp, five weeks) M258D. Molecular Interactions in Immune Responses (2 units). (Same as Biology M258D andMicrobiology and Immunology M258D.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on molecular and cellular aspects of T cell function, including receptors and activation pathways, memory, tolerance, and specialized subjects and their functions. Mr. Clark, Mr. Stevens (W, five weeks) M258C. T Cells (2 units). (Same as Biology M258C andMicrobiology and Immunology M258C.) Lecture, two hours; discussion, two hours. Prerequisites: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on molecular and cellular aspects of T cell function, including receptors and activation pathways, memory, tolerance, and specialized subjects and their functions. Mr. Cranen, Mr. Wall (W, five weeks) M258B. Biology of B Cells: Development, Repertoire, and Activation (2 units). (Same as Biology M258B andMicrobiology and Immunology M258B.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on B cell development, repertoire, and growth and differentiation regulation. S/U or letter grading. Mr. Braun, Mr. Stevens (W, five weeks) M258A. Molecular Genetic Mechanisms of Immune Response (2 units). (Same as Biology M258A and Microbiology and Immunology M258A.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on immunoglobulin I and II, oligocopy of immune system, T cell antigen receptor, and loci affecting differentiation. S/U or letter grading. Mr. Kronenberg, Mr. M256. Molecular Immunopathology of Immune Disease (2 units). (Same as Biology M256E andMicrobiology and Immunology M256E.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on molecular and cellular aspects of T cell function, including receptors and activation pathways, memory, tolerance, and specialized subjects and their functions. Mr. Morrison (F, five weeks) M255E. Immunopathological Aspects of Immunoregulatory Disease (2 units). (Same as Biology M255E andMicrobiology and Immunology M255E.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on molecular and cellular aspects of T cell function, including receptors and activation pathways, memory, tolerance, and specialized subjects and their functions. Mr. Porter (Sp, five weeks, alternate years) M255F. Immune Regulation (2 units). (Same as Biology M255F and Microbiology and Immunology M255F.) Lecture, two hours; discussion, two hours. Prerequisite: course CM185B or CM285 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on molecular and cellular aspects of T cell function, including receptors and activation pathways, memory, tolerance, and specialized subjects and their functions. Mr. Porter (Sp, five weeks, alternate years) M251. Molecular and Cellular Immunology. (Same as Biology M251 and Microbiology and Immunology M251.) Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry CM253 or consent of instructors. Comprehensive graduate course covering fundamentals and recent advances in molecular and cellular immunology. Lectures supplemented with discussion of current questions on reading and analysis of primary research articles. S/U or letter grading. Mr. Kronenberg, Mr. Miceli, Mr. Smale M262A. Seminar: Current Topics in Immunobiology of Cancer (2 units). (Same as Biology M293A and Microbiology and Immunology M262A.) Prerequisite: consent of instructor. Review of recent literature in immunology, biology, and biochemistry of cancer, with emphasis on fundamental studies involving cell-mediated immunity, humoral response, tumor specific antigens, and new techniques. Discussion of reports on scientific meetings. May be repeated for credit. S/U grading. Mr. Bonavida (F, W, Sp) M262B. Immunology of AIDS (2 units). (Same as Biology M293B, Epidemiology M214, and Microbiology and Immunology M262B.) Lecture, one hour; discussion, one hour. Prerequisite: courses M258B, M258C, Microbiology and Immunology 202A, 202B, 202C, 202D, 202E, and consent of instructor. Lecture and student discussion of assigned publications. Topics include specific anti-HIV immune responses, activation of immunosuppressive mechanisms by HIV, and clinical mechanisms that underlie HIV-induced immunodeficiency. S/U or letter grading. Mr. Bonavida, Ms. Giorgi (W) M262C. Biological Individuality and Immunity (2 units). (Same as Biology M293C and Microbiology and Immunology M262C.) Prerequisite: course M258C. Review of literature in the field of immunogenetics, with emphasis on fundamental studies involving genetic and immunologic principles and techniques. Selected topics discussed and results interpreted; conclusions and experimental methods evaluated. (Attended years) M262D. Selected Topics in Immunology (2 units). (Same as Biology M293D and Microbiology and Immunology M262D.) Prerequisite: consent of instructor. Student participation in discussions related to various topics in immunology. May be repeated for credit. S/U or letter grading. S/F, W, Sp) M263. Molecular and Cellular Immunology Seminar (2 units). (Same as Biology M293D and Microbiology and Immunology M262D.) Prerequisite: consent of instructor. Student participation in discussions related to various topics in immunology. May be repeated for credit. S/U or letter grading. (F, W, Sp) M296. Seminar: Selected Topics in Immunology (2 units). In-depth exploration of topics introduced in assigned CM258 and Microbiology and Immunology M258. S/U or letter grading. Mr. Berk (F, W, Sp) M296A. Seminar: Molecular and Cellular Endocrinology (2 units). Prerequisites: graduate standing, consent of instructor. Discussion and student presentations of recent work in molecular endocrinology, with emphasis on molecular mechanisms. Mr. Kronenberg, Mr. Sercarz (F, W, Sp) M296B. Molecular Immunobiology of Immu- nocompetence (2 units). In-depth exploration of topics introduced in assigned CM258 and Microbiology and Immunology M258. S/U or letter grading. Mr. Aguilera, Mr. Kronenberg, Mr. Sercarz (W) M296. Seminar: Molecular Genetics (2 units). Lecture, one hour; discussion, one hour. Prerequisites: graduate standing, consent of instructor. Discussion and student presentations of recent work in molecular and genetic analysis of cellular gene regulation. S/U grading. (F, W, Sp) 296A-296Z. Seminars: Research Topics in Microbiology and Molecular Biology and Genetics (1 to 4 units each). Discussion, three hours. Prerequisite: consent of instructor. Advanced study and analysis of current topics in microbiology and molecular genetics. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading. 296A. Eukaryotic Transcription Control. Mr. Berk 296B. Regulation of Pre-mRNA Splicing. Mr. Black 296C. Cell Physiological Research. Mr. Gunsalus 296D. Archaeabacterial Research. Mr. Gunsalus 296F. Molecular Biology of Microbial Diversity. Ms. Hartzell 296G. Structure and Function of Membrane Transport Proteins. Mr. Kaback 296H. Genetics of Common Diseases. Mr. Lucas 296J. Viral Pathogenesis. Ms. Miller 296K. Advanced Topics in Immunology. Ms. Morrison 296L. Molecular Biology of Bacterial Growth. Ms. Tolar 296M. Immune Regulation and Autoimmune Disease. Ms. Sercarz 296N. RNA and Protein Structure and Function. Mr. Simon 296O. Cell Growth and Signal Transduction. Mr. Tamanai 296P. Bacterial Toxins and Human Cytokines. Ms. Wisniewski 296Q. Mechanisms of Hematopoietic Development. Mr. Witte 296R. Selected Topics in Immunobiology. Ms. Witte 296S. Seminar: Current Topics in Molecular Biology (2 units). (Same as Biological Chemistry M296, Biology M296, Chemistry M296, Microbiology and Immunology M296, and Molecular Biology M296.) Prerequisite: consent of instructor and graduate advisor of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit. (F, W, Sp) 375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading. 495. Preparation for Teaching Microbiology in Higher Education (2 units). Lecture/discussion/laboratory. Prerequisites: graduate standing, consent of instructor. Study of problems and methodologies in teaching microbiology, including workshops, seminars, faculty consultation, and peer observation. S/U or letter grading. Mr. Nierlich (W) 596. Directed Individual Research (2 to 12 units). Research for M.A. Thesis (2 to 12 units). Research for Ph.D. Dissertation (2 to 12 units).

**Molecular Biology (Interdepartmental)**

168 Molecular Biology Institute, (310) 825-1018

Professors
Arnold J. Berk, M.D. (Microbiology and Molecular Genetics)
Clifford F. Brunk, Ph.D. (Biology/Microbiology)
William R. Clark, Ph.D. (Biology/Immunology)
Steven G. Clarke, Ph.D. (Biochemistry)
Asim Dasgupta, Ph.D. (Microbiology and Immunology)
Edward M.F. De Robertis, M.D., Ph.D. (Biological Chemistry)
Richard E. Dickson, Ph.D. (Biochemistry, Geophysics), Director
Peter A. Edwards, Ph.D. (Biological Chemistry)
David S. Eisenberg, D.Phil. (Physical Chemistry, Molecular Biology; Distinguished Teaching Award)
Frederick A. Eisenberg, Ph.D. (Microbiology and Molecular Genetics)
Jul F. Feigon, Ph.D. (Biochemistry)
John H. Fessler, Ph.D. (Biology, Molecular Biology)
C. Fred Fox, Ph.D. (Microbiology and Molecular Genetics, Molecular Biology)
Armand J. Fulco, Ph.D. (Biological Chemistry)
Judith C. Gasson, Ph.D. (Biological Chemistry, Medicine)
Dohn G. Glitz, Ph.D. (Biological Chemistry)
Robert B. Goldberg, Ph.D. (Biology; Luckman Distinguished Teaching Award)
Jay D. Grailla, Ph.D. (Biochemistry)
Michael Gerstein, Ph.D. (Biological Chemistry, Molecular Biology)
Robert P. Gunsalus, Ph.D. (Microbiology and Molecular Genetics)
Oliver Hankinson, Ph.D., in Residence (Pathology and Laboratory Medicine)
Harvey R. Herschman, Ph.D. (Biological Chemistry)
Ann M. Hirsch, Ph.D. (Biology)
Wayne L. Hubbell, Ph.D. (Ophthalmology, Biochemistry)
H. Ronald Kaback, M.D. (Physiology)
Harumi Kamatani, Ph.D. (Biology)
James A. Lake, Ph.D. (Biology, Molecular Biology)
Judith A. Lengyel, Ph.D. (Biology)
Aldons J. Lusis, Ph.D., in Residence (Medicine, Microbiology and Molecular Genetics)
Jeffrey L. Miller, Ph.D. (Biological Chemistry)
Jeffrey M. Miller, Ph.D. (Biological Chemistry, Molecular Biology; Distinguished Teaching Award)
Sherei L. Morrison, Ph.D. (Microbiology and Molecular Genetics)
Wladimir G. Neufeld, Ph.D. (Biology)
Donald P. Nierlich, Ph.D. (Microbiology and Molecular Genetics)
Dan S. Ray, Ph.D. (Biology, Molecular Biology)
Emil Resler, Ph.D. (Biology, Chemistry, Molecular Biology)
Leonard N. Rome, Ph.D. (Biology)
Bruce N. Runnegar, Ph.D. (Earth and Space Sciences)
Winston A. Sahai, Ph.D. (Biology, Molecular Biology)
J. William Schopf, Ph.D. (Space and Earth Sciences, Paleobiochemistry)
Verne N. Schumaker, Ph.D. (Biochemistry, Molecular Biology; Distinguished Teaching Award)
David S. Sigman, Ph.D. (Biological Chemistry)
Larry Simpson, Ph.D. (Biology)
J. Philip Thornber, Ph.D. (Biology, Molecular Biology)
Allan J. Tobin, Ph.D. (Biology)
Eugene M. Toub, Ph.D. (Biology)
Joan S. Valentine, Ph.D. (Inorganic Chemistry and Biochemistry)
Randolph W. Wall, Ph.D. (Microbiology and Immunology)
Richard L. Weiss, Ph.D. (Biology)
Charles A. West, Ph.D. (Biochemistry; Distinguished Teaching Award)
Felix O. Wettstein, Ph.D. (Microbiology and Immunology)
Bernadine J. Wiesieski, Ph.D. (Microbiology and Molecular Genetics)
Owen N. Witte, M.D. (Microbiology and Molecular Genetics)
S. Larry Zipsky, Ph.D. (Biological Chemistry)
Daniel E. Atkinson, Ph.D., Emeritus (Biochemistry)
Marcel A. Baluda, Ph.D., Emeritus (Pathology and Laboratory Medicine)
Paul D. Boyer, Ph.D., Emeritus (Biochemistry)
Irving Zabin, Ph.D., Emeritus (Biological Chemistry)

Reid C. Johnson, Ph.D. (Biological Chemistry)
Mitchell Kronenberg, Ph.D. (Microbiology and Immunology)
Charles R. Marshall, Ph.D. (Earth and Space Sciences)
Sabeenah Merchant, Ph.D. (Biochemistry)
Diane M. Papazian, Ph.D. (Physiology)
Gregory S. Payne, Ph.D. (Biological Chemistry)
Robert W. Simons, Ph.D. (Microbiology and Molecular Genetics)
Fuyuhiko Tamanoi, Ph.D. (Microbiology and Molecular Genetics)

Assistant Professors
Renato J. Aguilera, Ph.D. (Biology)
Utpal Banerjee, Ph.D. (Biology)
Douglas L. Black, Ph.D. (Microbiology and Molecular Genetics)
James U. Bowie, Ph.D. (Biochemistry)
Michael F. Carey, Ph.D. (Biological Chemistry)
John Colicelli, Ph.D., in Residence (Biological Chemistry)
Albert J. Crouch, Ph.D. (Biochemistry)
Christopher T. Denny, M.D. (Pediatrics)
Robert W. Edwards, M.D. (Neurology)
Jeanne M. Erickson, Ph.D. (Biology)
James W. Goer, Ph.D. (Biochemistry)
Patricia J. Johnson, Ph.D. (Microbiology and Immunology)
Frank A. Laski, Ph.D. (Biology)
Jorge R. Mantillas, Ph.D. (Anatomy and Cell Biology)
Jeffrey F. Miller, Ph.D. (Microbiology and Immunology)
Virginia L. Miller, Ph.D. (Microbiology and Molecular Genetics)
Charles E. Sawyer, M.D. (Medicine/Hematology-Oncology)
Olaf Schneewind, M.D. (Microbiology and Immunology)
Karanbir Singh, Ph.D. (Biology)
Stephen T. Smaie, Ph.D. (Microbiology and Immunology)
Alexander van der Bieke, Ph.D. (Biological Chemistry)
Gerardine A. Weinmaster, Ph.D. (Biological Chemistry)
Tod O. Yeates, Ph.D. (Biochemistry)

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; neurobiology; DNA replication, repair, and recombination; gene regulation; immunobiology; microbiology/virology; molecular evolution and paleobiology; oncogenes and signal transduction; plant molecular biology; protein structure and function; and structural biology.

Ph.D. Degree
Admission
Admission is through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.
Under special circumstances, new Ph.D. students may be admitted directly to the program, in which case the following criteria apply: Recommended undergraduate training for the Ph.D. program includes a major in a biological or physical science. Coursework should include mathematics through calculus, one year of general and organic chemistry, one year of physics, two terms of physical chemistry based on the use of calculus, and one year of biology. Undergraduate requirements may be modified for qualified candidates with interests in certain areas. Candidates who enter the program with course deficiencies are expected to fulfill these early in the graduate program.

Only superior students are admitted, and in addition to the application, transcripts, and statement of purpose, three letters of recommendation are required along with Graduate Record Examination (GRE) scores.

Course Requirements
The usual program is two regular courses per term in addition to laboratory research, or the equivalent of 12 quarter units of upper division or graduate work. Five terms of Molecular Biology M298 and one term each of Biological Chemistry M248, CM253, and CM267 are required.

Teaching Experience
Two terms of teaching experience are required for the degree.

Qualifying Examinations
Examinations are given in Molecular Biology M298, and four must be passed before advancement to candidacy. The first proposal should be submitted by the third week of the Summer Quarter. The University Oral Qualifying Examination on original research proposed by the candidate independently of the Ph.D. adviser and on a topic distinct and separate from the thesis research is held usually during the second year in the program. A "midstream seminar" must be presented during the third year in the program.

Final Oral Examination
The final oral examination is required of all students for the degree.

Graduate Course
M298. Seminar: Current Topics in Molecular Biology (2 units), (Same as Biological Chemistry M298, Biology M298, Chemistry M298, Microbiology M298, and Microbiology and Immunology M298.) Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit. (F,W,Sp)

Related Courses in Other Departments
The following courses offered by the departments listed are particularly appropriate to the research areas mentioned above. With the approval of the guidance committee or research supervisor, other related courses may be included in the program.

Biology 228, 230B, 230D, 234, 2428, 257A, 294, M298
Musicology

2449 Schoenberg Hall, (310) 206-5187

Professors
Murray C. Bradshaw, Ph.D., Chair
Malcolm S. Cole, Ph.D.
Marie Louise Götter, Ph.D.
Susan McClary, Ph.D.
Gilbert Raneey, M.A.
Robert M. Stevenson, Ph.D.
Frank A. D’Acconne, Ph.D., Emeritus
Edward H. Hanley, Ph.D., Emeritus
Richard A. Hudson, Ph.D., Emeritus
W. Thomas Marocco, Ph.D., Emeritus
Robert U. Nelson, Ph.D., Emeritus
Robert L. Tusler, Ph.D., Emeritus

Assistant Professors
Raymond Knapp, Ph.D.
Haris S. Saunders, Ph.D.
Robert Walser, Ph.D.

Scope and Objectives

The Department of Musicology provides students with a broad understanding of the history and literature of the art music of Europe and the Americas and of its place in the development of Western culture. Courses cover virtually every period, style, and genre as well as particular areas of popular music and jazz which have influenced or been influenced by Western art music. Musicology will appeal to undergraduate students with musical backgrounds whose interests and principal career goals lie in areas other than professional performance. The graduate program provides students with a strong foundation that will enable them to pursue careers in teaching and research.

The undergraduate program prepares students for graduate programs in music and related fields and provides them with sufficient background to teach in secondary schools after obtaining the necessary credentials in education. With its focused requirement of study in an area outside music, the program also offers training within the broader context of the humanities. Depending on your particular interests and career goals, you may select courses in the arts, literature, history and society, philosophy, and religion; these may be concentrated within such fields as Afro-American, American Indian, Asian American, Chicana and Chicano, and women’s studies. If you wish to participate in performance at UCLA, you are encouraged to do so.

The graduate program offers courses leading to the M.A. and Ph.D. degrees. It is designed to equip students to pursue careers not only in teaching but also in other areas that require bibliographical skills and training in research methodologies. The department provides teaching and research assistantships each year for all qualified students.

Bachelor of Arts Degree

Admission

All applicants for admission and change of major must demonstrate proficiency in vocal or instrumental performance at the intermediate level. This requirement may be satisfied by completing a required prerequisite course with a grade of B or better or by passing an individual audition with a departmental faculty committee. If you are a junior transfer student, you are required to pass an audition with the departmental faculty admissions committee before you can be admitted to the program.

Preparation for the Major

Required: Musicology 1A-1B, 250A, C258A-C258F, M263, 290, M298. Depending on your particular interests (arts, literature, history and society, or philosophy and religion) within which you may focus on a more specialized field (an area other than professional performance) which have influenced or been influenced by Western art music, Musicology will appeal to undergraduate students with musical backgrounds whose interests and principal career goals lie in areas other than professional performance. The graduate program provides students with a strong foundation that will enable them to pursue careers in teaching and research.

The undergraduate program prepares students for graduate programs in music and related fields and provides them with sufficient background to teach in secondary schools after obtaining the necessary credentials in education. With its focused requirement of study in an area outside music, the program also offers training within the broader context of the humanities. Depending on your particular interests and career goals, you may select courses in the arts, literature, history and society, philosophy, and religion; these may be concentrated within such fields as Afro-American, American Indian, Asian American, Chicana and Chicano, and women’s studies. If you wish to participate in performance at UCLA, you are encouraged to do so.

The graduate program offers courses leading to the M.A. and Ph.D. degrees. It is designed to equip students to pursue careers not only in teaching but also in other areas that require bibliographical skills and training in research methodologies. The department provides teaching and research assistantships each year for all qualified students.

Bachelor of Arts Degree

Admission

All applicants for admission and change of major must demonstrate proficiency in vocal or instrumental performance at the intermediate level. This requirement may be satisfied by completing a required prerequisite course with a grade of B or better or by passing an individual audition with a departmental faculty committee. If you are a junior transfer student, you are required to pass an audition with the departmental faculty admissions committee before you can be admitted to the program.

Preparation for the Major


The Major

Required: Musicology 126A-126B-126C, four courses from 122, C127A through C127F, 130, 156, 188A through 188F; two courses (each in a different geographical or cultural area) from Ethnomusicology and Systematic Musicology 106A, 106B, 106C, 108A, 108B, M110A, M110B, 136A, 136B, 146, 147, 156A, 156B, 157, 160A, 160B; four courses in one area of concentration (arts, literature, history and society, or philosophy and religion) within which you may focus on a more specialized field such as Afro-American, American Indian, Asian American, Chicana and Chicano, and women’s studies. A list of approved courses is available in the department office.

Master of Arts Degree

Admission

Applicants for the M.A. must have completed a Bachelor of Arts degree, or the equivalent, in Music or Music History. Other fields of study are accepted if you have the musical training and musicianship necessary to pursue graduate work. Transcripts must show at least 50 quarter units of work outside music, including one college year (or its high school equivalent) of French, German, Italian, or Spanish and an average grade of at least B in the basic areas that normally constitute the undergraduate core curriculum in music (harmony, counterpoint, music history, analysis, and musicianship).

Applicants for the Ph.D. must have completed a Master of Arts degree (or an equivalent degree) in Music. See "Admission" under the Ph.D. degree for more information.

Applicants for both degrees (M.A. and Ph.D.) are also required to (1) take a departmental assessment examination (details are automatically sent after the application has been received), (2) submit a letter describing their background of study and stating their reasons for wishing to pursue graduate studies in musicology, (3) submit three letters of recommendation from former instructors and/or professionals with whom they have worked, and (4) submit one or two papers dealing with a topic in music history. Ph.D. applicants should submit the M.A. thesis if possible.

No application can be considered until the examination has been taken and all of the above materials have been received. Letters of inquiry and applications must be submitted to Mary Crawford, Graduate Adviser, 1642B Schoenberg Hall Annex, UCLA, Los Angeles, CA 90024-1616.

Foreign Language Requirement

Reading knowledge of German and a choice of French, Italian, Latin, or Spanish is required.

Course Requirements

You are required to complete a minimum of nine courses (52 units), including Musicology 200A, 210, 211, three courses from 210A through 210F, two courses from 260A through 260F, and one elective from other 200-series courses with the department. No more than six units of 500-series courses may be applied toward degree requirements.

Course 598 serves to guide the preparation of the thesis and should normally be taken during your last term in residence.

Thesis Plan

The thesis is an extended essay on a topic approved by the department.

Final Examination

The final examination is oral and includes discussion of both the thesis and related matters.

Ph.D. Degree

Admission

Applicants for the Ph.D. must have completed a Master of Arts degree (or an equivalent degree) in Music, which normally will have been taken in musicology or music history. Otherwise additional coursework, as prescribed by the department, must be completed. See "Admission" under the M.A. degree for information regarding the departmental assessment examination and other admission requirements.

Foreign Language Requirement

Reading knowledge of German and two other languages (French, Italian, Latin, Spanish, or another language approved by the department) is required. If you lack this proficiency...
when you enter the program, you must begin language study during your first year in residence.

Course Requirements
If you received an M.A. in Musicology from UCLA, you must take a minimum of six courses, including three additional terms of Musicology 201A through 201F, two courses from 250A, 250B, 256, 260A through 260F, and an elective selected with approval of the graduate advisor. If you did not receive the M.A. in Musicology from UCLA, you may be required, in consultation with the graduate advisor, to take other relevant and necessary courses beyond the six specified. Courses 495, 506, 597, and 599 may be taken for credit but may not be applied toward the degree requirements.

Qualifying Examinations
The five departmental written examinations are spread over a two-week period and must be completed within three weeks. With your guidance committee's recommendation, you may be reexamined on any failed parts twice within a six-month period. When you successfully complete the written examinations, the two-hour departmental oral examination can be scheduled. After passing this oral examination, you may submit your dissertation prospectus and request for a doctoral committee; this committee administers the University Oral Qualifying Examination.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination
The dissertation is an extended monograph supervised by your doctoral committee. A final oral examination, which is a defense of your dissertation, is required by the department.

Lower Division Courses
1A-1B. Introduction to Musicology. Introduction to principles, problems, and methods of musical historiography through examination of selected issues and concepts.

2A-2B. Introduction to the Literature of Music. Lecture, four hours; laboratory, one hour. Limited to undergraduate students. Course 2A is not requisite to 2B. Designed for nonmusic majors. 2A. Technical and formal principles of music literature through the mid-18th century. 2B. Music literature from the mid-18th century to the present.

3A-3B. Medieval and Popular Traditions. Survey of main trends in 20th-century music, with emphasis on representative works of each style period. Materials selected illustrate history of style and changing techniques of composition. Ms. Golinier. Musicology 28A-28B-28C. Early Music Laboratory (2 units each). Laboratory, three hours. Enforced corequisite: course 26A or 26B or 26C. Practical laboratory in which students perform music of various periods, as correlated with courses 26A-26B-26C.

Mr. Bradshaw, Ms. Golinier

Upper Division Courses
122. Studies in History of Musical Thought. Prerequisite: consent of instructor. Alternative conceptions of music from early 18th century to about 1800, with emphasis on its nature as a medium of expression to its nature as a primarily formal or art form.

Mr. Cole, Mr. Saunders (W,Sp)

126A-126B-126C. History and Analysis of Music II. Lecture, four hours; laboratory, one hour. Prerequisites: courses 26A-26B-26C, Music 20A, 20B, and 20C, or consent of instructor. Course 126A is prerequisite to 126B, which is prerequisite to 126C. History and literature of music from 1700 to the present, with emphasis on analysis of representative works of each style period. May be concurrently scheduled with courses 250A-250B-250C.

Mr. Bradshaw, Mr. Winter

130. Music of the U.S. and Canada. Prerequisite: consent of instructor. Survey of art music in the U.S. from Colonial times to the present.

Mr. Stevenson

133. Baroque. Lecture, two hours; laboratory, two hours. Prerequisite: undergraduate standing. Life and works of Johann Sebastian Bach.

Mr. Bradshaw

134. Beethoven. Lecture, two hours; laboratory, two hours. Prerequisite: undergraduate standing. Life and works of Ludwig van Beethoven.

Mr. Knapp

135A-135B-135C. History of Opera. Lecture, four hours; laboratory, one hour. Prerequisite: undergraduate standing.

Mr. Knapp

156. Seminar: Music of the U.S. and Canada. (Formerly numbered Music 250A-250B.) Lecture, three hours. Prerequisite: course 200A. Course 250A is not prerequisite to 250B. 250A. Investigation of principal theoretical writings concerning music from antiquity through Zarlin. 250B. Investigation of principal theoretical writings concerning music from Rameau to the present.

Ms. Golinier, Mr. Reaney

Graduate Courses
200A. Research Methods and Bibliography (6 units). (Formerly numbered Music 200A.) Lecture, three hours. Prerequisite: graduate standing in musicology. Survey of general bibliographic material in music.

Mr. Cole, Mr. Saunders

201A-201F. Current Research Problems in Historical Musicology (6 units each). (Formerly numbered Music 201A-201F.) Discussion, three hours. Prerequisite: graduate standing in musicology. Investigation at graduate level of central questions and problems in history of Western music designed to give beginning graduate students a unified background for RAND 241 of their studies and to employ their developing skills in research and bibliography.

201A. Medieval; 201B. Renaissance; 201C. Baroque; 201D. Classic; 201E. Romantic; 201F. 20th Century.

Mr. Cole, Mr. Reaney

202. Selected Topics in History of Western Music (4 or 6 units). Lecture, three hours. Prerequisite: course 200A or consent of instructor. Designed for graduate students in areas other than musicology who are preparing for qualifying examinations. Systematic review of major stylistic trends in history of Western music from medieval times to the present through formal analysis and readings in contemporary and modern theoretical writings. May be repeated for a maximum of 12 units.

Mr. Bradshaw, Mr. Cole

210. Medieval Notation (6 units). (Formerly numbered Music 210.) Lecture, three hours. Prerequisite: consent of instructor. Vocal and instrumental notation; paleography of the period.

Ms. Golinier

211. Renaissance Notation (6 units). (Formerly numbered Music 211.) Lecture, three hours. Prerequisite: consent of instructor. Vocal and instrumental notation; paleography of the period.

Mr. Cole, Mr. Reaney

250A-250B. Seminars: History of Music Theory (6 units each). (Formerly numbered Music 250A-250B.) Lecture, three hours. Prerequisite: course 200A. Course 250A is not prerequisite to 250B. 250A. Investigation of principal theoretical writings concerning music from antiquity through Zarlin. 250B. Investigation of principal theoretical writings concerning music from Rameau to the present.

Ms. Golinier, Mr. Reaney

256. Seminar: Musical Form (6 units). (Formerly numbered Music 256.) Lecture, three hours. Prerequisites: courses 126A-126B-126C. Analysis of structural organizations in music. Specific topics vary from year to year.

Mr. Cole

257. Seminar: Music of the U.S. and Canada. (Formerly numbered Music 257.) Discussion, three hours. Prerequisites: course 130. Examination of principal figures and trends in North American music since the 18th century. Topics vary from year to year.

Mr. Cole, Mr. Stevenson

260A-260F. Seminars: Historical Musicology (6 units each). (Formerly numbered Music 260A-260F.) Lecture, three hours. Prerequisites: courses 200A, 201A-201B-201C, and 210 or 211 (either may be taken concurrently). Specific topics vary from year to year. May be repeated for credit.

Mr. Cole, Mr. Reaney
Near Eastern Languages and Cultures

376 Kinsey Hall, (310) 825-4165

Professors
Arnold J. Band, Ph.D. (Hebrew; Distinguished Teaching Award)
Andras Bodrogligeti, Ph.D. (Turkic, Iranian)
Elizabeth Carter, Ph.D. (Near Eastern Archaeology)
Herbert A. Davidson, Ph.D. (Hebrew)
Lev Hakak, Ph.D. (Hebrew)
Antonio Loprieno, Dr.phil.habil. (Egyptology), Chair
Ismail Poonawala, Ph.D. (Arabic)
Yona Sabar, Ph.D. (Hebrew)
Hanns-Peter Schmidt, Ph.D. (Indo-Iranian)

Professors Emeriti
Amin Banani, Ph.D.
Seeger A. Bonebakker, Ph.D.
Giorgio Buccellati, Ph.D.
Wolf Leslau, Docteur ès Lettres
Thomas Penchoen, Ph.D.
Moshe Perlmann, Ph.D.
Avedis K. Sanjian, Ph.D.
Stanislav Segert, Ph.D.

Assistant Professors
Daniel C. Poiz, Ph.D. (Egyptian Archaeology and History)
William Schneidewind, Ph.D. (Biblical Studies and Northwest Semitics)
Hossein Ziai, Ph.D. (Iranian and Islamic Studies)

Lecturers
Nancy Ezer, Ph.D. (Hebrew)
Michael Fishbein, Ph.D. (Arabic)
Latifeh Hagigi, M.A. (Iranian)
Ralph Jaecikel, Ph.D. (Turkic)
Thomas Ritter, Dr.phil. (Egyptology)

Scope and Objectives

The mission of the department is the discovery, interpretation, dissemination, and preservation of human values created over a period of five or more thousand years in an area which 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 you must meet the prerequisites and take the courses prescribed. Your adviser assists in selecting a plan of study developed around your interests.

You may combine your major with one in another department (double major) to enhance your educational opportunities. Due to the number of additional courses required, you are advised to consider this option early in your academic career.

Bachelor of Arts in Ancient Near Eastern Civilizations

There are four options for a major in ancient Near Eastern civilizations: (1) Mesopotamia, (2) Egypt, (3) Syria/Palestine, and (4) biblical studies.

Preparation for the Major

Prerequisites for options 1 and 2 are German 1 and 2; prerequisites for options 3 and 4 are Greek 1 and 2, Hebrew 1A-1B-1C, 102A-102B-102C. Majors in all four fields are expected to continue their study of German or Greek beyond the prerequisite levels.

The Major

Majors in all four options are required to take 14 courses selected in consultation with the program adviser.

Majors selecting options 1, 2, and 3 are required to take four language courses as follows: option 1 — Semitics 140A-140B, 141, 142; option 2 — Ancient Near East 120A-120B-120C, 121A; option 3 — Semitics 130 and three terms of Hebrew 120. The remaining 10 courses for all three options are to be selected from the following: three literature courses from Ancient Near East 150A, 150B, 150C, Jewish Studies M150A; three courses in history and religion from Ancient Near East M104A, M104B, M105, 130, 170, History M191A, 193D, M203A, Iranian 169, 170; three courses in archaeology and art from Ancient Near East 160A, 160B, 161A, 161B, 161C, 162, Art History 101A, 101B, one course in research methodology (such as Anthropology C115R, M116Q, or Linguistics 120A, 120B, or English 140A) taken preferably in another department with the consent of the adviser.

Majors selecting option 4 are required to take 14 courses as follows: three terms of Hebrew 120; Ancient Near East 150C, 162, 170, English 108B or History 194A; Greek 130; Jewish Studies M150A; History M191A; Semitics 130. The remaining three courses may be selected from Ancient Near East M104A, M104B, M105, 130, 150A, 150B, 160A, 160B, Art History 101A, 101B, 102A, Classics 168; Greek 131, History 193D, 194B, Iranian 169, 170, Latin 120.

Bachelor of Arts in Arabic

Students majoring in Arabic may combine the major with the interdepartmental specialization in business and administration to enhance their career opportunities. Due to the number of additional courses required, you are advised to consider this option early in your academic career.

Preparation for the Major

Required: Arabic 1A-1B-1C, 102A-102B-102C, 150A-150B.

The Major

Required: Fifteen courses, including Arabic 103A-103B-103C and History 107A or Islamic 110; five courses from Arabic 120, 130,
Master of Arts Degree

Admission
In addition to the regular University requirements, a bachelor's degree or its equivalent in the language area selected for the degree, the Graduate Record Examination (GRE) General Test, and three letters of recommendation are required. The GRE must be taken within 24 months prior to receipt of your admission application by the department. As a rule, you are not admitted if your grade-point average is below 3.25 or if your GRE score is below 1,600. Prospective students may write to the Department of Near Eastern Languages and Cultures, 376 Kinsey Hall, UCLA, Los Angeles, CA 90024-1511.

You are assigned an adviser after being admitted. Subsequently, an examining committee is established to administer the comprehensive examination.

Major Fields or Subdisciplines
Ancient Near Eastern civilizations, Arabic, Armenian, Hebrew, Iranian, Semitics, Turkic.

You may concentrate on either language or literature in your selected field but are required to do work in both. In the field of ancient Near Eastern civilizations, the department also offers an archaeology emphasis.

Foreign Language Requirement
You are required to pass an examination in one major modern European language other than English by the beginning of your fourth term in residence. The choice of the language is determined in consultation with your adviser. You may satisfy this requirement by one of the following methods: (1) Graduate School Foreign Language Test (GSFLT) with a minimum score of 550, (2) departmentally administered examination, (3) two years of language instruction at a UC campus, with grades of B or better. It is strongly recommended that if you intend to continue toward a Ph.D. degree, you acquire knowledge of a second major European language other than English while still a candidate for the M.A. degree.

Course Requirements
A minimum of nine upper division and graduate courses is required, at least six of which must be at the graduate level. All candidates are required to take one term of Near Eastern Languages 200.

In general, if you select either the language, literature, or archaeology option, you are required to study two Near Eastern languages, one of which is considered the major language. Students in Semitics or in Old Iranian study three languages.

In ancient Near Eastern civilizations, you may select as your major language any of the following: ancient Egyptian (including Coptic), Akkadian, Aramaic (including Syriac), Hebrew (with Ugaritic and Phoenician), or Old Persian. For your second language, you may select any of the above or Hittite or Sumerian.

Students in Hebrew must select Hebrew and another Semitic language. In Turkic, you may select either two Turkic languages or Turkish and a second culturally related language. In Arabic, Armenian, and Iranian (modern), you select a major language and a second culturally related language.

Students in Semitics are required to study three Near Eastern languages, at least two of which should be Semitic (the third may be Hittite or Sumerian). In Old Iranian, you study Persian, Sanskrit, and Old and Middle Iranian.

Twelve units of course 596 may be applied toward the total course requirement; eight units may be applied toward the minimum graduate course requirement.

Comprehensive Examination Plan
In general, you are required to take written comprehensive final examinations in your major and minor languages, as well as in the history and literature of your major field. Further details are available in the departmental Guide to Graduate Studies.

Ph.D. Degree

Admission
In addition to the regular University requirements, an M.A. or equivalent in your field, the Graduate Record Examination (GRE) General Test, and three letters of recommendation are required. The GRE must be taken within 24 months prior to receipt of your admission application by the department. As a rule, you are not admitted if your grade-point average is below 3.25 or if your GRE score is below 1,600. Prospective students may write to the Department of Near Eastern Languages and Cultures, 376 Kinsey Hall, UCLA, Los Angeles, CA 90024-1511.

The M.A. program need not have been completed at UCLA. You are assigned an adviser after being admitted. Subsequently, an examining committee is established to administer the qualifying examinations.

Major Fields or Subdisciplines
Ancient Near Eastern civilizations, Arabic, Armenian, Hebrew, Iranian, Semitics, Turkic.

You may concentrate on either language or literature in your selected field but are required to do work in both. In the field of ancient Near Eastern civilizations, the department also offers an archaeology emphasis.

Foreign Language Requirement
Two modern major European languages other than English are required. The choice of languages must be approved by the adviser, who may also require additional language skills in modern and/or ancient languages if such skills are needed for scholarly work in the area of your interests.

The requirement is fulfilled by one of the following methods: (1) Graduate School Foreign Language Test (GSFLT) with a minimum score...
of 550, (2) departmentally administered examination, (3) two years of language instruction at a UC campus, with grades of B or better.

You are expected to pass one of the two required European languages at the beginning of your first term in residence and the second language no later than the beginning of your fourth term.

**Course Requirements**

If you select the language emphasis for the Ph.D., you are required to add a third Near Eastern language to the two that are required for the M.A. (for language options, see course requirements for the M.A. above). You must achieve high competence in two of your languages and familiarize yourself with the cultural backgrounds of each of the languages selected. You are also expected to take the equivalent of one year of general linguistics. Students in Semitics or in Old Iranian study three languages.

If you select the literature option, you are required to achieve high competence in two Near Eastern languages and their literatures (for language options, see course requirements for the M.A. above). You are also required to familiarize yourself, through appropriate coursework, with the history of your cultural area, and the methods of literary research and the history of literary criticism.

If you select the archaeology emphasis in the ancient Near Eastern civilizations specialization, you are required to achieve high competence in two ancient Near Eastern languages (for options, see course requirements for the M.A. above) and must be well-versed both in the history of the cultural area and in archaeological methodologies.

Further details regarding the choice of languages and examination requirements are available in the departmental Guide to Graduate Study.

**Qualifying Examinations**

You must pass the written qualifying examinations before your doctoral committee is formed.

Candidates in languages are examined in three Near Eastern languages and the literary and historical background of at least two of them. Candidates in literature are examined in the literatures written in two languages within the cultural area of concentration and the historical and cultural background of these languages, with emphasis on one of them. Candidates specializing in the archaeology of the ancient Near East are examined in two ancient languages and the history and archaeology of the ancient Near East.

When you have passed the written examinations, your doctoral committee administers the University Oral Qualifying Examination. Passing this examination allows you to advance to candidacy and begin work on your dissertation.

**Candidate in Philosophy Degree**

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

**Final Oral Examination**

The department does not require an oral defense of the dissertation except when deemed necessary by the doctoral committee.

**Ancient Near East**

(Akkadian, Aramaic, Phoenician, and Uguric are listed under Semitics.)

**Upper Division Courses**

- **M104A-M104B. Ancient Egyptian Civilization.** (Same as History M104A-M104B.) Lecture, three hours. Course M104A is not prerequisite to M104B. Political and cultural institutions of ancient Egypt and ideas on which they were based. M104A. Chronological discussion of Prehistory, the Old and Middle Kingdoms, and the Achaemenid period until 332 B.C. Mr. Loprieno (alternate years) M105. History of Ancient Mesopotamia and Syria. (Same as History M105.) Lecture, three hours. Political and cultural development of the "Fertile Crescent," including Palestine, from the Neolithic to the Achaemenid period. Mr. Buccellati 120A-120B-120C. Elementary Ancient Egyptian. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Grammar and texts.

- **M121A-121B-121C. Intermediate Ancient Egyptian.** Lecture, three hours. Prerequisites: courses 120A-120B-120C. Readings in ancient Egyptian literature.

- **M122A-122B. Coptic.** Lecture, three hours. Prerequisite: consent of instructor. Introduction to Coptic grammar and reading of Coptic texts. Mr. Loprieno

- **M124. Middle Egyptian Technical Literature.** Prerequisite: course 121C. Reading of Middle Egyptian technical literature in hieroglyphic transcription. Medical, veterinary, mathematical, and astronomical texts included.

- **M130. Ancient Egyptian Religion.** Lecture, three hours. Introductory survey of various ancient Egyptian religious beliefs and practices, their origin, and development. Discussions of religious institutions such as divine kingship and pious foundations. Mr. Loprieno

- **M140A-140B. Elementary Sumerian.** Lecture, three hours. Prerequisites: Semitics 140A-140B. Elementary grammar and reading of royal inscriptions, letters, and administrative texts from the Ur III period.

- **M145. Sumerian Literary Texts.** Lecture, three hours. Prerequisites: courses 140A-140B or consent of instructor. Reading and interpretation of selected Sumerian literary texts.

- **M150A-150B-150C. Survey of Ancient Near Eastern Literatures in English.** Lecture, three hours. Each course may be taken independently for credit. 150A. Mesopotamia; 150B. Egypt; 150C. Syria and Palestine. Mr. Buccellati, Mr. Loprieno

- **M160A-160B. Introduction to Near Eastern Archaeology.** Lecture, three hours. Terminology, geography, political, social, and intellectual history of ancient Mesopotamia. Course for students who participate regularly in class meetings but without the homework requirements of course M250. May be repeated for credit. Ms. Carter (alternate years)

- **M161A-161B-161C. Archaeology of Mesopotamia.** Prerequisite: consent of instructor. Survey of main archaeological periods in Mesopotamia, with special emphasis on late prehistoric and early historical periods and with reference to neighboring cultures. Each course may be taken independently for credit.

- **M162. Archaeology of Palestine.** Lecture, three hours. Survey of archaeology of Palestine and the Sinai Peninsula from the Bronze Age to destruction of Jerusalem in A.D. 70, with emphasis on geographic setting and relationships to other cultures of the Near East.

- **M163A-163B. Archaeology of Iran.** Lecture, three hours. Designed to introduce students to Iranian archaeology from prehistoric through Achaemenid times. 163A. Prehistoric and protohistoric phases of Iranian archaeology. 163B. Archaeology of Elam, Iron Age, and Achaemenid Empire. Ms. Carter

- **M164A-164B-164C. Anthropology of History and Methods in Mesopotamia.** Prerequisites: courses M105 and 161A-161B-161C, or consent of instructor. Survey of main archaeological periods in Mesopotamia, with special emphasis on historic periods and with reference to neighboring cultural areas. Each course may be taken independently for credit.

- **M170. Introduction to Biblical Studies.** Lecture, two hours. Knowledge of original languages not required. The Bible (Old and New Testaments) as a book. Canon, text, translation, literary, historical, and theological approaches to Bible study. Survey of history of interpretation from antiquity to the present.


- **M199. Special Studies in the Ancient Near East (2 to 8 units).** Prerequisite: consent of instructor.

**Graduate Courses**

- **M211A-211B. Egyptian Texts of the Greco-Roman Period.** Lecture, three hours. Prerequisite: course 121C. Introduction to grammar and orthography of hieroglyphic texts from Greco-Roman temples. Text readings and translation of various textual types.

- **M220. Seminar: Ancient Egypt.** Seminar, three hours. Prerequisite: consent of instructor. May be repeated for credit.

- **M221A-221B. Demotic.** Prerequisite: course 121C. Introduction to Demotic grammar and orthography. Reading of texts from various genres.

- **M240A-240B-240C. Seminars: Sumerian Language and Literature.** Lecture, two hours. Prerequisite: consent of instructor. Readings of texts from various Sumerian periods and literary genres; selected problems in linguistic or stylistic analysis and literary history.

- **M250. Seminar: Ancient Mesopotamia.** (Same as History M207.) Seminar, three hours. Selected topics on political, social, and intellectual history of ancient Mesopotamia. May be repeated for credit.

- **M250X. Seminar: Ancient Mesopotamia (1 unit).** Prerequisite: consent of instructor. Selected topics on political, social, and intellectual history of ancient Mesopotamia. Course for students who participate regularly in class meetings but without the homework requirements of course M250. May be repeated for credit. SU grading.

- **M260. Seminar: Ancient Near Eastern Archaeology.** Lecture, two hours. Prerequisite: consent of instructor. May be repeated for credit.

- **M261. Practical Field Archaeology (2 to 8 units).** Fieldwork, two hours. Prerequisite: consent of instructor. Participation in archaeological excavations or other archaeological research in the Near East under staff supervision. May be repeated.

- **M250X. Seminar: Ancient Mesopotamia (1 unit).** Prerequisite: consent of instructor. Selected topics on political, social, and intellectual history of ancient Mesopotamia. Course for students who participate regularly in class meetings but without the homework requirements of course M250. May be repeated for credit. SU grading.

- **M260. Seminar: Ancient Near Eastern Archaeology.** Lecture, two hours. Prerequisite: consent of instructor. May be repeated for credit.

- **M261. Practical Field Archaeology (2 to 8 units).** Fieldwork, two hours. Prerequisite: consent of instructor. Participation in archaeological excavations or other archaeological research in the Near East under staff supervision. May be repeated.
Related Courses in Another Department

History 106A-106B-106C. Survey of the Middle East from 500 to the Present
204A-204B. Seminars: Near and Middle Eastern History

Armenian

Upper Division Courses

103. Advanced Modern Armenian. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Readings in advanced modern Armenian texts. May be repeated twice for credit.
131A-131B. Intermediate Classical Armenian. Lecture, three hours. Prerequisites: courses 130A-130B or equivalent. Readings of selected texts.
150A-150B. Survey of Armenian Literature in English. Lecture, three hours. Knowledge of Armenian not required. Each course may be taken independently for credit.
160A-160B. Armenian Literature of the 19th and 20th Centuries. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Reading of texts and discussion of various genres of modern Armenian literature within context of the Armenian cultural renaissance.
199. Special Studies in Armenian Language and Literature (2 to 8 units). Prerequisite: consent of instructor.

Graduate Courses

207. Armenian Intellectual History. Lecture, three hours. Intellectual and cultural trends reflected in Armenian literature, historiography, religious and philosophical thought.
210. History of the Armenian Language. Lecture, three hours. Prerequisites: courses 131A-131B or equivalent. Readings of texts and discussion of literary genres; original works and those translated from Greek and Syriac.
250A-250B. Seminars: Armenian Literature. Seminar, three hours. Prerequisite: consent of instructor. Discussion of a variety of Armenian scripts and training in use of manuscripts.
596. Directed Individual Study (2 to 8 units). May be repeated for credit.
597. Examination Preparation (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.
599. Ph.D. Dissertation Research and Preparation (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.
Related Courses in Other Departments

History 112A-112B-112C. Armenian History
C112D. Introduction to Armenian Oral History
113. The Caucasus under Russian and Soviet Rule
2005: Advanced Historiography: Armenia and the Caucasus
2015: Topics in History: Armenia and the Caucasus
211A-211B. Seminars: Armenian History

Indo-European Studies M150. Introduction to Indo-European Linguistics

Berber

Upper Division Courses

101A-101B-101C. Elementary Berber. Lecture, three hours; laboratory, two hours. Development of oral proficiency and analysis of basic grammatical structures.
Mr. Penchoen (F,Sp)

102A-102B-102C. Advanced Berber. Prerequisites: courses 101A-101B-101C or consent of instructor. Advanced study of Berber. Regional and stylistic variants in folk literature.
Mr. Penchoen (F,Sp)

130. The Berbers. 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.
Mr. Penchoen

199. Special Studies in Berber Languages (2 to 8 units). Prerequisite: consent of instructor. Studies based on requirements of individual students.
Mr. Penchoen

Related Courses in Other Departments

History 109A-109B. History of North Africa from the Moslem Conquest

Linguistics 225M. Linguistic Structures: Berber

Hebrew

Lower Division Courses

1A-1B-1C. Elementary Hebrew. Lecture, three hours; laboratory, two hours. Development of oral proficiency and analysis of basic grammatical structures. Students who have prior knowledge of reading and some vocabulary are advised to take courses 1A-10B-10C. Students with credit for course 1A will not receive credit for 1B; those with credit for course 10B will not receive credit for 1B and/or 1C. Mr. Sabar (F,Sp)

10A-10B-10C. Accelerated Elementary Hebrew. Lecture, five hours. Open to students who wish to cover equivalent of two years of college Hebrew in one academic year. Designed for students who have previously studied rudiments of Hebrew. Students with credit for course 1A will not receive credit for 1A; those with credit for course 10B will not receive credit for 1B and/or 1C. Mr. Sabar (F,Sp)

102A-102B-102C. Intermediate Hebrew. Lecture, three hours. Prerequisites: courses 1A-1B-1C or equivalent. Amplification of grammar, reading of texts from modern literature.
Mr. Sabar (F,Sp)

103A-103B-103C. Advanced Hebrew. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Introduction to modern Hebrew literary texts.
Mr. Hakak (F,Sp)

Upper Division Courses

102A-102B-102C. Intermediate Hebrew. Lecture, five hours. Prerequisites: courses 1A-1B-1C or equivalent. Amplification of grammar, reading of texts from modern literature.
Mr. Sabar (F,Sp)

103A-103B-103C. Advanced Hebrew. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Introduction to modern Hebrew literary texts.
Mr. Hakak (F,Sp)

Graduate Courses

210. History of the Hebrew Language. Prerequisites: courses 103A-103B-103C or consent of instructor. Development of Hebrew language in its various stages: biblical, Mishnaic, medieval, modern, and Israeli; differences in vocabulary, morphology, syntax, and influence of other languages; problems of language expansion in Israeli Hebrew.
Mr. Sabar (Sp, alternate years)


230. Seminar: Medieval Hebrew Literature. Seminar, three hours. May be repeated for credit.
Mr. Davidson (F,W)

Mr. Davidson

Mr. Band (W,Sp)

Mr. Band (W,Sp)

250. Directed Individual Study (2 to 6 units). May be repeated for credit.

257. Examination Preparation (2 to 6 units). Prerequisite: consent of department or instructor. S/U grading.

259. Ph.D. Dissertation Research and Preparation (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.

Iranian

Lower Division Courses

1A-1B-1C. Elementary Persian. Lecture, four hours; laboratory, two hours.
Mr. Ziai (Sp)

10A-10B-10C. Persian Conversation (2 units each). Lecture, three hours. Systematic and structured Persian conversation.

Upper Division Courses

102A-102B-102C. Intermediate Persian. Lecture, three hours; laboratory, three hours. Prerequisites: courses 1A-1B-1C or equivalent.

103A-103B-103C. Advanced Persian. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent.

111A-111B-111C. Elementary Kurdish. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. A proficiency-based course in basic Kurdish (Sorani). Graded: readings, translation, composition (level one), conversation (levels one and two).
Mr. Bodrogigli

120. Comparative Study of Six Major Persian Poets. Lecture, two hours; discussion, one hour. Prerequisite: knowledge of Persian (lectures 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 delineatedchief distinguishing characteristics of Persian thought and culture. P/NP or letter grading.

140. Contemporary Persian Belles Lettres. Lecture, three hours. Prerequisites: courses 103A-103B-103C or equivalent, consent of instructor. Study of major Persian poets and prose writers of the 20th century: prose - Jamalzadeh, Hedayat, Chubuk, Al Ahmad, Sa’ed, Golestan; poetry - Nima, Shamlu, Farrokhabad, Akhavan.
Mr. Banani

141. Contemporary Persian Analytical Prose. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent, consent of instructor. Study of selected modern Persian analytical and expository prose texts, with emphasis on social sciences, literary criticism, and history.
Mr. Banani

142. Persian Popular Ethics. Prerequisites: courses 102A-102B-102C or consent of instructor. Study of major Persian works on popular ethics which have helped shape normative social, cultural, and political values in Iranian civilization. P/NP or letter grading.
Mr. Ziai (Sp)

150A-150B. Survey of Persian Literature in English. Lecture, three hours. Knowledge of Persian not required. Each course may be taken independently for credit.

169. Civilization of Pre-Islamic Iran. Survey of Iranian culture from the beginning through Sasanian period.
Mr. Schmidt

170. Religion in Ancient Iran. History of religion from Iran from the beginning to the beginning of the Mohammedan conquest; Indo-Iranian, Zoroastrian, Manichean, Mazdaism, Mazdakism.
Mr. Schmidt

180A-180B. Iranian Civilization. Lecture, three hours; discussion, one hour. Cultural and social history of the Iranian world, with emphasis on legacy of Persian language and literature. Letter grading, P/NP or letter (nonmajors) grading.
Mr. Banani

190A-190B. Introduction to Modern Iranian Studies. Lecture, three hours. Prerequisites: courses 1A-1B-1C or equivalent. Survey of Iranian languages and cultures. Comparative and historical grammar.
Mr. Bodrogigli

199. Special Studies in Iranian (2 to 8 units). Prerequisite: consent of instructor.

Graduate Courses

220A-220B. Classical Persian Texts. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Study of selected classical Persian texts. Each course may be taken independently for credit.
Mr. Banani
211. Rumi, Mystic Poet of Islam. Seminar, three hours. Prerequisites: course 220A or 220B or equivalent; consent of instructor. Study of life and works of Rumi in context of interaction of Sufism and poetics of creativity. May be repeated twice for credit. Mr. Banani

M222A-M222B. Vedic. (Same as Indic M222A-M222B.) Lecture, three hours. Prerequisite: knowledge of Sanskrit equivalent to Indic 110C. Characteristics of Vedic dialect and readings in Rig-Vedic hymns. Only course M222B may be repeated for credit. Mr. Schmidt

230A-230B. Old Iranian. Prerequisite: consent of instructor. Studies in grammars and texts of Old Persian and Avestan. Comparative considerations. Only course 230B may be repeated for credit. Mr. Schmidt

231A-231B. Middle Iranian. Prerequisite: consent of instructor. Studies in grammars and texts of such Middle Iranian languages as best serve students' needs (e.g., Pahlavi, Sogdian, Sakian). Only course 231B may be repeated for credit. Mr. Schmidt

250. Seminar: Classical Persian Literature. Seminar, three hours. Prerequisites: courses 103A-103B-103C and 199, or consent of instructor. May be repeated twice for credit. Mr. Banani

251. Seminar: Contemporary Persian Literature. Seminar, three hours. Prerequisites: course 140 or equivalent, consent of instructor. Studies in specific problems and trends in Persian poetry and prose in the 20th century. May be repeated twice for credit. Mr. Banani

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.

598. Ph.D. Dissertation Research and Preparation (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.

Related Courses in Another Department

History 107A-107B. Islamic Civilization

Jewish Studies

Lower Division Course

10. Social, Cultural, and Religious Institutions of Judaism. Judaism's basic beliefs, institutions, and practices. Topics include development of biblical and rabbinic, scriptural and rabbinic, prayer, and the messiah; history of Talmud and synagogues; evolution of folk beliefs and year-cycle and life-cycle practices. (F,SP)

Upper Division Courses

M111E. Ethnic Groups and Their Bibliographies: Jewish History and Culture. (Same as Library and Information Science M111E.) Basic and advanced research in biblical studies. Only course 111B may be repeated for credit. Mr. Stern

130. Modern Jewish Religious Movements and Their Ideologies. Lecture, three hours. Introduction to and overview of Jewish religious movements and their ideologies in the Western world from time of the Enlightenment to the present. Mr. Ellenson

140A-140B. American Jewish History. 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 immigrant and institutional traditions. P/NP or letter grading. 140A. 1654 to 1914; 140B. 1914 to Present. (F, 140A; W, 140B)

141. Modern Anti-Semitism. Lecture, three hours. Examination of modern anti-Semitism from the 18th century to the present; comparison of modern anti-Semitism with classic and modern anti-religious ideologies of modern democracies; case studies (e.g., Dreyfus affair, Bellis Tract, Holocaust); Jewish reactions to these phenomena. Mr. Band (alternate years)

142. History and Institutions of State of Israel. 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. Mr. M143. Introduction to Jewish Folklore. (Same as Folklore M142.) Nature of Jewish folklore; narrative folk song, folk art, folk religion, and methods and perspectives used in their analysis. Mr. Friedlander

M150A-150B. Hebrew Literature in English. Lecture, three hours. Each course may be taken independently for credit. Mr. Band (alternate years)

M150A. Literary Traditions of Ancient Israel: Bible and Apocrypha. (Same as Humanities M150.) 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. Mr. Band (alternate years)

150B. Rabbinic Judaism. Topics include emergence of rabbinic Judaism; its original literary forms; rabbinic worldview in its own terms; medieval rabbinic literature; medieval Jewish religious movements and their attitude to rabbinic Judaism. Mr. Davidson (alternate years)

151A-151B. Modern Jewish Literature in English. Lecture, three hours. Each course may be taken independently for credit. Mr. Band

151A. Diaspora Literature. Study of literary responses of Jews to modernity, its challenges and threats. Readings in texts originally written in Hebrew or translated from Hebrew, Yiddish, German, Russian, French, and Italian. Analysis of formal aspects of each work. Mr. Band (alternate years)

151B. Israeli Literature. Study of translations from Hebrew, a language written in Israel and reflecting cardinal facets of Israeli life; social issues, security problems, identity of the state, role of individual. Analysis of formal aspects of each work. Mr. Band (alternate years)

155. Literature of the Cabala. Lecture, three hours. Cabalistic literature in the broad sense (i.e., Jewish esoteric literature from the rabbincic to modern period). Topics include precabalistic esoteric texts, the early cabala, the Zohar, Lucanian cabala, nature of mysticism, the question of whether there was a Jewish mysticism. Mr. Davidson

M187. The Holocaust in Literature. (Same as Humanities M187.) Lecture, three hours. Prerequisite: History 191E. 191F, or 191G or equivalent. Investigation of how the Holocaust informs a variety of literary and cinematic works and raises a wide range of aesthetic and moral questions. P/NP or letter grading.

Mr. Band

190. Undergraduate Seminar: Jewish Studies. Examination of a single topic in depth with object of encouraging and guiding students' research in area of Jewish studies. Literary, cultural, and historical subjects included. (F,SP)

M191A-M191B. Survey of Jewish History. (Same as History M191A-M191B.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Survey of social, political, and religious developments. M191A. First Biblical Times to End of the Middle Ages; M191B. From End of the Middle Ages to the Present. Mr. Myers

M191C-M191D. Focal Themes in Jewish History. (Same as History M191C-M191D.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Treatment in depth of one major theme in Jewish history (such as history of Messianic Movements, structure of the Jewish communities throughout time). Mr. Myers

M192A-M192B. Jewish Intellectual History. (Same as History M192A-M192B.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight hours. Development of Jewish self-understanding in intellectual context of the environment as expressed in the halacha, in philosophy, and in cabalism. M192A. Medieval Period; M192B. Modern Period. Mr. Friedlander

197A-197Z. Variable Topics in Jewish Studies. Lecture or seminar, three hours. Variable topics; consult Schedule of Classes for topics to be offered in a specified term. P/NP or letter grading. 197A. 20th-Century Jewish Thought. May not be repeated for credit. 197B. Jewish Feminist Theology. Mr. Poonawala

199. Special Studies in Jewish Studies (2 to 8 units). Limited to Jewish studies majors.

Near Eastern Languages

Lower Division Courses

50A-50B-50C. Introduction to Near Eastern Languages and Cultures. Lecture, three hours. Three- term sequence designed both as an introduction for undergraduates and as a requisite to various majors within department. Art and archaeology, languages and literatures, cultural history. Each course may be taken independently for credit. 50A. Ancient Near East; 50B. Medieval Near East; 50C. Modern Near East.
Graduate Courses

200. Bibliography and Method of Near Eastern Languages and Literatures. Lecture, two hours. Prerequisite: consent of instructor. 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.

210. Survey of Afro-Asiatic Languages. Lecture, three hours. Prerequisite: consent of instructor. Survey of the main branches of Afro-Asiatic languages. May be repeated for credit.

220A-220B. Ugaritic. Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Study of Ugaritic language and literature. Open to students interested in Semitic and African, as well as other, areas.

225. Phoenician. Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Study of Phoenician language and inscriptions. May be repeated for credit.

230. Seminar: Northwest Semitic Languages and Literatures. Seminar, two hours. Prerequisite: consent of instructor. May be repeated for credit.

240. Seminar: Akkadian Language. Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various Akkadian literary genres; selected problems in linguistic analysis of Akkadian dialects. May be repeated for credit.

240X. Seminar: Akkadian Language (1 unit). Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various Akkadian literary genres; selected problems in linguistic analysis of Akkadian dialects. Course for students who participate regularly in class meetings but without the homework required in course 240. May be repeated for credit. S/U grading.

241. Seminar: Akkadian Literature. Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various Akkadian literary genres; selected problems in literary history and stylistic analysis. Course for students who participate regularly in class meetings but without the homework required in course 241. May be repeated for credit. S/U grading.

425X. Seminar: Akkadian Language (1 unit). Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various Akkadian literary genres; selected problems in linguistic analysis of Akkadian dialects. May be repeated for credit.

242X. Seminar: Akkadian Language (1 unit). Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various Akkadian literary genres; selected problems in linguistic analysis of Akkadian dialects. Course for students who participate regularly in class meetings but without the homework required in course 242X. May be repeated for credit.

459. Directed Individual Study (2 to 8 units). May be repeated for credit.

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.

599. Ph.D. Dissertation Research and Preparation (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.

Semitics

Upper Division Courses

110. Neo-Aramaic. Lecture, three hours. Grammar and reading of selected texts (folktales, homilies, songs) in modern Aramaic dialects of the Jews and Christians of Kurdistan. Mr. Sabar

115. Syriac. Lecture, two hours. Morphology and syntax of Syriac language, introductory reading. Mr. Jaeckel

130. Biblical Aramaic. Lecture, three hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Grammar of biblical Aramaic and reading of texts. (Alternate years)

140A-140B. Elementary Akkadian. Lecture, three hours. Elementary grammar and reading of texts in standard Babylonian. Mr. Buccellati

141. Advanced Akkadian. Lecture, three hours. Prerequisite: consent of instructor. Old Babylonian syntax; reading of basic Old Babylonian texts. Mr. Buccellati

142. Akkadian Literary Texts. Lecture, three hours. Prerequisite: consent of instructor. Selected readings from Akkadian myths and epics, with introduction to historical tradition of the works and their literary structure. Mr. Buccellati

199. Special Studies in Semitics (2 to 8 units). Prerequisite: consent of instructor. (F,W,Sp)

Turkic Languages

Upper Division Courses


102A-102B-102C. Advanced Turkish. Lecture, five hours. Prerequisites: courses 101A-101B-101C or equivalent. Advanced course in modern Turkish language and culture; emphasis on oral and written expression. Mr. Jaeckel

111A-111B-111C. Elementary Uzbek. Lecture, three hours; laboratory, two hours. Prerequisites: consent of instructor. Elementary grammar, reading, and composition exercises; elementary conversation. Mr. Bodrogligeti

112A-112B-112C. Advanced Uzbek. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Descriptive Uzbek grammar, reading, and analysis of Uzbek literary and folkloric texts. High-style composition and conversation. Mr. Bodrogligeti

114A-114B-114C. Bashkir. Lecture, three hours. Prerequisite: course 102A or consent of instructor. Grammar, reading, and discussion of literary and folkloric texts. Mr. Bodrogligeti (Sum)

115A-115B-115C. Elementary Azeri. Prerequisite: consent of instructor. Grammar, reading, and discussion of Azeri literary and folkloric texts. Mr. Bodrogligeti (Sum)


160. Cultural History of the Turks. Lecture, three hours. Prerequisite: consent of instructor. Survey of cultural history of the Turks, as seen primarily through their literature, from their early history to the present. Mr. Bodrogligeti

170. Turco-Mongolian Nomadic Empires. Lecture, three hours. Prerequisite: consent of instructor. Required of students in Turkic program and recommended for students in Soviet studies. Ethnographic and linguistic survey of the Turkic peoples. Mr. Bodrogligeti

180. Modern Turkic Languages and Peoples. Lecture, three hours. Prerequisite: consent of instructor. Required of students in Turkic program and recommended for students in Soviet studies. Ethnographic and linguistic survey of the Turkic peoples. Mr. Bodrogligeti

199. Special Studies in Turkic Languages (2 to 8 units). Prerequisite: consent of instructor.

Graduate Courses

210A-210B-210C. Introduction to Ottoman. Lecture, three hours. Prerequisite: consent of instructor. Introduces students to literature (1300-1921) of the 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 Arabo-Islamic script as applied to Ottoman, Arabic and Persian elements in grammar and vocabulary. Readings of historical and literary texts. Mr. Jaeckel (F,W,Sp)

211. Ottoman Diplomatics. Lecture, three hours. Prerequisite: courses 210A-210B-210C or equivalent. Historical and political background of the Ottoman Empire; the contemporary Ottoman Empire and its diplomatic activities. Mr. Bodrogligeti

220A-220B-220C. Classical Uzbeck (Chagatay). Lecture, three hours. Prerequisites: courses 101A-101B-101C or 111A-111B-111C or Iranian 102A-102B-102C or Arabic 102A-102B-102C or Hebrew 102A-102B-102C or consent of instructor. Language of classical Central Asian Turkic literature. Descriptive and historical grammar, text analysis, translation, and composition drills. Mr. Bodrogligeti

225A-225B-225C. Old Turkic: Turk and Uygur. Lecture, three hours. Prerequisite: course 180, consent of instructor. Textual and linguistic analysis of Turkm and Old Uygur documents; inscriptions, Manichean and Buddhist literary works. Mr. Bodrogligeti (alternate years)

230A-230B-230C. Historical and Comparative Survey of Turkic Languages. Lecture, three hours. Prerequisite: course 180. And Turkish languages. History of Turkish: developments in phonemic, grammatical, and lexical characteristics. Structural analysis of Turcom languages on comparative basis. Mr. Bodrogligeti

235A-235B. Middle Turkish: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. Lecture, three hours. Prerequisites: course 180, consent of instructor. Survey of Middle Turkish documents. Textual and linguistic analysis of Middle Turkish texts from various literary genres. Mr. Bodrogligeti (alternate years)

240A-240B-240C. Advanced Ottoman. Lecture, three hours. Prerequisites: courses 210A-210B-210C or equivalent or consent of instructor. Emphasis on different genres of Ottoman writing (ballads, letters, as well as various types of legal documents) in high-style classical Ottoman period (13th 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. Mr. Bodrogligeti

250A-250B-250C. Classical Arabic. Lecture, three hours. Prerequisites: courses 101A-101B-101C or Arabic 102A-102B-102C or Hebrew 102A-102B-102C or consent of instructor. Introduction to Classical Arabic. Mr. Jaeckel (F,W,Sp)

596. Directed Individual Study (2 to 8 units). Prerequisite: consent of department or instructor. S/U grading.

(For credit. S/U grading.)
Near Eastern Studies (Interdepartmental)

5353 Bunche Hall, (310) 825-1374, 825-4601

Professors
Andras Bodrogi-left, Ph.D. (Near Eastern Languages and Cultures)
A. Jihad Racy, Ph.D. (Ethnornusicology and Systematic Musicology)
Yona Sabar, Ph.D. (Near Eastern Languages and Cultures)
Stanford J. Shaw, Ph.D. (History), Chair

Associate Professors
Irene A. Bierman, Ph.D. (Art History)
Michael G. Morony, Ph.D. (History)

Assistant Professor
David N. Myers, Ph.D. (History)

Scope and Objectives

The graduate major in this discipline is called Islamic Studies. For details, see the program by that name earlier in this chapter.

The undergraduate major is designed primarily for (1) students seeking a general education and desiring a special emphasis in this particular area, (2) those who plan to live and work in the Near East whose careers will be aided by a knowledge of its peoples, languages, and institutions, and (3) students preparing for academic study in the various disciplines pertaining to the Near East.

Bachelor of Arts Degree
Preparation for the Major

Required: The first-year course in Arabic, Armenian, Hebrew, Persian, or Turkish. You must also obtain reading proficiency in French, German, Italian, Russian, or Spanish as demonstrated by completing six quarter courses or their equivalent in the language of your choice. You may substitute for the European language requirement Program in Computing 1 and one course from Economics 40, Political Science 6, Psychology 41, Sociology 18, or Statistics 50, plus one course from Economics 141, Geography 171, Political Science 102, Psychology M142, or Sociology 112. Also required are History 9D and four courses from History 1A, 1B, 1C, Anthropology 8, 9, Economics 1, 2, Geography 3, Political Science 20, 50, Sociology 1.

The Major

Required: Sixteen courses as follows: (1) completion of the advanced level or equivalent in the same language taken in lower division; (2) History 106A-106B-106C and three additional courses in the history of the Near East, two of which are related to the major language; (3) four courses (two of which must be in the same discipline) from Anthropology 110, Art History M102A, M102B, 104A, 104B, C104C, Economics 110, 111, 112, 190, Geography 187, 188, Political Science 132A, 132B, 164, Sociology 187. This program may be modified in exceptional cases with consent of the adviser.

For further information, contact Professor Stanford J. Shaw at the program address.

Neuroscience (Interdepartmental)

73-364 Center for the Health Sciences, (310) 206-2349

Professors
Arthur P. Arnold, Ph.D. (Psychology)
Jackson Beatty, Ph.D. (Psychology)
Larry L. Butcher, Ph.D. (Psychology)
Scott M. Chandler, Ph.D. (Physiological Science)
Michael H. Chase, Ph.D., in Residence (Physiological Science)
V. Reggie Edgerton, Ph.D. (Physiological Science)
Gaylord D. Ellison, Ph.D. (Psychology)
Gordon L. Fan, Ph.D. (Cephalopelgical Science, Physiological Science)
Deborah B. Farber, Ph.D., in Residence (Cephalopelgical Science)
Jack L. Feldman, Ph.D. (Physiological Science), Chair
Joan M. Fuster, M.D., in Residence (Psychiatry and Biobehavioral Sciences)
C.R. Gallihe, Ph.D. (Psychology)
Carlos V. Grijalva, Ph.D. (Psychology)
Alan D. Grinnell, Ph.D. (Psychology)
Franklin B. Krasne, Ph.D. (Psychology)
Michael Steven Levine, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
John C. Liebeskind, Ph.D. (Psychology)
Wendy B. Macklin, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Michael T. McGuire, M.D. (Psychiatry and Biobehavioral Sciences)
Peter M. Nanns, Ph.D. (Biology; Distinguished Teaching Award)
Donald Novin, Ph.D. (Psychology)
Edward M. Ornitz, M.D., in Residence (Psychiatry and Biobehavioral Sciences)
Michael J. Raleigh, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Arnold B. Scheibel, M.D. (Anatomy and Cell Biology)
John D. Schlag, M.D. (Anatomy and Cell Biology)
Judith L. Smith, Ph.D. (Physiological Science; Distinguished Teaching Award)
James P. Thomas, Ph.D. (Psychology)
Allan J. Tobin, Ph.D. (Biology)
Jaime R. Villablanca, M.D., in Residence (Psychiatry and Biobehavioral Sciences)
Eran Zaidel, Ph.D. (Psychology)

Associate Professors
Cameron B. Gundersen, Ph.D. (Molecular and Medical Pharmacology)
Diane M. Papazian, Ph.D. (Psychology)
Stanley J. Schein, Ph.D., M.D. (Psychology)

Assistant Professors
Utpal Banerjee, Ph.D. (Biology)
David L. Glanzman, Ph.D. (Physiological Science)
Volker Hartenstein, Ph.D. (Biology)
Larry Hoffman, Ph.D., in Residence (Surgery)
Barney A. Schlinger, Ph.D. (Physiological Science)
Dwayne D. Simmons, Ph.D. (Biology)
James A. Waschek, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Joseph B. Watson, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Nancy L. Wayne, Ph.D. (Physiology)

Adjunct Associate Professor
Charles L. Wilson, Ph.D. (Neurology)

Visiting Assistant Professor
Alan Garfinkel, Ph.D. (Medicine, Physiological Science)

Scope and Objectives

For details on the Ph.D. program, see Chapter 15 on the School of Medicine.

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 expose students to this broad range of topics at many levels of analysis, including molecular, cellular, synaptic, network, and behavioral and to explore the principles and concepts of nervous system function.

Bachelor of Science Degree

Preparation for the Major

Required: Biology 5, 9; Chemistry 11A, 11B, 11CL, 11CL; Mathematics 3A, 3B, 3C (or 3A, 3B, 32A); Physics 6A, 6B, 6C (or 8A, 8B, 8C); one statistics course (Psychology 41, Statistics 50, or approved equivalent).
All preparation courses must be passed with a grade of C – or better and must be completed with an overall grade-point average of 2.5 or better. You are encouraged to fulfill the preparation requirements prior to enrollment in courses for the major. Transfer students are counseled on an individual basis.

In fulfilling the college general education requirements, you are encouraged to select courses that complement the major. Psychology 10 is recommended as a social sciences elective.

Transfer students with 80 or more units should complete the following courses prior to admission: one biology course (equivalent to Biology 15), one year of general chemistry with laboratory, and one year of calculus. Two calculus-based physics courses or two organic chemistry courses are recommended.

The Major


No more than eight courses may be from any one department. A maximum of eight units of Neuroscience 191, 197, 199, or 199H (in any combination) may 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 students with the opportunity to do research culminating in an honors thesis. Requirements for admission include a 3.2 overall grade-point average. Two upper division courses used to satisfy major requirements must be contracted for honors, and an honors thesis (Neuroscience 199HA-199HB) is required. After completion of all requirements and with the recommendation of the faculty 199H sponsor, faculty members may confer departmental honors or highest honors at graduation. Graduation with honors requires a 3.4 grade-point average in the major and a 3.2 overall, while highest honors are awarded to majors who have a GPA of 3.5 overall and 3.7 in the major.

Lower Division Courses

88A-88Z. Lower Division Seminars. Lecture, three hours. Limited to freshmen/sophomores. Seminars on current topics in neuroscience.

Mr. Scheibel and the Staff

Upper Division Courses

M101A-M101B-M101C. Neuroscience: From Molecules to Mind (5 units each). (Same as Biology M175A-M175B-M175C, Physiological Science M180A-M180B-M180C, Neuroscience M197A-M197B-M197C.) Lecture, four hours; discussion, one hour:

M101A. Cellular Mechanisms. Prerequisites: Biology 9, Chemistry 132A, Physics 3B or 6B or 8C. Cellular physiology, pharmacology, molecular biology, and development of nervous system.

Mr. Feldman, Mr. Scheibel, Mr. Watson (F)

M101B. Integrative Mechanisms. Prerequisite: course M101A (or Biology M175A or Physiological Science M180A or Psychology M117A) or Biology 171 or Physiological Science 111A or Psychology 115. Central and reflex mechanisms of homeostasis, sensory information processing, and motor control.

Mr. Feldman, Mr. Grinnell, Mr. Levine, Mr. Schein (W)

M101C. Neural Bases of Behavior. Prerequisite: course M101B (or Biology M175B or Physiological Science M180B or Psychology M117B) or Biology 171 or Physiological Science 111A or Psychology 115. Neural mechanisms underlying motivation, learning, and cognition.

Mr. Gallistel (Sp)

103. Neuroscience for Physicists, Mathematicians, and Engineers. Lecture, three hours. Introduction to the brain and neural function; mathematical models and computer simulations of neural networks. Biophysics of neurons, engineering approaches to neural control systems.

Mr. Garfinkel (Sp)

191A-191Z. Proseminars: Neuroscience. Lecture, three hours. Prerequisites: courses M101A-M101B-M101C or consent of instructor. Advanced studies on current research issues in neuroscience; term paper and oral report required.

(197A-197Z. Special Topics in Neuroscience. Lecture, three hours. Prerequisites: courses M101A-M101B-M101C or consent of instructor. Topics on one or more aspects of neuroscience.

(W,Sp)

199. Independent Research in Neuroscience (4 to 8 units). Prerequisites: courses M101A-M101B-M101C with grades of B (3.0) or better, senior standing in neuroscience. Directed independent research with a faculty member.

(F,W,Sp)

199HA. Honors Thesis in Neuroscience (6 units). Prerequisite: neuroscience honors program standing. Directed independent research for departmental honors with a faculty member, involving definition of research topic and extensive reading and research in the field of proposed honors thesis. In Progress grading (credit to be given only on completion of course 199HA).

(F,W,Sp)

199HB. Honors Thesis in Neuroscience (6 units). Prerequisite: course 199HA. Continued reading and research that culminate in final honors thesis. Maximum of eight units of course 199H/199H4 may be applied toward elective requirements for the major.

(F,W,Sp)

Organizational Studies

(Interdepartmental)

4256 Bunche Hall, (310) 825-3862

Scope and Objectives

Organizations are multifaceted and can usefully be explored from more than one disciplinary perspective. The undergraduate specialization in organizational studies brings together students and faculty from the Departments of Economics, Geography, History, Political Science, Psychology, and Sociology who share an interest in modern organizations. The program gives students a solid grounding in the organizational perspectives and methods of at least two departments. The specialization must be taken in conjunction with a major in the social sciences.

Special Undergraduate Program

You may elect to combine this program with a departmental major and may petition to have the area of specialization recognized with the bachelor's degree.

The option of completing an individual major in organizational studies is also open to qualified students. For more information on individual majors, see the beginning of Chapter 5.

If you have a departmental major, you should seek advising in your major department. If you are interested in the individual major, consult a Letters and Science counselor.

Courses within the specialization must be taken for a letter grade. The specialization must be taken in conjunction with a major in the division of social sciences.

Preparation for the Specialization

Required: At least five of the following courses appropriate to the courses to be taken in the specialization: Economics 1, 2, Geography 4; Psychology 10; Sociology 1, or 18 and 104 or equivalent.

Upper Division

Required: Nine upper division courses, including (1) at least three courses outside your major department selected from Management 190, Political Science 146D, Sociology 168, 173; (2) a minimum of three courses selected from one of the following suites within your major department: Economics 147A, 147B, 147C, 170, 171; Geography 148, M149; Political Science 141C, 142A, 142B, 146E; Psychology 135; Sociology 132, 135, 156, 182; (3) a minimum of three courses selected from one of the suites in item 2 in a department outside your major department; (4) internship experience in a governmental or service organization.

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Professor Eric H. Monkkanen (9252 Bunche Hall, 310-825-3376) is the program adviser. For further information, contact the political science undergraduate counselor in the program office.

Philosophy

321 Dodd Hall, (310) 825-4641

Professors
Tyler Burge, Ph.D., Chair
Kit Fine, Ph.D.
Barbara Herman, Ph.D. (Gloria and Paul Griffin Professor of Philosophy). Vice Chair
David Kaplan, Ph.D.
D. Anthony Marini

Professors Emeriti
Marilyn McCord Adams, Ph.D.
Robert Merrihew Adams, Ph.D.
Rogers Albritton, Ph.D.
Alonzo Church, Ph.D.
Keith S. Donnellan, Ph.D.
Philippa Foot, M.A.
Donald Kalish, Ph.D.
Herbert Morris, Ph.D.
Robert M. Yost, Ph.D.

Associate Professors
Joseph Almog, Ph.D.
John Carriero, Ph.D.

Assistant Professors
Andrew Hsu, Ph.D.
Marc Lange, Ph.D.
Gavin Lawrence, Ph.D.
Michael Otsuka, D.Phil.
Seana Shiffrin, D.Phil.

Adjunct Professors
Sandra G. Harding, Ph.D.
Richard Popkin, Ph.D.

Adjunct Assistant Professor
David C. Wilson, Ph.D.

Scope and Objectives

In a recent survey conducted by the Conference Board of the Associated Research Councils, UCLA's Philosophy Department was judged among the five 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 in philosophy 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, 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.

Bachelor of Arts Degree

Preparation for the Major
Required: Philosophy 7 or 21, 22, 31, and one other lower division philosophy course.

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 eight 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.

Honsors Program
On recommendation of the department faculty, honors in philosophy are awarded at graduation to a major whose grade-point average in upper division philosophy courses is 3.3 and who has completed two graduate courses in the 200 series (eight units) in philosophy with an average GPA of 3.5.

Master of Arts Degree

Admission
It is the policy of the department to admit only those who plan to earn the Ph.D. degree. For admission requirements, see the description under "Ph.D. Degree."

Foreign Language Requirement
You must demonstrate reading knowledge of French, German, Latin, or Greek. (When relevant to your research, another language may be substituted with consent of the department.) This requirement can be satisfied by passing, with a score of at least 500, the Graduate School Foreign Language Test (GSFLT) in an approved language. Alternatively, it can be satisfied by either of the methods in which the Ph.D. language requirement can be satisfied.

Course Requirements
You must complete with grades of B or better at least nine upper division or graduate courses (36 units), excluding Philosophy 199, of which five courses (20 units) must be in the 200 series, including courses 200A-200B-200C and one designated logic course. Consult the Manual for Graduate Students in Philosophy for the list of designated courses.

Courses in the 500 series may not be applied toward the course requirements for the M.A. in Philosophy.

Comprehensive Examination Plan
Students seeking the M.A. must pass the master's comprehensive examination, which consists of three different examinations. All three parts must be taken by the end of your first year of study. The examinations are written, last two hours each, and are on the subject matter covered in the three first-year seminars. The comprehensive examination is passed or failed as a whole, which does not necessarily require passing of all three parts. A grade of B - is the lowest passing grade on the whole examination or any of its parts; C + is a failing grade. In case of failure, the examination may be repeated.

Ph.D. Degree

Admission
Admission to UCLA as a graduate student in philosophy requires approval both by the Graduate Division and by the Department of Philosophy. The University application should be sent directly to UCLA Graduate Application Processing; the departmental application, three letters of recommendation (on the official forms), one official transcript from each institution attended, a statement of purpose, a sample of your written work, official scores on the Graduate Record Examination (GRE) General Test (the Subject Test in Philosophy is not required), and official Test of English as a Foreign Language (TOEFL) scores for applicants whose native language is not English should be sent to the department graduate counselor. Departmental information and all applications can be obtained by writing to the Graduate Counselor, Department of Philosophy, 321 Dodd Hall, UCLA, Los Angeles, CA 90024-1451.

Admission to graduate study in philosophy is not probationary. At the end of your first year of study, however, the department conducts a review of your work, and results are discussed in a meeting between you and your graduate adviser.

Foreign Language Requirement
You must demonstrate reading knowledge of French, German, Latin, or Greek. (Another language may be substituted with consent of the department, if it is used in your doctoral work.) You may satisfy this requirement by completing, with a grade of C or better, the final course in a two-year sequence of college courses in an ap-
proved language. Alternatively, you may satisfy the requirement by passing the department language examination. Completion of the foreign language requirement is not required for admission to the doctoral program but is required by the University for advancement to candidacy.

Course Requirements

A Ph.D. candidate must complete, with a grade of B or better, the three first-year seminars, plus 11 additional upper division and graduate philosophy courses (not including individual studies courses), distributed as follows:

Logic — Philosophy 135A and one other designated upper division or graduate course in logic in either the Philosophy or Mathematics Department. One course must be completed by the end of your first year, unless a preparatory course is necessary. Consult the Manual for Graduate Students in Philosophy for the designated list.

History of Philosophy — One graduate course in history of philosophy, plus Philosophy 100A, 100B, 100C (or equivalent graduate or undergraduate courses taken at UCLA or elsewhere).

Ethics and Value Theory — One graduate-level course.

Metaphysics and Epistemology — One graduate-level course.

Special Area Requirement — In the second and third years, you must satisfy two special area requirements — one in metaphysics and epistemology and one in ethics. You must take two specially designated graduate courses in one of the two areas and write a paper prepared in accordance with a specific format called a "proposition" in the other area.

The special course requirement in either metaphysics and epistemology or in ethics should be completed in your second year, with the proposition requirement covering the remaining area to be completed in your third year. Consult the Manual for Graduate Students in Philosophy for further details.

Electives — As many courses as needed to fulfill the requirement of 11 additional upper division or graduate philosophy courses.

Group classification of a course is generally given by its catalog listing, but final classification of a course is determined by the instructor on the basis of its content and the departmental guidelines. Normally, no substitutions for these courses are allowed, but if you have done graduate coursework elsewhere, you may be permitted to substitute previous graduate coursework in exceptional cases.

Teaching Experience

Before receiving a Ph.D., you are required to spend three terms as a teaching assistant at UCLA.

Qualifying Examinations

The department does not require you to pass any written examination as a condition of advancement to candidacy. You are, however, required to take the master’s comprehensive examination (see "M.A. Degree") to give the department evidence of your proficiencies and deficiencies. All three parts of the examination must be taken by the end of your first year of study.

In the third year, you begin a new series of individual studies courses (Philosophy 596) with your dissertation supervisor to develop a well-defined dissertation project. A doctoral committee is selected and the University Oral Qualifying Examination is scheduled. The primary purpose of this examination is to determine whether you are able to complete the dissertation successfully. The scope of the examination varies according to the definiteness of the dissertation topic and the extent of your preliminary investigations. In case of failure, the doctoral committee makes a recommendation for or against allowing a second oral examination.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination

The final oral examination may be waived by the doctoral committee. This determination is usually made at the time of the oral qualifying examination.

Lower Division Courses

1. Beginnings of Western Philosophy. 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.

2. Introduction to Philosophy of Religion. 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. Philosophy of Language. Lecture, three hours; discussion, one hour. Philosophical inquiry into such theories as freedom, responsibility, guilt, love, self-knowledge, and self-deception, death, and meaning of life through examination of great literary works in the Western tradition.

4. Introduction to Political Philosophy. 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? Why obey the law? Which form of government is best? How much personal freedom should be allowed in society? PNP or letter grading.

5. Philosophy in Literature. Lecture, three hours; discussion, one hour. Philosophical inquiry into such topics as freedom, responsibility, guilt, love, self-knowledge, and self-deception, death, and meaning of life through examination of great literary works in the Western tradition.

6. Systems of Western Philosophy. Lecture, three hours; discussion, one hour. Study of the works of some great philosophers of modern period, such as Descartes, Leibniz, Berkeley, or Hume.


8. Introduction to Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Strongly recommended: course 100A. Survey of development of metaphysics and epistemology within context of theoretical and philosophical, and sociological perspectives. Special emphasis on Augustine, Anselm, Aquinas, and Descartes.

9. Principles of Critical Reasoning. Nature of arguments: how to analyze 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 components of argumentation, research on 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).

Mr. Wilson

10. Logic. 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 philosophers of modern period, such as Descartes, Leibniz, Berkeley, or Hume.

Mr. Donnellan, Mr. Hsu

11. Logic, First Course. Lecture, three hours; discussion, one hour. Recommended for students who plan to pursue more advanced studies in logic. Elements of symbolic logic, sentential and quantificationals; forms of reasoning and structure of language.

Mr. Burge, Mr. Fiske, Mr. Kalish, Mr. Kaplan, Mr. R. Martin


Mr. Burge, Mr. Fiske, Mr. Kalish, Mr. D. Martin

13. Freshman Seminar. Variable topics; consult Schedule of Classes or "Department Announcements" for topics to be offered in a specific term. May be repeated for credit with consent of instructor.

Upper Division Courses

100A. History of Greek Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Survey of origins of Greek metaphysics from pre-Socratics through Plato and Aristotle.

Mr. Albritton

100B. Medieval and Early Modern Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Strongly recommended: course 100A. Survey of development and transformation of Greek metaphysics and epistemology within context of philosophical theology, and transformation from medieval to modern period. Special emphasis on Augustine, Anselm, Aquinas, and Descartes.

100C. History of Modern Philosophy, 1650-1800. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course. Strongly recommended: 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 Locke and Berkeley, Malebranche 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 brain, causality, existence of God, skepticism, empiricism, limits of human knowledge, and philosophical foundations of modern science.
Group I: History of Philosophy

101A. Plato — Earlier Dialogues. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Study of select topics in early and middle dialogues of Plato.

101B. Plato — Later Dialogues. Lecture, three hours; discussion, one hour. Prerequisite: course 101A. Study of select topics in middle and later dialogues of Plato.

102. Aristotle. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Study of selected works of Aristotle.

Mr. Lawrence

104. Topics in Islamic Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Development of Muslim philosophy in its great age (from Kindo to Averroes, 850 to 1200), considered in connection with Muslim theology and mysticism.

105. Medieval Philosophy from Augustine to Maundides. Prerequisite: one philosophy course or consent of instructor. Development of early medieval philosophy within framework of Judeo-Christian theology and history of ideas stemming from the classical heritage. Focus on problem of universals, existence and nature of God, problem of evil, and doctrines of the Trinity and atonement. Selected writings from Augustine through Maundides read in English translation.

106. Later Medieval Philosophy. Prerequisite: one philosophy course or consent of instructor. Metaphysics, theory of knowledge, and theology of Aquinas, Duns Scotus, and Ockham, with less full discussion of other authors from the 13th through early 15th century. Selected texts read in English translation.

107. Topics in Medieval Philosophy. Prerequisite: one philosophy course. Recommended: course 105 or 106. Study of philosophy and theology of one medieval philosopher: Anselm, Aquinas, Scotus, or Ockham, or study of a single area such as logic or theory of knowledge in several medieval philosophers. Topic announced each term. May be repeated for credit with consent of instructor.

Mr. Lawrence

C108. Hobbes. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Hobbes' political philosophy, especially the Leviathan, with attention to its relevance to contemporary political philosophy. May be concurrently scheduled with course C208.

Mr. Fleming

C109. Descartes. Prerequisites: course 21 or two philosophy courses or consent of instructor. Study of works of Descartes, with discussion of issues such as problem of existence of human body, problem of existence of God, relation between mind and body, and connection between science and metaphysics. May be concurrently scheduled with course C209.

Mr. Almog

C110. Spinoza. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. 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.

Mr. Leibniz

C111. Leibniz. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. 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.

Mr. Locke and Berkeley. Prerequisite: one philosophy course or consent of instructor. Study of philosophies of Locke and Berkeley, with emphasis in some cases on one or the other. Limited to 30 students when concurrently scheduled with course C212. P/NP or letter grading.

Mr. Donnellan

C114. Hume. Prerequisite: one philosophy course or consent of instructor. Selected topics from metaphysical, epistemological, and ethical writings of Hume. Limited to 40 students when concurrently scheduled with course C214.

Mr. Donnellan

115. Kant. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or 22 or consent of instructor. Study of Kant's views on related topics in theory of knowledge, ethics, and politics. May be repeated for credit with consent of instructor.

Mr. Burge

116. 19th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Selected topics in 19th-century thought.

Mr. Fleming

117. Late 19th- and Early 20th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Selected topics in work of one or more of following philosophers: Boziano, Frege, Husserl, Meinong, G. Moore, early Russell, and Wittgenstein. May be repeated for credit with consent of instructor.

Mr. Almog, Mr. Burge, Mr. Hsu

118. Kierkegaard. Prerequisite: one philosophy course or consent of instructor. Philosophical study of some major works of Kierkegaard, with emphasis on interpretation of the texts.

Mr. Lance

C119. Topics in Modern Philosophy. Prerequisite: one philosophy course or consent of instructor. Selected topics in one or more philosophies of the early modern period, or study in a single area such as: theory of knowledge in several areas of the philosophies. May be repeated for credit with consent of instructor. Concurrently scheduled with course C219.

Mr. Lange

Group II: Logic, Semantics, and Philosophy of Science

126A. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Historical introduction to philosophy of science. Several general topics discussed in context of actual episodes in development of science.

126B. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: course 31 or 126A or consent of instructor. Introduction to contemporary philosophy of science, focusing on problems of central importance.

Mr. Lance

126C. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisites: two philosophy courses or consent of instructor. Discussion of topics in philosophy of science. May be repeated for credit with consent of instructor.

Mr. Almog, Mr. Kaplan, Mr. D. Martin

127A. Philosophy of Language. Prerequisite: course 31 or consent of instructor. Syntax, semantics, pragmatics. Semantical concept of truth, sense and denotation, synonymy and analyticity, modalities and tenses, indirect discourse, indexical terms, semantical paradoxes. May be repeated for credit with consent of instructor.

Mr. Burge, Mr. Kaplan, Mr. D. Martin

127B. Philosophy of Language. Prerequisite: course 32 or consent of instructor. Course 127A is not prerequisite to 127B. Selected topics similar to those considered in course 127A, but at a more advanced and technical level.

Mr. Kaplan

128A. Philosophy of Mathematics. Prerequisites: courses 31, 32, and preferably one additional logic course. Philosophy of mathematics: logicism of Frege and Russell, metaphysical reduction to logic; range of theorems and epistemic definitiveness (Russell, Poincaré, early Weyl).

Mr. Almog, Mr. D. Martin

128B. Philosophy of Mathematics. Prerequisite: course 128A or consent of instructor. Traditions of Brouwer, Heyting, and later Weyl; proof theory of Hilbert.

Mr. D. Martin

129. Philosophy of Psychology. Lecture, three hours; discussion, one hour. Prerequisites: two philosophy courses or consent of instructor. Philosophy and psychological theories arising from psychological theories. Relevance of computer simulation to accounts of thinking and meaning; relations between semiotical theory and learning theory; psychological aspects of theory of syntax; behaviorism, functionalism, and alternative psychology; philosophy and psychology.

Mr. Burge

130. Philosophy of Space and Time. Lecture, three hours; discussion, one hour. Prerequisites: two philosophy courses or one philosophy course and one physics course, or consent of instructor. Selected philosophical implications of changing 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 relationalist views of space and time, philosophy of impact of relativity theory.

Mr. Lange

131. Science and Metaphysics. Prerequisites: two philosophy courses or consent of instructor. Recommended: some background in basic calculus and physics. Intensive study of two or more metaphysical topics on which two 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.

Mr. Lange

132. Philosophy of Biology. Prerequisite: one philosophy course or consent of instructor. Intensive study of one or two current topics in philosophy of biology, or two related topics: theory, fitness, taxonomy, reductionism, concept of a biological species, and biological explanation. P/NP or letter grading.

Mr. Kalish, Mr. D. Martin

133. Topics in Logic and Semantics. Prerequisite: course 32. Possible topics include formal theories, definitions, alternative theories of descriptions, many-valued logics, deviant logics.

Mr. Kalish, Mr. Kaplan, Mr. D. Martin

M134. Introduction to Logic Theory. (Formerly numbered 134.) (Same as Mathematics M112A.) Lecture, number 134, Discussion, one hour, lecture, one hour. Prerequisite: course 32 or Mathematics 31B or consent of instructor. Axiomatic set theory as framework for mathematical concepts; relations and functions, numbers, cardinality, axiom of choice, transfinite numbers. P/NP or letter grading.

Mr. Kalish, Mr. D. Martin

135A. Metaphysics of Sentential Logic. Lecture, three hours; discussion, one hour. Prerequisite: course 25 or equivalent. Introduction to metalanguage of classical sentential logic. Emphasis on fundamental metalogical ideas, including proof by induction, rigorous definition of syntactic and semantic concepts, and proof of completeness and decidability of propositional significance of these ideas.

Mr. Almog, Mr. Fine, Mr. Hsu

135B. Metaphysics of Predicate Logic. Lecture, three hours; discussion, one hour. Prerequisite: course 25 or equivalent. Introduction to first-order logic, its scope, and limits. Gödel completeness theorem as main positive result. Some consideration to classical negative results on truth, decidability, and completeness, and relationship between first- and second-order logic.

Mr. Almog, Mr. Fine, Mr. Hsu

136. Modal Logic. Prerequisite: course 135A. First course in two-term sequence (also see course 176). Topics include various normal modal systems, derivability within the systems, Kripke-style semantics and generalizations, Lemmon/Scott completeness, incompleteness in tense and modal logic, quantificationist extensions.

Mr. Almog, Mr. Fine, Mr. D. Martin

Group III: Ethics and Value Theory

150. Society and Morals. Lecture, three hours; discussion, one hour. Prerequisite: course 22 or consent of instructor. Critical study of philosophical and arguing in advanced in discussion of current moral and social issues. Topics similar to those in course 4, but familiarity with some basic philosophical concepts and methods presupposed. May be repeated for credit with consent of instructor.

Ms. Shiffrin

151A-151B-151C. History of Ethics. Lecture, three hours; discussion, one hour. Prerequisites: course 22 or consent of instructor. Selected topics in historical development of moral philosophy and ethics, with emphasis on major figures and schools of thought. May be repeated for credit with consent of instructor.

Ms. Shiffrin

151A. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: course 151B. Group I: Logic, Semantics, and Philosophy of Science
153A. Topics in Ethical Theory: Normative Ethics. Prerequisite: course 22 or consent of instructor. Study of selected topics in normative ethical theory. Topics may include human rights, virtues and vices, premises of culpability and praiseworthiness (criteria of right action). May be repeated for credit with consent of instructor.

153B. Topics in Ethical Theory: Metaethics. Prerequisite: course 22 or consent of instructor. Study of selected problems 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.

154. Topics in Value Theory: Rationality and Action. Prerequisite: course 6 or 7 or 22 or consent of instructor. 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.

155. Medical Ethics. Examination of philosophical issues raised by problems of medical ethics, such as abortion, euthanasia, and medical experimentation.

156. Topics in Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisites: two philosophy courses or consent of instructor. May be repeated with consent of instructor.

157A-157B. History of Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisites: two philosophy courses or consent of instructor. Recommended: course 6 or 22. Analysis of some basic concepts in political theory. May be repeated for credit with consent of instructor.

157A. Reading and 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. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Examination, through study of recent philosophical writings, of such topics as nature of law, relationship of law and morals, legal reasoning, punishment, and obligation to obey the law.

165. Philosophy of Law. Prerequisite: one philosophy course or consent of instructor. Examination, through study of recent philosophical writings, of such topics as nature of law, relationship of law and morals, legal reasoning, punishment, and obligation to obey the law.

170. Philosophy of Mind. Lecture, three hours; discussion, one hour. Prerequisites: two relevant philosophy courses or consent of instructor. Analysis of various problems concerning nature of mind and mental phenomena, such as relation between mind and body, and our knowledge of other minds. May be repeated once for credit with consent of instructor.

172. Philosophy of Language and Communication. Prerequisite: two relevant philosophy or linguistics courses or consent of instructor. Theories of meaning and reference: referentiality, meaning as a relation to things; limits of meaningfulness; analysis of speech acts; relation of everyday language to scientific discoveries.

173. Metaphor and Literal Speech. (Same as Teaching English as a Second Language M189.) Lecture, three hours; discussion, one hour; outside study, eight hours. Prerequisites: two philosophy courses or equivalent. Preparation of grammaticals 1 or equivalent or consent of instructor. Use of interdisciplinary perspective to examine systematicity of form and function peculiar to human language that underlies dichotomy between (1) neutral or literal capacity of language and (2) metaphorical capacity. P/NP or letter grading.

175. Topics in Philosophy of Religion. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or permission of instructor. 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. Prerequisites: courses 31, 32. Highly recommended: course 136. Second course in two-term sequence (also 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 or both? Are the two notions really distinct? How is modally involved (is quantified) modal logic? What is its connection to doctrines of (1) "Humeanism" and (2) "Aristotelian Essentialism"? P/NP, letter grades.

177A. Existentialism. Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Analysis of methods, problems, and views of some of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Sartrre, Marcel, and Camus. Possible topics include metaphysical foundations, nature of mind, freedom, problem of self, other people, ethics, existential psychoanalysis.

177B. Historical Studies in Existentialism. Prerequisite: one philosophy course or consent of instructor. Study of central philosophical texts of one of the following: Nietzsche, Heidegger, Jaspers, Buber, Sartrre, or Camus. Emphasis on explanation and interpretation of the texts. May be repeated for credit with consent of instructor.

178. Phenomenology. Lecture, three hours; discussion, one hour. Prerequisites: two philosophy courses or consent of instructor. Introduction to phenomenological method of approaching philosophical problems via works of some of the following: Brentano, Husserl, Heidegger, Scheler, Sartrre, Merleau-Ponty, Ricoeur. Topics include ontology, epistemology, and particularly philosophy of mind. P/NP, letter grades.

179. Oriental Philosophy: Buddhism. Examination of central concepts and arguments in Buddhist philosophy, with emphasis on school of Mahayana Buddhism. Appropriate parallels to social concepts in the Western tradition.

182. Elements of Metaphysics. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. Study of basic metaphysical questions, nature of physical world, of minds, and of universals; and answers provided by alternative systems (e.g., phenomenalism, materialism, dualism).

183. Theory of Knowledge. Prerequisite: course 21 or consent of instructor. Analysis of concept of empirical knowledge.

184. Topics in Metaphysics. Prerequisite: course 21 or consent of instructor. Intensive investigation of one or two topics or works in metaphysics, such as personal identity, nature of dispositions, possibility and necessity, universals and particulars, causality, identity. Topics announced each term. May be repeated for credit with consent of instructor.

186. Topics in Theory of Knowledge. Prerequisite: course 182 or 183 or consent of instructor. 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.

187. Philosophy of Action. Prerequisites: two philosophy courses or consent of instructor. Study of various concepts employed in understanding human action. Topics may include rational choice, desire, intention, weakness of will, and self-deception.

188. Philosophy of Perception. Prerequisites: two philosophy courses or consent of instructor. Critical study of main philosophical theories of perception and arguments used to establish them.

193. Christian Ethical Thought. Lecture, three hours; discussion, one hour. Reading of selected classic and contemporary works on Christian ethical thought; with philosophical analysis and assessment of their views on morality and religious life.

195. 19th- and 20th-Century Religious Thought. Lecture, three hours; discussion, one hour. Philosophical approach to Western religious thought of last 200 years, through study of selected works by such authors as Kant, Schleiermacher, Kierkegaard, Buber, Camus, and Tillich.

196. Pregraduate Seminar: Philosophy. Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Variable topics; consult Schedule of Classes or "Department Announcements" for topic to be offered in a specific term. May be repeated for credit with consent of instructor.

199. Special Studies (2 to 8 units). Prerequisite: consent of instructor. Eight units may be applied toward degree requirements, but course cannot be substituted for a course in one of the four groups on basis of similarity of subject matter.

Special Studies

M192. Philosophical Analysis of Issues in Feminist Theory. (Same as Women's Studies M110D.) Lecture, three hours. Prerequisite for women's studies majors: Women's Studies 10; for other students: one philosophy course or consent of instructor. Examination in depth of different theoretical positions on gender and women as they have been applied to study of philosophy. Study of contributions made by the new scholarship on women in philosophy. Critical study of concepts and principles which arise in discussion of women's rights and liberation. Philosophical approach to feminist theories. May be repeated for credit with consent of instructor.

M193. Christian Ethical Thought. Lecture, three hours; discussion, one hour. Reading of selected classic and contemporary works on Christian ethical thought; with philosophical analysis and assessment of their views on morality and religious life.

M195. 19th- and 20th-Century Religious Thought. Lecture, three hours; discussion, one hour. Philosophical approach to Western religious thought of last 200 years, through study of selected works by such authors as Kant, Schleiermacher, Kierkegaard, Buber, Camus, and Tillich.

M196. Pregraduate Seminar: Philosophy. Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Variable topics; consult Schedule of Classes or "Department Announcements" for topic to be offered in a specific term. May be repeated for credit with consent of instructor.

M199. Special Studies (2 to 8 units). Prerequisite: consent of instructor. Eight units may be applied toward degree requirements, but course cannot be substituted for a course in one of the four groups on basis of similarity of subject matter.

Graduate Courses

200A-200B-200C. Seminar in First-Year Graduate Students. Limited to and required of all first-year graduate students in philosophy. Selected topics in metaphysics and epistemology, history of philosophy, and ethics.

Group I. History of Philosophy

201. Plato. Prerequisite: consent of instructor. Study of later dialogues.

202. Aristotle. Prerequisite: consent of instructor. Analysis of major problems in Aristotle's philosophy based on reading, exposition, and critical discussion of relevant texts in English translation.

Mr. Lawrence
203. Seminar: History of Ancient Philosophy. Prerequisite: consent of instructor. Selected problems and philosophers. May be repeated for credit with consent of instructor. Mr. Abbot

206. Topics in Medieval Philosophy. Prerequisite: consent of instructor. Study of philosophy and theology of one or several medieval philosophers such as Augustine, Anselm, Abelard, Aquinas, Scotus, or Ockham or study of a single area such as logic or theory of knowledge in several medieval philosophers. Topics announced each term. May be repeated for credit with consent of instructor.

207. Seminar: History of Medieval and Renaissance Philosophy. Prerequisite: consent of instructor. Selected problems and philosophers. May be repeated for credit with consent of instructor. C208. Honors: (Formerly numbered 208) Lecture, three hours; discussion, one hour. Prerequisite: one philosophy course or consent of instructor. Hobbes' political philosophy, especially the Leviathan, with attention to its relevance to contemporary political philosophy. May be concurrently scheduled with course C108.

220. Descartes. Prerequisite: consent of instructor. Study of works of Descartes, with discussion of issues such as problem of empiricism, foundation of knowledge, existence of God, pre-established harmony between mind and body, and connection between science and metaphysics. May be concurrently scheduled with course C109. Mr. Almog

220. Spinoza. Prerequisite: consent of instructor. Selected topics in philosophy of Spinoza. May be concurrently scheduled with course C110, in which case there is a two-hour biweekly discussion meeting, plus additional readings and longer term paper for graduate students.

221. Leibniz. Prerequisite: consent of instructor. Selected topics in philosophy of Leibniz. May be concurrently scheduled with course C111, in which case there is a two-hour biweekly discussion meeting, plus additional readings and longer term paper for graduate students.

222. Locke and Berkeley. Prerequisite: one philosophy course or consent of instructor. Study of philosophies 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. Mr. Donnellan

224. Hume. Prerequisite: consent of instructor. Selected topics in philosophy of Hume. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C114. Mr. Donnellan

225. Kant. Prerequisite: consent of instructor. Intensive study of selected writings of Immanuel Kant.

226. Kant. 19th-Century Philosophy. Prerequisite: consent of instructor. Selected topics in 19th-century philosophy. May be repeated for credit with consent of instructor.

229. Topics in Modern Philosophy. Prerequisite: consent of instructor. Selected topics in one or more philosophies of the early modern period, or study in a single area such as theory of knowledge or metaphysics in several of the philosophies. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C119.

230. Seminar: Topics in History of Philosophy. Seminar, three hours. Prerequisite: consent of instructor. Selected problems and philosophers which may be from different periods. May be repeated for credit with consent of instructor.

Group II. Logic, Semantics, and Philosophy of Science

221A. Topics in Set Theory. Prerequisite: Mathematics M112A or consent of instructor. Sets, relations, functions, partial and total orderings; well-orderings. Ordinal and cardinal arithmetic, finiteness and infinity, continuum hypothesis, inaccessible numbers. Formalization of set theory: Zermelo/Fraenkel; von Neumann-Gödel theory. May be repeated for credit with consent of instructor. Mr. D. Martin

221B. History of Set Theory. Formerly numbered 221C. Prerequisite: consent of instructor. Development of concept of set and axiomatic set theory by examining selected writings of Frege, Cantor, Russell, Zermelo, Gödel, and several others. Origins and significance of Zermelo-Fraenkel axioms as well as of Gödel's work on consistency of Zermelo-Fraenkel axioms. May be repeated for credit with consent of instructor. Mr. D. Martin

222A. Seminar: Philosophy of Science. Prerequisite: several courses in logic, preferably including course 135B. First in series of three courses leading to Gödel incompleteness theorem and Tarski definition of truth. Mr. D. Martin

222A. Seminar: Philosophy of Science. Prerequisite: several courses in logic, preferably including course 135B. First in series of three courses leading to Gödel incompleteness theorem and Tarski definition of truth. Mr. D. Martin

222B. Seminar: Philosophy of Science. Prerequisite: course 222A. Second-order arithmetic. Second in series of three courses leading to Gödel incompleteness theorem and Tarski definition of truth. Mr. D. Martin

222C. Seminar: Philosophy of Science. Prerequisite: course 222A. Gödel numbering and Gödel theory. Final course in Gödel theory series. Mr. D. Martin

224. Philosophy of Physics. Prerequisite: consent of instructor. Selected philosophical topics related to physical theory, depending on interests and background of participants, including space and time; observation in quantum mechanics; foundations of statistical mechanics. May be repeated for credit with consent of instructor.

225. Probability and Inductive Logic. Prerequisites: course M134, or Mathematics M112A and 112B, or consent of instructor. Probability theory, including independence of probability, Bayesian and non-Bayesian confirmation theory, paradoxes of confirmation, coherence, and conditioning. Mr. Lange

226. Topics in Mathematical Logic. Prerequisite: consent of instructor. Content varies from term to term. May be repeated for credit with consent of instructor. Mr. Kaplan, Mr. D. Martin

227. Philosophy of Social Science. Prerequisite: consent of instructor. Examination of philosophical problems concerning concepts and methods used in social sciences. Topics may include relation between social processes and individual psychology, logic of explanation in social sciences, determinism and free will in historical topics, and topics radically different from one's own. Students with primary interest and advanced preparation in a social science are encouraged to enroll. May be repeated for credit with consent of instructor. Mr. Lange

230. Seminar: Logic. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Almog, Mr. Fine, Mr. Kaplan, Mr. D. Martin

231. Seminar: Intensional Logic. Prerequisite: consent of instructor. Topics may include logic of sense and denotation, modal logic, logic of demonstratives, epistemic logic, intentional logic of Principia Mathematica, possible worlds semantics. May be repeated for credit with consent of instructor. Mr. Almog, Mr. Fine, Mr. Kaplan, Mr. D. Martin

233. Seminar: Philosophy of Science. Prerequisite: consent of instructor. Selected topics in philosophy of science. May be repeated for credit with consent of instructor. Mr. Lange

233. Seminar: Philosophy of Science. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Lange

Group III. Ethics and Value Theory

241. Topics in Political Philosophy. Prerequisites: course 224 or any two philosophy courses or consent of instructor. Examination of one or more topics in political philosophy (e.g., justice, democracy, human rights, political obligation, alienation). May be repeated for credit with consent of instructor. Ms. Shiffrin

245. Seminar: History of Ethics. Prerequisite: consent of instructor. Selected topics. May be repeated for credit with consent of instructor. Ms. Herman, Mr. Lawrence

246. Seminar: Philosophy of Law. Prerequisite: consent of instructor. Selected topics. May be repeated for credit with consent of instructor. Ms. Herman, Mr. Lawrence, Mr. Otsuka, Ms. Shiffrin

247. Seminar: Political Theory. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Otsuka, Ms. Shiffrin

248. Problems in Moral Philosophy. Prerequisite: consent of instructor. Intensive study of some leading current problems in moral philosophy. May be repeated for credit with consent of instructor. Mr. Herman, Mr. Lawrence, Mr. Otsuka, Ms. Shiffrin

255. Seminar: Aesthetic Theory. Prerequisite: consent of instructor. Selected topics. May be repeated for credit with consent of instructor.

256. Topics in Legal Philosophy. (Same as Law M217) Lecture, three hours. Prerequisite: consent of instructor. Examination of topics 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. Mr. Donnellan, Mr. Dolinko, Ms. Herman, Mr. Otsuka, Ms. Shiffrin

257. Seminar: Philosophy of Law. (Same as Law M524) Lecture, three hours. Prerequisite: consent of instructor. Selected topics in philosophy of law. May be repeated for credit with consent of instructor. Ms. Herman, Mr. Morris, Mr. Otsuka, Ms. Shiffrin

Group IV. Metaphysics and Epistemology

271. Seminar: Topics in Metaphysics and Epistemology. Discussion, three hours. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor.

275. Human Action. Prerequisites: two upper division philosophy courses or consent of instructor. Examination of theories, concepts, and problems concerning human actions. Topics may include analysis of intentional actions; determinism and freedom; nature of explanations of intentional actions. May be repeated for credit with consent of instructor.

281. Seminar: Philosophy of Mind. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Burge

282. Seminar: Metaphysics. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Almog, Mr. Burge

283. Seminar: Theory of Knowledge. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Donnellan

284. Seminar: Philosophy of Perception. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor.

285. Philosophy of Psychoanalysis. Prerequisite: consent of instructor. Examination of topics such as nature and validity of psychoanalytic explanations and interpretations, psychoanalysis and language, metaphysical concepts such as the unconscious, the ego, id, super ego, defense mechanisms, and psychoanalytic conception of human nature. Mr. Morris

288. Philosophy of Psychology. Relevance of computer simulation to accounts of thinking and meaning; relations between semantical and learning theory; psychological aspects of theory of mind; behaviorism, functionalism, and psychology. Mr. Burge

287. Seminar: Philosophy of Language. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Burge, Mr. Donnellan, Mr. Fine
Physics

Objectives

Physics is a basic science with actual and potential applications in many fields. The undergraduate curriculum is broad and general with respect to physics but includes an introduction to theoretical and experimental work in specialized subfields of physics in the senior year. The Physics B.S. degree program is for students who want a comprehensive undergraduate education in physics; it provides a foundation for students who intend to go on to graduate school in physics or related fields such as engineering or other physical sciences. It also offers an appropriate program for students who want to combine a rigorous background in physics with interests in other fields. In addition, this is a terminal degree for those who want to work as an engineer or technician in industry. The B.A. program in General Physics provides flexibility for students who are interested in fields outside of physics in which a strong background knowledge of physics would be helpful.

Undergraduate Study

The Department of Physics offers a choice of two undergraduate majors: the B.S. degree program in Physics and the B.A. degree program in General Physics. Courses taken to fulfill any of the requirements for either major must be taken for a letter grade.

Bachelor of Science in Physics

This major should be taken if you intend to continue toward the Ph.D. in Physics.

Preparation for the Major

Required: Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL, 8E; Chemistry and Biochemistry 11A, 11B/11BL, 11C (11CL is recommended but not required); Mathematics 31A, 31B, 32A, 32B, 33A, 33B. A detailed brochure on the major is available from the Undergraduate Office, 3-160 Knudsen Hall.

The Major

Required: Physics 105A, 105B, 110A, 110B, 112, 115A, 115B, 131. The remainder of your course of study consists of a plan, to be worked out by you in consultation with your designated departmental adviser, that details which courses you take to complete the degree. There are four overall requirements: (1) the plan must be worked out five terms before you expect to graduate; (2) the plan must include at least two courses from the Physics 180 series; (3) there must be at least five up...
per division courses in the plan; (4) there must be written rationale for the plan. Except for the Physics 180 laboratories, the courses need not be in the Physics Department. However, it is expected that the courses will 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.

If you are preparing for graduate school, you should take additional courses in physics and mathematics. Physics M122, 123, 124, 126, 132, and 140 are recommended.

Transfer Students — Junior transfer students should preferably have completed (1) a two-year calculus/analytic geometry sequence or equivalent and (2) the calculus-based physics course at their previous college, but in no case should less than three semesters or four quarters of the mathematics and one year of the physics sequence be completed before transferring to UCLA. Each mathematics and physics course must be passed with a grade of C or better.

Honors Programs
The department offers three honors programs leading to graduation with honors or highest honors in physics. You 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.

Bachelor of Arts in General Physics
The major is intended to provide the necessary flexibility for fields in which a strong background of knowledge in physics would be helpful. If you intend to continue work toward the Ph.D. in Physics, you are advised to work for the B.S. in Physics as described earlier.

Preparation for the Major
Required: Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL, 9E; Chemistry and Biochemistry 11A, 11B/11BL, 11C (11CL is recommended but not required); Mathematics 31A, 31B, 32A, 32B, 33A, 33B. A detailed brochure on the major is available from the Undergraduate Office.

The Major
Required: Physics 105A, 110A, 110B, 112, 115A, 131, one course from the 180 series, two upper division physics electives (excluding 185 and 199), and five upper division courses in no more than two other UCLA departments. A C average in the upper division physics courses is required.

Instructional Credentials
You may earn credentials for teaching physical sciences and other subjects in California elementary and secondary schools. Completion of the instructional credential program in the Teacher Education Laboratory is required. Contact the Graduate School of Education and Information Studies, 1099 Moore Hall, (310) 825-8328, for information.

Graduate Study
The Department of Physics offers opportunities for graduate study leading to the M.S. (en route to the Ph.D.), M.A.T. (Master of Arts in Teaching), and Ph.D. degrees. Special emphasis is given to preparation in the following fields of physics: accelerator, acoustics/low-temperature, elementary particles, intermediate energy and nuclear physics, plasma and astrophysics, solid-state and condensed matter.

Admission
You must have an excellent undergraduate record in addition to meeting the University minimum requirements. You are required to take the Graduate Record Examination (GRE) Subject Test in Physics and to submit three letters of recommendation. International applicants who are applying for financial support (fellowships, teaching assistantships, and graduate student researcher appointments) should have a letter of recommendation (included as one of the three required letters of recommendation) which comments on their verbal ability in English.

Application materials may be obtained by writing to the Graduate Office, Department of Physics, 3-164 Knudsen Hall, UCLA, Los Angeles, CA 90024-1547.

Bachelor of Arts in General Physics
The major is intended to provide the necessary flexibility for fields in which a strong background of knowledge in physics would be helpful. If you intend to continue work toward the Ph.D. in Physics, you are advised to work for the B.S. in Physics as described earlier.

Preparation for the Major
Required: Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL, 9E; Chemistry and Biochemistry 11A, 11B/11BL, 11C (11CL is recommended but not required); Mathematics 31A, 31B, 32A, 32B, 33A, 33B. A detailed brochure on the major is available from the Undergraduate Office.

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Admission
You must have an excellent undergraduate record in addition to meeting the University minimum requirements. You are required to take the Graduate Record Examination (GRE) Subject Test in Physics and to submit three letters of recommendation. International applicants who are applying for financial support (fellowships, teaching assistantships, and graduate student researcher appointments) should have a letter of recommendation (included as one of the three required letters of recommendation) which comments on their verbal ability in English.

Application materials may be obtained by writing to the Graduate Office, Department of Physics, 3-164 Knudsen Hall, UCLA, Los Angeles, CA 90024-1547.

Master of Arts in Teaching
Major Fields or Subdisciplines
It is not required to designate an area of specialization for the M.A.T. degree.

Course Requirements
This degree is a physics master's degree which also leads to qualification for instructional credentials at the secondary school or junior college level. Five graduate courses, five professional (300 series) courses, and 12½ total courses are required.

(1) The five graduate physics courses must include Physics 370 and four courses from 210A, 210B, 215A, 221A, 221B.

(2) Also required are the courses necessary for completion of the preliminary State of California Single Subject Instructional Credential, K-12: Community Health Sciences 187, Education 100A-100B, 112, 312, 315A-315B, 330B, 330C.

Courses in the 500 series may not be applied toward the M.A.T. degree.

Teaching Experience
Teaching experience is required insofar as the required education courses are concerned (supervised teaching at the secondary or junior college level).

Comprehensive Examination Plan
A passing grade on a written comprehensive examination is required. M.A.T. candidates who fail to qualify at the master's level of achievement may take the examination a second time. Permission to take it a third time may be granted only under exceptional circumstances.

Master of Science Degree
Except for the Master of Arts in Teaching program, the department does not offer a terminal master's degree. The M.S. degree is awarded to students in the Ph.D. program after they satisfy the requirements described below.

Course Requirements
The University requires a total of nine courses with an average grade of B or better for the M.S. degree. The Physics Department requires that a minimum of six of the nine be graduate courses in physics of which you must pass the five fundamental (core) courses: Physics 210A, 210B, 215A, 221A, 221B. To complete the minimum six graduate courses you are required to pass one of the following courses with a grade of B or better: 220, 221C, 231A. The remaining three courses (to complete the nine courses for the M.S. degree) may be satisfied by upper division or graduate courses, not necessarily in physics, which are acceptable to the Physics Department. No more than two of the three may be from course 596 or seminar courses. Only eight units of 500-series courses may be applied toward the total course requirement for the M.S. degree (courses 597 and 598 may not be applied).

Comprehensive Examination Plan
A passing grade on a written comprehensive examination is required. The examination must be taken no later than your fourth term in residence. This examination is given twice a year.

Although the department operates under the comprehensive examination plan rather than the thesis plan, arrangements generally can be made to write a master's thesis, provided you have a particularly interesting research problem and a professor willing to undertake the guidance of your work. You must petition the departmental committee of graduate advisers for permission to pursue the thesis plan. The comprehensive examination requirement is waived if the petition is approved.

Ph.D. Degree
The graduate program in physics leads to the Ph.D. degree. Although you may obtain the M.S. degree en route to the Ph.D., the department does not admit candidates for the M.S. degree only.

Major Fields or Subdisciplines
Ph.D. degrees are granted in the following fields of specialization: accelerator physics, elementary particles, intermediate energy and nuclear physics, low-temperature/acoustics, plasma and astrophysics, and condensed matter (including solid-state).
Arrangements can be made to obtain a Ph.D. in Physics while doing research in interdisciplinary fields such as biophysics, astrophysics, geophysics, etc. The details of each program should be established in consultation with the graduate affairs officer.

**Course Requirements**

By the end of your first year of graduate study you are expected to acquire a mastery of the core graduate physics material presented in Physics 210A, 210B, 215A, 221A, 221B. Some knowledge of this material is tested on the written comprehensive examination, usually all or most of the five courses constitute your main course load in your first year of graduate study. Detailed syllabi for the courses are available from the Graduate Office, 3-164 Knudsen Hall.

You must fulfill a breadth requirement by passing course 220 or 221C or 231A with a grade of B or better. In addition, if you have not taken course 132 or its equivalent as an undergraduate, you must do so at the beginning of your graduate program. The core and breadth requirements should be completed by your fifth term in residence.

**Qualifying Examinations**

All departmental graduate students (master’s and Ph.D.) take the same written comprehensive examination, which is graded as follows: (1) pass at the Ph.D. level of achievement; (2) pass at the master’s level of achievement; or (3) fail. This examination is normally taken prior to your fourth term in residence.

All students in the Ph.D. program must pass the examination at the Ph.D. level of achievement. Permission to take it a third time may be granted only under exceptional circumstances.

No later than your fourth term in residence you are expected, in consultation with your adviser, to begin taking a series of courses, seminars, and tutorials to prepare you for original research in a given area of specialization. No later than your fifth term in residence you are expected to begin taking a sequence of Physics 596 courses with a faculty member in your chosen field of specialization. By the third term of the 596 sequence you are expected to make a substantive oral presentation describing the results of a problem in your 596 program before an audience which includes the faculty member(s) with whom you are taking course 596 and three other faculty members. No later than the end of your eighth term in residence you are expected to make a formal arrangement with a faculty member to serve as your Ph.D. research sponsor.

The doctoral committee conducts the University Oral Qualifying Examination, which may include (1) material in your field of specialization, (2) related material that members of the committee from other departments may wish to ask, and (3) discussion of the proposed dissertation problem. Committee members guide, read, approve, and certify the dissertation. A decision is also made at this time as to whether a final oral examination is required.

When a satisfactory report on the completion of the written and oral qualifying examinations has been submitted, you are eligible to be formally advanced to candidacy for the Ph.D.

**Final Oral Examination**

This examination ordinarily is a discussion of your original work, including your dissertation and other related matters to be determined by the committee. It may be, if the committee so desires, a survey or comprehensive examination.

**Lower Division 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 either Physics 10 or 3A if only one course is to be taken, or 3A and 3B as a two-course sequence.

Physics 1Q is intended for entering freshmen 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 3A, 3B, 3C form a one-year sequence of courses in general physics (with laboratory). In this sequence only algebra and trigonometry are used in providing a mathematical description of physical phenomena; calculus is not used.

Physics 6A, 6B, 6C form a one-year sequence of courses in basic physics for students in the biological and health sciences. However, unlike Physics 3A, 3B, 3C, calculus is used throughout, and successful completion of basic calculus courses is a requisite for admission to this sequence.

Physics 8A, 8B, 8C, 8D, 8E form a sequence of courses in general physics for majors in physics.

The department takes into account prior preparation in physics. If you feel your background would permit acceleration, you may be exempted from one or more of courses 8A through 8E by taking the final examination with a class at the end of any term. These serve as placement examinations. A satisfactory score on one or both parts of the College Entrance Examination Board Advanced Placement Physics C Test may also serve as a placement examination, but placement is not automatic. You should discuss such possibilities with your departmental adviser.

Physics 10 is a one-term, nonlaboratory course which surveys the whole field of physics. Any two or more courses from Physics 3A, 6A, 8A, and 10 are limited to six units credit.

1. Contemporary Physics (2 units). Review of current problems in physics, with emphasis on those being studied at UCLA. Significance of the problems and their historical context. P/NP grading.

3A. General Physics: Mechanics of Solids and Fluids. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Preparation: three years of high school mathematics including trigonometry or two years of high school mathematics and one-term college course in mathematics with trigonometry included in the group of courses or equivalent courses. Not open for credit to students with credit for courses 3A or equivalent. Fundamental laws of classical mechanics: Newton laws; conservation of momentum, angular momentum, energy; Kepler laws; dynamics of systems of particles; fluid mechanics.

3B. General Physics: Heat, Sound, Electricity and Magnetism. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: course 3A. Temperature, heat, and laws of thermodynamics. Introduction to wave motion, resonance, sound and electromagnetic fields. Electric power. Elements of DC and AC circuits.


6A. Physics for Life Sciences Majors: Mechanics. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Enforced requisite: course 6A.

6B. Physics for Life Sciences Majors: Electricity and Magnetism. Lecture/demonstration, three hours; discussion, one hour. Enforced requisite: course 6B.

6C. Physics for Life Sciences Majors: Light and Modern Physics. Lecture/demonstration, four hours; discussion, one hour; laboratory, two hours. Enforced requisite: course 6B.


8AH. Physics for Scientists and Engineers: Mechanics (Honors). Lecture, four hours; discussion, one hour. Enforced requisite: Mathematics 31A. Introduction to classical mechanics for engineering and physical sciences students.

8AL. Physics Laboratory for Scientists and Engineers: Mechanics (1 unit). Lecture, one hour; laboratory, two hours. Enforced corequisite: course 8A.


8BH. Physics for Scientists and Engineers (Honors). Lecture/demonstration, three hours; discussion, one hour. Enforced requisite: course 8A (or better). Mathematics 31B, 32A (corequisite). Same material as course 8B but in greater depth.

8BL. Physics Laboratory for Scientists and Engineers: Waves, Sound, Heat (1 unit). Lecture, one hour; laboratory, two hours. Enforced corequisite: course 8B.

8CH. Physics for Scientists and Engineers (Honors). Lecture/demonstration, four hours; discussion, one hour. Enforced requisites: course 8BH (or 8B, A or better), Mathematics 32A, 32B (corequisite). Same material as course 8C but in greater depth. (F,W,Sp)

8C. Physics Laboratory for Scientists and Engineers: Electricity and Magnetism (1 unit). Lecture, one hour; laboratory, two hours. Enforced corequisite: course 8C. (F,W,Sp)


8DH. Physics for Scientists and Engineers (Honors). Lecture/demonstration, three hours; discussion, one hour. Enforced requisites: course 8CH (or 8C, A or better), Mathematics 32B, 33A (corequisite). Same material as course 8D but in greater depth. (W)

8DL. Physics Laboratory for Scientists and Engineers: Electromagnetic Waves, Light, and Relativity (1 unit). Lecture, one hour; laboratory, two hours. Enforced corequisite: course 8D. (F,W,Sp)

8E. Physics for Scientists and Engineers: Modern Physics. Lecture/demonstration, three hours; discussion, one hour. Enforced requisites: courses 8D, 8DH (corequisite). Wave-particle duality, quantum theory, Schrödinger equation, hydrogen atom, exclusion principle. (W,Sp)

10. Physics. Lecture/demonstration, three hours; quiz/discussion, one hour. Not open for credit to students with credit for course 3A or 6A or 8A or equivalent course in mechanics. Special mathematical preparation believed necessary for admission to University in freshman standing not required. Topics include planetary motion, Newton's laws, gravitation, electricity and magnetism, wave motion, light, sound, and heat, relativity, quantum mechanics, atoms, and subatomic particles. As time permits, development of physical ideas is placed in cultural and historical perspective. (F,W,Sp)

Upper Division Courses

Prerequisites for all upper division courses (except Physics 105A, 116): Physics 6A through 8E, Mathematics 31A, 31B, 32A, 32B, 33A, and 33B, or consent of instructor. It is recommended that students take the 180 laboratories in their senior year.

105A. Analytic Mechanics. Lecture, three hours; discussion, one hour. Prerequisite: Mathematics 32A Corequisite: Mathematics 32B. Newtonian mechanics and conservation laws, gravitational potentials, calculus of variations, Lagrangian and Hamiltonian mechanics, central force motion, linear and nonlinear oscillations. (F,Sp)

105B. Analytic Mechanics. Prerequisite: course 105A. Relativity with four vectors, noninertial reference frames, dynamics of rigid bodies, coupled oscillators, normal modes of oscillation, vibrating strings, and wave propagation. (F,W)

108. Optical Physics. Prerequisite: course 110B. Interaction of light with matter; dispersion theory, oscillator strength, line widths, molecular scattering. Coherence theory, Kramers-Kronig formulation of dispersion theory, crystal optics, optical rotation, electro and magneto optical effects. Additional topics of fundamental or current interest. (W,Sp)

110A. Electricity and Magnetism. Lecture, three hours; discussion, one hour. Prerequisite: course 131. Electromotive force and magnetostatics. (W,Sp)


112. Thermodynamics. Lecture, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. Fundamentals of thermodynamics, including first, second, and third laws. Statistical mechanics. Partial derived Maxwell distribution function. Some simple applications. (F,Sp)

114. Mechanics of Wave Motion and Sound. Lecture, three hours. Prerequisites: courses 105A and 105B, or consent of instructor. Vibrating systems and waves. Prerequisites: course 115A or Elective, including elements of hydrodynamics and elasticity. Applications in ultrasonics, low-temperature physics, solid-state physics, architectural acoustics. (W,Sp)

115A. Elementary Quantum Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: courses 8E, 105B (may be taken concurrently), 131. Classical background, basic ideas, formulation of quantum mechanics, one-dimensional problems, and methods of quantum mechanics. (W,Sp)

115B. Elementary Quantum Mechanics. Lecture, three hours; discussion, one hour. Prerequisite: course 115A. Three-dimensional problems, angular momentum, Pauli exclusion principle, variational and perturbative methods of quantum mechanics. (F,Sp)

116. Electronics. 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. (W,Sp)

122. Plasma Physics. (Same as Electrical Engineering M185.) Lecture, four hours; outside study, eight hours. Prerequisite: course 115A or Elective. Introduction to plasma physics. Basic plasma phenomena, magnetohydrodynamics, fluid behavior, plasma waves, relativistic transport, equilibrium and stability; kinetic effects. Discussion of illustrative laboratory experiments. (W,Sp)

123. Atomic Structure. Prerequisite: course 115B. Theory of atomic structure. Interaction of radiation with matter. (F,Sp)

124. Nuclear Physics. Lecture, three hours; discussion, one hour. Prerequisite: course 115B. Nuclear properties, nuclear forces, nuclear structure, nuclear decays, and nuclear reactions. (W,Sp)

125. Elementary Particle Physics. Lecture, three hours discussion, one hour. Prerequisite: course 115B. Introduction to the physics of elementary particles. The four basic interactions: strong, electromagnetic, weak, and gravitational. Properties of baryons, mesons, quarks, leptons: conservation laws, symmetries and broken symmetries; the Standard Model; experimental techniques; new physics at the new accelerators. (W,Sp)

131. Mathematical Methods of Physics. Lecture, three hours; discussion, one hour. Vectors and fields in space, linear transformations, matrices, and operators; Fourier series and integrals. (F,W,Sp)

132. Mathematical Methods of Physics. Lecture, three hours; discussion, one hour. Prerequisite: course 131. Functions of a complex variable, including elementary functions, analytic functions, Cauchy-Riemann equation, Fourier theory and formula, Taylor and Laurent series, calculus of residues, contour and Laplace transforms. (F,W,Sp)

140. Introduction to Solid-State Physics. Prerequisite: course 8BH or equivalent. Introduction to basic theoretical concepts of solid-state physics in applications. Crystal symmetry; cohesive energy; deflection of electron, neutron, and electromagnetic waves in a lattice; reciprocal lattice; phonons and their interactions; free electron theory of metals; energy bands. (F,Sp)

150. Numerical Analysis Techniques and Particle Simulations. Lecture, three hours; computer terminal, six hours. Prerequisites: courses 105A, 105B, 110A, 110B, minimum knowledge of computer programs. Introduction to the field of computer modeling of physical systems using particle models; numerical models and methods, methods of diagnosing results, experience with running interesting physical simulations. (F,Sp)

180A. Nuclear Physics Laboratory. (F,Sp)

180B. Optical Physics and Spectroscopy Laboratory. (F,Sp)

180C. Solid-State Laboratory. (F,Sp)

180D. Acoustics Laboratory. (F,Sp)

180E. Plasma Physics Laboratory. (F,Sp)

180F. Elementary Particle Laboratory. (F,Sp)

185. Foundations of Physics. Prerequisite: senior standing in physics or consent of instructor. Historical developments and philosophical sources of classical and modern physics. (W,Sp)

199. Special Studies in Physics (2 to 4 units). May be repeated, but no more than 12 units may be applied toward Physics B.S. degree requirements.

Graduate Courses

201Q. Modern Physics Research Areas (2 units). Review of modern physics research areas, with emphasis on those actively pursued at UCLA. S/U grading.


213B. Advanced Atomic Structure. Ni symbol, continuous groups, fractional parentage coefficients, in electronic systems.


215A. Statistical Physics. Thermodynamics and statistical mechanics with applications. (W)


215C. Quantum Statistical Mechanics and the Many Body Problem. Classical methods for interacting systems; quantum field theory techniques in statistical mechanics; Green's function approach; Coulomb gas; importance of Bose gas; electron/phonon interaction; superconductivity; phase transitions; theory of Fermi liquid. (F,Sp)

220. Classical Mechanics. Lecture, three hours. Hamilton-Jacobi equation, action-angle variables, classical perturbation theory, and selected topics such as introduction to physics of continuous media and fluids, nonlinear phenomena. (F,Sp)
22A-221B-221C. Quantum Mechanics. Lecture, five hours. 221A. Fundamentals of quantum mechanics, operators and state vectors, equations of motion. 221B. Prerequisite: course 221A. Rotations and other symmetry operations, perturbation theory. 221C. Formal theory of collision processes, quantum theory of radiation, introduction to relativistic quantum mechanics.


223. Advanced Classical Mechanics. Prerequisite: course 220. Topics such as nonlinear mechanics, ergodic theory, mechanics of continuous media.

224. Introduction to the Strong Interaction. 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.


226A-226B-226C. Elementary Particle Physics (6 units each). Lecture, four hours. Prerequisites: courses 221A-221B-221C or equivalent and 230A-230B (may be taken concurrently). Modern theories of elementary particle physics, classification of elementary particle physics, symmetry principles and conserved quantities, classical V-A theory of weak interactions, gauge field theories (Abelian and non-Abelian), spontaneous symmetry breaking, SU(2) x U(1) electroweak interactions of leptons, quarks, W, Z, and \( \gamma \) quark theory of hadrons and quantum chromodynamics.


230A-230B-230C. Relativistic Quantum Theory (6 units each). Lecture, four hours. Prerequisites: courses 221A-221B-221C or equivalent or consent of instructor. Modern quantum field theory, including quantum electrodynamics and quantum chromodynamics, renormalization group methods, path-integral quantization, spontaneous symmetry breakdown, monopoles and other solitons.


232A-232B. Relativity. Special and general theories, with applications to elementary particles and astrophysics.

232C. Special Topics in General Relativity.


235. Group Theory and Quantum Mechanics. Prerequisite: course 221A. Group representation theory and applications to quantum mechanics of atoms, molecules, and solids.


250. Introduction to Acceleration of Charged Particles. Lecture, four hours. Prerequisites: courses 210A, 210B, 215A. Principles of charged-particle acceleration, including principles of synchrotrons and storage rings, beam parameter determination, statistical behavior and cooling of beams and beam cooling techniques, synchrotron light sources, colliding beam storage rings, medical accelerators, and free electron lasers.


270. Research Tutorial: Accelerator Physics (2 to 4 units). 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 accelerator physics. May be repeated for credit. S/U grading.

275. Research Tutorial: Solid Earth Physics (2 to 4 units). Required (or course 292 if appropriate) of each graduate student doing research in this field, ordinarily in second or third year. Seminar and discussion on solid earth physics. May be repeated for credit. S/U grading.

276A-276Z. Research Topics in Physics (2 to 4 units). Prerequisite: consent of instructor. Advanced study and analysis of 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.


287C. Theoretical Elementary Particle Physics. 292. Research Tutorial: Astroparticle Physics (2 to 4 units). (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 astrophysics. May be repeated for credit. S/U grading.

292L. Teaching Physics. Prerequisite: consent of instructor. Study of physics laboratory experiments and demonstrations available today for secondary school and community college physics courses. Part of Master of Teaching (M.A.T.) program but open to other interested students.

295. Research Tutorial: Nuclear Physics (2 to 4 units). Required of each guest 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.

296A. Advanced Plasma Laboratory. Lecture, two hours; laboratory, four hours. Prerequisites: courses M122, 180E. Laboratory experiments on behavior of plasma waves and nonlinear phenomena. Advanced probe, microwave and plasma diagnostics.


297. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeat- ed for credit. S/U grading.

495. Teaching College Physics (2 units). Lecture/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 improved in the sections of each teaching assistant. May be repeated for credit. S/U grading.

506. Directed Individual Studies (2 to 12 units). May be repeated for credit.

507. Preparation for Master’s Comprehensive Examination or Ph.D. Qualifying Examinations. May be repeated twice for credit. S/U grading.

508. Master’s Thesis Research and Writing. May be repeated twice for credit.

509. Ph.D. Research and Writing (6 or 12 units). May be repeated for a maximum of 18 units. S/U grading.
Physiological Science

2121 Life Sciences, (310) 825-3891

Professors
R. James Barnard, Ph.D. (Diet and Degenerative Diseases)
Scott H. Chandler, Ph.D. (Neurosciences)
V. Reggie Edgerton, Ph.D. (Neuromuscular Physiology)
Gordon L. Fan, Ph.D. (Neurosciences), Chair
Jack L. Feldman, Ph.D. (Neurosciences), Chair
Judith L. Smith, Ph.D. (Neuromotor Control, Distinguished Teaching Award)

Wayne W. Massey, Ph.D.
Gordon L. Fain, Ph.D.
Judith L. Smith, Ph.D.

Visiting
James G. Tidball, Ph.D. (Muscle Cell Biology)

Professors Emeriti
Camille Brown, Ed.D.
Bryant J. Crathy, Ed.D.
Glen H. Egstrom, Ph.D.
Gerald W. Gardner, Ph.D.
Donald T. Handy, Ed.D.
Valerie V. Hunt, Ed.D.
Jack F. Keogh, Ed.D.
Wayne W. Massey, Ph.D.
Ben W. Miller, Ph.D.
Norman P. Miller, Ed.D.
Laurence E. Morehouse, Ph.D.

Associate Professor
Marjene E. Latchaw, Ph.D., Emerita

Assistant Professors
David L. Ganzman, Ph.D. (Neurosciences)
Scott A. Henderson, Ph.D. (Cardiac Physiology)
Barney A. Schlinger, Ph.D. (Neuroendocrine Physiology)

Adjunct and Visiting Assistant Professors
Alan Garfinke1, Ph.D., Adjunct
George J. Salle, Ph.D., Adjunct
Eric Stemlicht, Ph.D., Adjunct
Jack E. Turman, Jr., Ph.D., Visiting
William C. Whiting, Ph.D., Adjunct

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 cardiolipid function and adaptation, musculoskeletal physiology, cell biology, biomechanics, neural control of movement and homeostasis including neuroendocrinology, and neural integration and sensory transduction.

Bachelor of Science Degree

Preparation for the Major
Required: Physiological Science 17A, 17B, 17C; Biology 9, 100A; Chemistry and Biochemistry 11A, 11B/11L, 11CL, 132A, 132B/132BL; Mathematics 3A, 3B, 3C (or 31A, 31B, 32A); Physics 6A, 6B, 6C (or 8A, 8B, 8C); one introductory statistics course.

Preparation courses outside the department may be taken for a letter grade or on a P/NP basis; Physiological Science 17A, 17B, and 17C must be taken for a letter grade. All preparation courses must be passed with a grade of C— or better or a P and must be completed with an overall grade-point average of 2.0 or better. If you receive a grade of D, F, or NP in two preparation courses or in the repetition of a single preparation course, you are subject to dismissal from the major.

Transfer students with 80 or more units must complete the following courses prior to admission: one year of general chemistry with laboratory, one year of calculus, one calculus-based physics course. A second calculus-based physics course and/or one cellular biology course are strongly recommended.

Transfer students are required to take Physiological Science 17A, 17B, and 17C at UCLA because these courses emphasize the movement aspects of anatomy needed in preparation for upper division physiological science courses.

Transfer credit for UCLA Extension coursework and for any departmental courses (including courses 17A, 17B, 17C) is subject to prior approval by the department; consult the undergraduate counselor before enrolling in any courses for the major.

The Major
Required: Physiological Science 111A (or M180A-M180B), 111B-111C, Chemistry and Biochemistry 153A, 153L.

A total of four upper division physiological science electives (16 units) is required. Four units of course 199 or 199H may be applied toward the elective requirement. Courses 193, 195, 196A-196B, 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.

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 preparation for the major courses. After completion of all requirements and with the recommendation of the faculty adviser, the undergraduate affairs committee confers departmental honors at graduation.

Graduate Study

The department offers Master of Science and Doctor of Philosophy degrees. Current faculty research specializations focus on mechanisms of musculoskeletal and cardiac development and adaptation, neural and endocrine control mechanisms, and neural integration and sensory transduction.

Admission

Applicants for graduate study are expected to have completed an undergraduate degree in the biological or physical sciences. At the time of admission, you should have completed one year of coursework in each of the following: biology, calculus, inorganic chemistry, organic chemistry/biochemistry, and physics. A grade-point average of at least 3.0 (B) in all upper division undergraduate coursework is required, as are scores on the Graduate Record Examination (GRE). A departmental faculty committee considers applicants on the following bases: (1) prior scholastic performance, (2) three letters of recommendation, and (3) applicant's statement of purpose, which should include (a) relevant background or preparation, (b) field of emphasis, specific study interests, and type of research sought, (c) expectations, goals, degree objective, (d) the names of departmental faculty members whose research area parallels the study interest.

A list of faculty names and research interests is available from the Department of Physiological Science, 2121 Life Sciences, UCLA, Los Angeles, CA 90024-1606. Applicants are encouraged to communicate directly with the faculty; personal interviews are required for Ph.D. applicants.

New Ph.D. students may also be admitted through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.

Applications for all terms must be submitted by Fall Quarter deadlines, since applications for all terms are reviewed only in January/February each year.

Master of Science Degree

Course Requirements

The Master of Science in Physiological Science requires nine courses, including a second-level statistics or research design course. A minimum of six of the nine courses must be graduate-level (200) courses, toward which two 596 courses may be applied. Courses 597 and 598 may not be applied toward any of the course requirements for the degree; however, there is no limit on the number of times you may enroll in course 597 or 598.

Coursework is selected by you and your advisory committee, with approval by the graduate affairs committee. All coursework must be completed by the end of your second year.

Thesis Plan

If you elect the thesis plan for the master's degree, you must report the results of an original research investigation. Under the guidance of the thesis committee, you must propose a problem area or outline of study, conduct original research in a specific area, and report the results. With committee approval, you may submit either a thesis manuscript or a manuscript suitable for publication.
Comprehensive Examination Plan
Students who elect this plan must achieve a passing mark on a comprehensive examination. The general purpose of the plan is that students acquire a thorough understanding of a reasonably broad problem area, which must be specified in consultation with an adviser. The selection of courses in the department and the related field must be pertinent to the problem area, and justification is required with the petition for advancement to candidacy.

While a written examination is required, the committee may use additional means to evaluate your competency. If you fail the comprehensive examination, you may not repeat it until the following term. Only one repetition is allowed.

Ph.D. Degree
The goal of the department is to produce Ph.D. candidates who demonstrate academic breadth in physiological science and have the ability to design, perform, and conduct high-quality academic research that leads to the successful defense of a dissertation.

Course Requirements
At least nine courses are required for the doctoral degree; two 596 courses may be applied toward the degree requirements. Coursework is selected by you and your advisory committee, with approval by the graduate affairs committee.

First- and Second-Year Doctoral Review
At the end of your first and second years, you meet with your advisory committee which reviews your progress and makes recommendations to the graduate affairs committee concerning your doctoral coursework. At the end of your second year, you prepare a progress report for the same committee detailing your laboratory research experience and any abstract presentations or publications.

Teaching Experience
You must complete two terms as a teaching assistant. All teaching evaluations become a permanent part of your departmental record.

Qualifying Examinations
Your breadth of knowledge is demonstrated when you pass the two-day written preliminary examination at the end of your first year that tests your knowledge of and ability to interpret information on physiological systems. The examination, administered in the week preceding Fall Quarter of your second year, is scored (1) passed at the Ph.D. level of achievement, (2) passed at the master’s level of achievement, requiring you to pass a second examination at the Ph.D. level within the following six months, or (3) failed, requiring you to leave the program. If you receive a master’s level of achievement score, you may leave the Ph.D. program and complete the M.S. degree.

After successfully passing the departmental written qualifying examination, and before advancement to candidacy, the University Oral Qualifying Examination is conducted by your doctoral committee and must be passed by the end of your fourth year of study. You must present a written research proposal of your intended dissertation project to your advisory committee and one member of the graduate affairs committee at least two weeks prior to the examination. You are expected to have formulated a research plan, have demonstrated appropriate research capability, and be knowledgeable of the relevant research literature. If you do not pass, the examination may be rescheduled once at the discretion of your doctoral committee.

Dissertation/Final Oral Examination
After advancement to candidacy, you must complete and submit a dissertation which meets the approval of your doctoral committee. Your committee also determines whether a final oral examination (a defense of your dissertation) is required.

Lower Division Courses
3. Introduction to Human Physiology. Lecture, three hours; discussion, one hour. Not open to physiological science majors. Courses 3 and 5 may be taken independently, concurrently, or in either sequence. Presentation of integrative approach to basic anatomy and physiology of major organs and organ systems. P/NP or letter grading.

6. Principles of Human Physiology. Diet and Exercise. (Formerly numbered Kinesiology 5.) Lecture, three hours; discussion, one hour. 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 (6 units). (Formerly numbered Kinesiology 13.) Lecture, four hours; laboratory, four hours. Not open to physiological science majors; any combination of courses 13 and 17A may be applied toward the degree requirements. (Formerly numbered Kinesiology 17A.) Lecture, three hours; laboratory, four hours. Enforced requisite: course 17A. Limited to physiological science majors. Structural survey of human body, including skeletal, muscular, and connective tissue systems, including components of biomechanical function and physiological adaptation. Some emphasis on muscular and tendinous structure to movement capabilities. Laboratory includes examination of prossected human cadaver specimens. Mr. Salem (F)

17A. Musculoskeletal Anatomy and Biomechanics (5 units). (Formerly numbered Kinesiology 17A.) Lecture, three hours; laboratory, four hours. Enforced requisite: Physics 6A. Limited to physiological science majors. Thorough study of skeletal, articular, muscular, and connective tissue systems, including components of biomechanical function and physiological adaptation. Some emphasis on musculoskeletal structure to movement capabilities. Laboratory includes examination of prossected human cadaver specimens. Mr. Salem (F)

17B. Human Visceral Anatomy (2 units). (Formerly numbered Kinesiology 17B.) Lecture, two hours; laboratory, one hour. Enforced requisite: course 17A. Limited to physiological science majors. Structural survey of human body, including digestive, respiratory, endocrine, and reproductive systems. Laboratory includes examination of human cadaver specimens.

90. Introduction to Physiological Science (2 units). (Formerly numbered Kinesiology 90.) 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
111A-111B-111C. Foundations in Physiological Science units each). (Formerly numbered Kinesiology 111A-111B-111C.) Lecture, four hours; laboratory, two hours.

111A. Prerequisites: courses 17B, 17C, Biology 9, Chemistry 132A, Physics 6B. Introduction to principles of neuroscience: cellular and systems neuroscience, including factors controlling membrane excitability, neuronal circuits, sensorimotor regulation, special senses, cortical functions, and neuronal plasticity. Mr. Chandler, Mr. Glanzman, Ms. Smith (Sp)

111B. Prerequisites: courses 111A or M180A, Chemistry 132B. Principles of muscular, cardiovascular, and pulmonary physiology.

111C. Prerequisites: course 111A or M180A, Chemistry 153A. Principles of gastrointestinal, renal, endo- crine, and reproductive physiology.

Mr. Feldman, Mr. Henderson, Mr. Tibbali (F)

133. Exercise Physiology (5 units). (Formerly numbered Kinesiology 133.) Lecture, three hours; laboratory, two hours. Prerequisite: course 111B or M180A. Exercise physiology of muscle and bone. Emphasis on evaluating dynamic models of physiological systems and of dynamical principles inherent in physiological systems. Concurrently scheduled with course C235.

Mr. Fain, Mr. Schlinger (W)

135. Exercise and Cardiovascular Function. (Formerly numbered Kinesiology 135.) Prerequisite: course 133. Consideration of acute and chronic effects of exercise in diagnosis, prevention, and treatment of cardiovascular disorders. Mr. Barnami

137. Growth and Adaptation in Cardiovascular System. ( Formerly numbered 137.) Prerequisite: course 111B, Biology 100A. Regulation of norm and pathological cellular growth in cardiovascular and vascular tissue. Mr. Edgerton

142. Sensorimotor Physiology. (Formerly numbered Kinesiology 142.) Lecture, three hours; laboratory, two hours. Prerequisite: course 111A or M180A. Not open to students with credit for former Kinesiology 126. Neurophysiological principles governing control of limb movements, including regulation by spinal cord circuits, cerebellum, basal ganglia, and sensorimotor cortices.

Ms. Smith

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C143. Neuroromotor Control of Posture and Movement. (Formerly numbered Neuroscience C143.) Prerequisites: course 142 or M180B. Examination of the theories for neuroromotor control of posture, walking, and voluntary arm movements. Concurrently scheduled with course C242. Mr. Smith

C144. Neural Control of Physiological Systems. (Formerly numbered 144.) Prerequisite: course 111B or M180B. Role of central nervous system in control of respiration, circulation, sexual function, and bladder control. Material for each section to be developed by combination of lecture and open discussion. Concurrently scheduled with course C244. Mr. Feldman

C145. Neural Mechanisms Controlling Movement. (Formerly numbered Kinesiology 145.) Prerequisite: course 111A or M180A. Examination of central nervous system organization required for production of complex movements such as locomotion, mastication, and swallowing. Concurrently scheduled with course C245.

147. Neurobiology of Learning and Memory (5 units). (Formerly numbered Kinesiology 147.) Lecture, four hours; research demonstration, one hour; outside study, 10 hours. Prerequisite: course 111A or M180A. Changes in central nervous system that accompany learning, with emphasis on cellular mechanisms. Mr. Glanzman

148. Advanced Neurophysiology. (Formerly numbered Kinesiology 148.) Prerequisite: course 111A or M180A. Advanced treatment of selected topics in cellular and systems neurophysiology. Mr. Glanzman

150. Musculoskeletal Mechanics (5 units). Lecture, three hours; outside study, 12 hours. Prerequisite: course 111B. Introduction to biomechanical analysis of human musculoskeletal system. Examination of joint congruency, force platform, and digital computer techniques to characterize and evaluate kinematic and kinetic components of movement. Topics include biostatics, biodynamics, and biomechanics. Mr. Whiting

151. Limb Dynamics. (Formerly numbered Kinesiology 151.) Lecture, three hours; laboratory, two hours. Prerequisite: course 111B. Not open to students with credit for former Kinesiology 122. Kinetic and kinetic principles underlying limb movements.

Mr. Whiting

C152. Skeletal-Arthrodial Adaptation. (Formerly numbered Kinesiology C152.) Prerequisite: course 111B, 151. Mechanical and functional characteristics of skeletal and diarthrodial joint structures in normal and abnormal loading environments. Concurrently scheduled with course C252. Mr. Salem

153. Dissection Anatomy. (Formerly numbered Kinesiology 153.) Lecture, two hours; laboratory, six hours. Prerequisites: course 111B, departmental application. Study and dissection of upper and lower extremities of human cadavers; dissection of thorax and abdomen limited to musculature and neurovascular supply. Mr. Salem

155. Development and Structure of Musculoskeletal Soft Tissue. (Formerly numbered Kinesiology 155.) Prerequisite: course 111B. Development, histology, cell biology, and biochemistry of musculoskeletal soft tissue. Integration of knowledge of muscle and connective tissue structure and function on each of these levels to understand organization and functional behavior of the intact system. Mr. Tidball

M173. Anatomy and Physiology of Sense Organs. (Same as Biology M173.) Lecture, three hours; discussion, one hour. Prerequisites: courses 111A (or Biology M175A or M175B) or equivalent. Structure and function of sense organs. Acquisition of quantitative and comparative approach to provide insight into evolution of sense organs in invertebrates and vertebrates. Mr. Fain, Mr. Narins, Mr. Simmons

M180A. Cellular Mechanics. Prerequisites: Biology 9, Chemistry 132A, Physics 3B or 6B or 8C; any combination of Physiology 111A and M180A is equivalent to eight units. Cellular physiology, pharmacology, molecular biology, and development of nervous system. Mr. Watsch (F), Mr. Levine (W), Mr. Schein (W) 180B. Integrative Mechanisms. Prerequisite: course 111A (or Biology 171 or Psychology 115) or M180A (or Biology M175A or Neuroscience M101A or Psychology M117A); any combination of course M180B and former Kinesiology 199A is equivalent to 10 units. Central and reflex mechanisms of homeostasis, sensory information processing, and motor control. Mr. Levine, Mr. Schein (W)

Mr. Salem

M180C. Neural Bases of Behavior. Prerequisite: course 111A (or Biology 171 or Psychology 115) or M180B (or Biology M175B or Neuroscience M101B or Psychology M117B). Neural mechanisms underlying motivation, learning, and cognition.

Mr. Gallistel, Mr. Glanzman (Sp)

M181. Biological Bases of Psychiatric Disorders. (Same as Biology M191 and Psychobiology M191.) Lecture, three hours; outside study, nine hours. Prerequisite: course 111A or M180A or Biology M175A or Neuroscience M101A or Psychology M117A. Consent of instructor. Underlying brain systems involved in a number of psychiatric neurologic disorders, including schizophrenia, depression, obsessive-compulsive disorder, as well as movement disorders emplified by both clinical treatment and experimental research. Mr. Levine and the Staff

191A-191Z. Proseminars: Physiological Science. (Formerly numbered Kinesiology 191A-191Z.) Prerequisite: upper division standing. Limited to 15 students. Advanced study of special topics. May be repeated for credit with topic change.

193. Field Studies in Physiological Science. (Formerly numbered Kinesiology 193.) Lecture, one hour; fieldwork, six for eight units. Consent of instructor. Supervised field trips and research that culminate in final honors thesis. May be repeated for credit and may not be applied toward elective requirements for the major. P/NP grading.

195. Honors Research in Physiological Science (2 units). Lecture, one hour; discussion, one hour. Prerequisite: physiological science honors program standing. Preparation for honors thesis defense (FRS). Mr. Levine and the Staff (199A, 199B). Instructions in principal of scientific method and writing; critique of current journal articles and research projects. Students present individual research proposal with background literature. P/NP grading.

Mr. Tidball (W)

196A-196B. Laboratory Practicum in Physiological Science (2 units each). (Formerly numbered Kinesiology 196A-196B.) Lecture, four hours; outside study, eight hours. Prerequisites or corequisites: course 153, departmental application. Supervised practicum and training for advanced students who serve as undergraduate assistants in basic anatomy course in preparation of laboratory materials and innovative projects. May be repeated for credit but may not be applied toward elective requirements for the major.

Mr. Salem

197A-197Z. Variable Topics in Physiological Science. (Formerly numbered Kinesiology 197A-197Z.) Prerequisite: upper division standing. Variable topics courses which cover specific subjects of special interest. May be repeated for credit with topic change.

199A. Honors Thesis. (Formerly numbered Kinesiology 199A.) Prerequisites: courses 111A-111B, physiological science honors program standing. Directed independent research for departmental honors with a focus on a specific topic and extensive reading and research in the field of proposed honors thesis. In Progress grading (credit to be given only on completion of course 199-199H).

199B. Honors Thesis. (Formerly numbered Kinesiology 199B.) Prerequisite: course 199A. Continued research and reading that culminate in final honors thesis. Only four units of course 199/199H may be applied toward elective requirements for the major.

199C. Advanced Studies for Honors Thesis. Prerequisite: course 199B. Not required for honors thesis. Additional course to provide further research opportunities for departmental honors students.

Graduate Courses

M202. Cellular Neurophysiology. (Same as Neuroscience M202.) Lecture, three hours; discussion, one hour. Prerequisites: course 111A or M180A or Physiology 6B or equivalent. Cellular and systems neuroscience, with emphasis on role of behavioral analysis in understanding the functioning of nervous system and identifying anatomical circuits, cell physiological processes, and molecular mechanisms that mediate behavioral and learning functions. Mr. Diamond, Mr. Feldman, Mr. Gallistel

206. Metabolism of Organ Systems Affected by Exercise. (Formerly numbered Kinesiology 206.) Prerequisite: Chemistry 132B/132BL. Key regulatory mechanisms of metabolism involved in exercise response and adaptation.

211. Exercise Cardiovascular Physiology. (Formerly numbered Kinesiology 211.) Prerequisite: consent of instructor. Attention to cardiovascular adaptations to acute exercise and adaptations associated with regular exercise training.

Mr. Barnard, Mr. Henderson

M212. Introduction to Cellular Physiology and Biophysics (6 units). (Same as Biology M237 and Psychology M212.) Lecture, five hours. Prerequisites: course 111A or Physiology M209A or equivalent, graduate standing; for upper division undergraduates: consent of instructor. Development of fundamental physiological and biophysical concepts associated with all membranes, membrane channels and transporters, membrane potential, membrane excitability, electrical signal transmission and transduction, and muscle contraction and the application of basic cellular properties. Emphasis in laboratory on development of skills using computer programming languages, spreadsheets, and graphics for modeling and analysis of cellular processes.

M213. Principles of Integrative Physiology (6 units). (Same as Physiology M213.) Lecture, four hours; discussion, two hours. Prerequisite: graduate standing; for upper division undergraduates: consent of instructor. Basic principles of biological integration, including regulation, homeostasis, feedback, and natural selection, to be illustrated by applying them to a molecules-through-whole animal view of four sets of problems: information processing, development, and plasma membrane function; the role of cellular energy production, blood pressure and control of eye movements; and matching of enzyme, transporter, and bone capacities to natural loads. Mr. Diamond, Mr. Feldman
M225. Comparative Endocrinology: Molecular to Behavioral. (Same as Physiology M225.) Lecture, two hours; discussion, two hours. Limited to graduate students. Importance of endocrinology, with focus on current research involving reproductive, pituitary, and vertebrate animal models in areas of reproduction, neuroendocrine control of behavior, metabolism, and insect development. Mr. Schlinger, Ms. Wayne

C253. Dynamical Systems Modeling of Physiological Processes (5 units). (Formerly numbered Kinesiology 235.) Lecture, four hours. Prerequisite: consent of instructor. Examination of art of making and evaluating dynamical models of physiological systems and of dynamical principles inherent in functional systems. Concurrently scheduled with course C135.

Mr. Garfinkel


Mr. Henderson

M240. Neural Systems for Motor Control. (Formerly numbered Kinesiology M240.) (Same as Neuroscience M240.) Course 111A or 111B/C, consent of instructor. Advanced topics on neural mechanisms related to control of posture, locomotion, and highly skilled arm and hand movements. Emphasis on role of movement-dependent feedback at spinal segments and within sensorimotor cortex, with respect to modification of motor output.

Ms. Smith

C243. Neuromotor Control of Posture and Movement. (Formerly numbered Kinesiology C243.) Prerequisite: course 142 or M180B. Examination of theories for neuromotor control of posture, walking, and voluntary arm movements. Concurrently scheduled with course C143.

Ms. Smith

C244. Neural Control of Physiological Systems. Prerequisite: consent of instructor. Role of central nervous system in control of respiration, circulation, sexual function, and bladder control. Material for each section to be developed by combination of lecture and open discussion. Concurrently scheduled with course C144.

Mr. Feldman

C245. Neural Mechanisms Controlling Movement. Prerequisite: course 111A or M180A. Examination of current central nervous system organization required for production of complex movements, including posture, locomotion, and swallowing. Concurrently scheduled with course C145.

Mr. Chandler

M247. Neural Control of Cardiopulmonary Function. (Formerly numbered Neuroscience M247.) (Same as Neuroscience M247.) Lecture, two hours; discussion, two hours. Prerequisites: courses 111A, 111B or 133 or 142 or M180A, M180B or equivalent. Cardiorespiratory homeostasis is accomplished via central nervous system (CNS) control of respiratory and circulatory pumping systems. Focus on CNS mechanisms underlying (1) generation of respiratory rhythm, sympathetic and parasympathetic tone, (2) determination of patterns of motor outflow, and (3) changes in behavioral state or afferent signals. Emphasis on critical reading of literature.

Mr. Feldman

250A. Muscle Dynamics. (Formerly numbered Kinesiology 250A.) Prerequisite: course 151. Integrated study of electrical and dynamic parameters of muscle-action, including topics in length-tension and force-velocity interrelationships, critical analysis of electromyographic signals, and digital computer techniques as changes in behavioral state or afferent signals. Emphasis on critical reading of literature.

Mr. Feldman

250B. Musculoskeletal Mechanics. (Formerly numbered Kinesiology 250B.) Prerequisites: course 151, Mathematics 3A, 3B. Mechanical parameters of moving human musculoskeletal system, including use of kinematics, force plate techniques, and digital computer techniques. Topics include biostatistics, biomechanics, and empirical data modeling.

Mr. Feldman

252S. Skeletal-Arthrodial Adaptation. (Formerly numbered Kinesiology 252S.) Prerequisite: course 111B. Anatomical, physiological, and mechanical characteristics of skeletal and diarthrodial joint structures in normal and abnormal loading environments. Concurrently scheduled with course C135.

Mr. Salem


Mr. Arnold, Mr. Schlinger (W, M255A; M255C; Sp, M255B, M255D)

M260. Neuromuscular Factors in Movement Regulation. (Formerly numbered Kinesiology M260.) (Same as Neuroscience M260.) Prerequisite: course 139 or consent of instructor. Interaction of neural and muscular factors in regulation of muscle fiber properties and importance of these properties in neural strategies of movement regulation. S/U letter grading.

Mr. Edgerton

M263. Neuromotor Mechanisms Controlling Rhythmic Movements. (Formerly numbered Kinesiology M263.) (Same as Neuroscience M263.) Prerequisite: course 145 or consent of instructor, Advanced topics on brainstem mechanisms responsible for controlling cyclic and stereotypic movements such as mastication and locomotion. Emphasis on cellular neurophysiology and interaction between central and peripheral networks. Introduction to primary literature and techniques used in these areas. Students expected to critically evaluate data and conclusions drawn.

Mr. Chandler

291A-291B-291C. Seminars: Cardiovascular Function and Adaptation (2 to 4 units each). (Formerly numbered Kinesiology 291A-291B-291C.) Prerequisite: consent of instructor. Advanced topics and primary literature on cardiovascular function and adaptation. Students required to present two-hour seminar.

Mr. Barnard, Mr. Henderson

293A-293B-293C. Seminars: Musculoskeletal Function and Adaptation (2 to 4 units each). (Formerly numbered Kinesiology 293A-293B-293C.) Prerequisite: courses 139 and 260, or consent of instructor. Selected topics on neuromotor determinants of movement, metabolic aspects of exercise, and mechanics of connective tissue. Students required to present two-hour seminar.

Mr. Edgerton

M294A-M294B-M294C. Seminars: Neural Control of Movement (2 to 4 units each). (Formerly numbered Kinesiology M294A-M294B-M294C.) (Same as Neuroscience M294A-M294B-M294C.) Prerequisite: course M240 or M247 or M263 or consent of instructor. Selected topics on neuromotor determinants of movement behavior. Students required to present two-hour seminar.

Mr. Chandler, Mr. Feldman, Ms. Smith

M295A-M295B-M295C. Seminars: Cellular Sources (2 units each). (Same as Neuroscience M295A-M295B-M295C.) Prerequisite: consent of instructor. Advanced topics on sensory transduction, cellular integration, synaptic processing, central nervous system function, and learning. Students required to present two-hour seminar.

Mr. Fair, Mr. Feldman, Mr. Glanzman

295A-295B-295C. Research Seminars: Physiological Sciences (2 units each). Prerequisite: consent of instructor. Review of literature, discussion of original research, and analysis of current topics in physiological sciences. May not be applied toward M.S. or Ph.D. course requirements. May be repeated for credit. S/U grading.

297A-297B-297C. Seminars: Muscle Cell Biology (2 to 4 units each). Prerequisite: consent of instructor. Selected topics in muscle cell biology. Students required to present two-hour seminar.

Mr. Tidball
Bachelor of Arts Degree

Students officially admitted to the political science major for Fall Quarter 1994 and thereafter are expected to fulfill the requirements listed below. Continuing students admitted prior to Fall Quarter 1994 should consult the 1993-94 UCLA General Catalog.

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, you need to petition to enter the major in the Undergraduate Office, 4255 Bunche Hall.

Preparation for the Major

Required: Four lower division courses from Political Science 10, 20, 30, 40, 50. These lower division courses are prerequisites to upper division courses and 10, 20, 40, and 50 are required in those fields designated as your concentration or distribution field. You must also take Political Science 6 or one of the following statistics courses: Anthropology 80, Economics 40, Geography 41, Psychology 41, Social Sciences 40, Sociology 18, Statistics 50.

You must complete all premajor courses with a 2.0 grade-point average by the time you attain 135 units. Admission to the major is granted only after successful completion of all lower division requirements.

The Major

Required: Ten upper division courses (40 units) selected from Political Science 102 through 199 taken for a letter grade. You are also required to complete four upper division courses (16 units) in one or two of the following social sciences: anthropology, communication studies (only Communication Studies 160), economics, geography, history, management (only Management 150, 190), psychology (except Psychology 115, 116), sociology. These courses must be taken for a letter grade. You are required to maintain a 2.0 overall grade-point average in all upper division political science courses.

Upper division political science courses are organized into four fields: (I) political theory, (II) international relations, (III) American politics, and (IV) comparative politics.

In fulfilling the requirement of 10 upper division political science courses, you must satisfy the following:

1. A concentration in one field by completing the lower division course and at least four upper division courses in that field.
2. A distribution of the lower division course and two upper division courses in each of two other fields (four upper division courses).
3. Two additional elective courses in political science to comprise the total of 10.

Field Concentration Requirements — The lower division course is prerequisite 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 upper division courses in Field II.

(III) American Politics — Course 40 and any four courses in Field III.

(IV) Comparative Politics — Courses 50, 168, and any three additional courses in Field IV. Courses 115 and 118 may also be applied toward concentration in this field.

Undergraduate Seminars

Each term the department offers a series of seminars (Political Science C179A-C197F) in each field. The prerequisites 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.

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 Sciences honors. You should have substantial experience in writing research papers and take at least one seminar course in the Political Science C179 series before you enter the honors program or course 195A.

Students wishing to qualify for graduation with departmental honors must complete the following:

1. Courses 195A-195B-195C, 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.

M.A. and Ph.D. Degrees

The aim of the graduate program is to train scholars in the discipline of political science. The department only accepts students seeking the Ph.D. degree (a master's degree may be earned as part of the process of completing the requirements for the Ph.D.).
Admission
In addition to University minimum requirements, the department requires three letters of recommendation, scores on the General Test of the Graduate Record Examination (GRE), and a sample of your analytical writing skills (e.g., senior or M.A. thesis, term paper). Applicants are selected on the basis of perceived promise. Prospective students may write for departmental brochures to the Graduate Studies Office, Department of Political Science, 4269 Bunche Hall, UCLA, Los Angeles, CA 90024-1472. The department does not have an application form in addition to the one used by UCLA Graduate Application Processing. The deadline for receipt of all application materials is December 15 prior to the Fall Quarter in which you plan to register.

Fields of Study
Five fields of study are offered to graduate students in the department: political theory, international relations, American politics, comparative politics, and formal theory and quantitative methods.

Foreign Language or Research Methodology Requirement
There is no foreign language requirement for the M.A. degree.
Prior to advancement to candidacy for the Ph.D., you must fulfill one of the following requirements:

1. Foreign Language — You may fulfill this requirement by obtaining a minimum score of 550 on a Graduate School Foreign Language Test (GSFLT). In languages for which no GSFLT is given, you may take a department examination to test your proficiency at a level comparable to a GSFLT score of 550. You may also satisfy the requirement by competing, with a grade of B or better, the final course in a two-year sequence of college courses in a foreign language.

2. Mathematics, Mathematical Economics, or Statistics — You must complete either (a) a sequence of three courses in mathematics or mathematical economics at or above Mathematics 31A (Mathematics 38A, 38B may not be applied) or (b) a sequence of three courses in statistics at or above the level of Political Science 200B. Courses applied toward this requirement may not be applied toward any other course requirements.

You are required to pass the foreign language or methodology requirement before you can be advanced to candidacy for the Ph.D., but you may pass the requirement after the University Oral Qualifying Examination.

Course Requirements
You must take Political Science 200A and 200AL, four courses in each of two major fields, one course in each of two minor fields, and four additional graded courses, including no more than two independent study courses.

Fields decide which courses meet major and minor field requirements.

Of the 16 required courses, you must take at least seven during your first year of graduate study and 12 by the end of your second year.

Transfer Students — With the approval of the graduate adviser and the dean of the Graduate Division, graduate courses taken elsewhere may be applied toward departmental course requirements. The maximum number of such courses is six if you transfer to UCLA with a master's degree in political science and choose to forego another master's degree from UCLA. In all other cases, the maximum is four for courses taken at another UC campus and two for courses taken outside the UC system.

Research Paper Requirement
You must submit two research papers, one by the beginning of your seventh term of graduate study, both by the beginning of your eighth term. You may also use these papers to meet course requirements. Each is graded not qualified, qualified, or qualified with distinction by a standing committee from all five fields. This committee may solicit the opinions of nonmembers. If a paper is graded not qualified, you may submit a revised version or another paper, once only, at most six months after your first submission.

For the Ph.D., you must receive at least a grade of qualified on both papers. You receive the M.A. degree after successful completion of 12 of the 16 required courses with an average grade of 3.0 or better and a grade of qualified or qualified with distinction on one paper.

Papers are evaluated for knowledge of subject, originality of ideas, and craftsmanship of research. They are also evaluated for conciseness — good ones may vary in length but are not expected to exceed 30 pages. They need not be publishable, but in their structure and format and in their coverage of topics and tasks are expected to resemble papers published in peer-reviewed journals of their fields. The committee evaluating your papers assumes that you have not devoted all of your research time to two papers but have selected for submission, or for revision and submission, the best two from a portfolio of several seminar papers.

Research Design and Oral Examination
By your tenth term of graduate study, you must present a research design for your dissertation in a seminar or colloquium. It need not be the version you submit for the University Oral Qualifying Examination.

You may take that examination after you have completed your course and paper requirements and written a dissertation proposal accepted by your research adviser. You must take it no later than your twelfth term of graduate study, and the examination committee must have your proposal at least two weeks before the examination. The committee judges the feasibility and worth of your project and your ability to undertake it, and may recommend changes in your research design.

After successful completion of the University Oral Qualifying Examination and the language or methodology requirement, you are advanced to candidacy. This must take place no later than your fifteenth term of graduate study.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination
Approval of a written dissertation by your doctoral committee constitutes the final requirement for the Ph.D. degree in Political Science.

The doctoral committee for each candidate decides whether or not a final oral examination should be required.

Lower Division Courses

6. Introduction to Quantitative Research. Lecture, three hours; discussion, one hour. 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 an aid in analyzing data from various fields of political science, among them comparative politics, international relations, American politics, and public administration.
Mr. Piotnick, Mr. Zaller

10. Introduction to Political Theory. Lecture, three hours; discussion, one hour. Exposition and analysis of selected political theorists and concepts from Plato to the present.
Mr. Ashcraft, Mr. Campbell, Mr. Rapport

20. World Politics. Lecture, three hours; discussion, one hour. Required of all students concentrating in Field II. Introduction to problems of world politics.
Mr. Spiegel

30. Introduction to Political Economy. Lecture, three hours; discussion, one hour. Introduction to political economy, especially application of economic reasoning to political and social phenomena. P/NP or letter grading.
Mr. Frieden, Ms. Lohmann

40. Introduction to American Politics. Lecture, three hours; discussion, one hour; outside study, eight hours. 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.
Mr. Gilliam, Mr. Schwartz

50. Introduction to Comparative Politics. Lecture, three hours; discussion, one hour. Comparative study of constitutional principles, governmental institutions, and political processes in selected countries. P/NP or letter grading.
Mr. Lotchie, Mr. Sklar

88A-88D. Lower Division Seminars. (Formerly numbered 88A-88F). 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 D, or F. P/NP or letter grading. 88A. Political Theory; 88B. International Relations; 88C. Politics; 88D. Comparative Politics.
Upper Division Courses
Prequisite for all upper division courses: upper division standing or consent of instructor.

102. Statistical Analysis of Political Data. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course B. Introduction to statistical analysis. Topics include measures of central tendency, elementary probability theory, common probability distributions, least-squares and maximum likelihood estimation, confidence interval estimation, hypothesis testing, performance of means, analysis of variance, and multiple regression and correlation. Statistical techniques and topics illustrated with applications to a variety of political data.

104A-104B. Introduction to Survey Research. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course B. Courses 3, 6. Courses in fundamentals of survey research as a method. 104A: Sampling theory and methods, writing of questions, questionnaire construction, and interviewing. Attitudes, attitude measurement, and attitude change. Participation in formulation of research problems. Prequisite to course 104A. Conducting a survey. Development of survey questionnaire, designing a sample, collecting interviews, maintaining quality control, and coding interviews. Performance of computer aided analysis of some part of data and submission of written report of that research.

M105. Economic Models of Public Choice. (Same as Economics M135.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: Economics 11, any lower division political science course, junior/senior standing, or consent of instructor. 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.

M106. Economic Models of Political Conflict and Conflict Resolution. (Same as Economics M136.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: Economics 11, any lower division political science course, junior/senior standing, or consent of instructor. Biological, cultural, and organizational sources of political conflict. Role of threats, promises, commitments. Models of the onset and termination of conflict. Conduct of war: strategy and tactics.

Field I: Political Theory
111A-111B-111C. History of Political Thought. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Exposition and critical analysis of major political philosophers and schools.

111A. Ancient and Medieval Political Thought from Plato to Machiavelli. Mr. Campbell

111B. Early Modern Political Thought from Hobbes to Bentham. Mr. Ashcraft, Mr. Campbell

111C. Late Modern and Contemporary Political Theory from Hegel to the Present. Mr. Ashcraft, Mr. Wolfenstein

112. Nature of the State. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Systematic analysis of modern concepts and problems of political association.

113. Problems in 20th-Century Political Theory. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Study and analysis of political thought, which have contributed to analysis in social and political problems of the 20th century.

M. Golden

114A-114B. American Political Thought. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours.

114A. Exposition and critical analysis of American political thinkers from the Puritan period to 1865.

114B. Prerequisite: course 114A or consent of instructor. Exposition and critical analysis of American political thinkers from 1865 to the present.

115. Theories of Political Change. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Critical examination of theories of political change, relation of political change to changes in economic and social systems, and relevance of such theories for experience of both Western and non-Western societies. May be applied toward either Field I or IV.

Mr. Lofchie

116. Marxism. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Critical analysis of Marxism and development of Marxist political theory.

Mr. Ashcraft, Mr. Wolfenstein

117. Jurisprudence. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Development of law and legal systems; consideration of fundamental legal concepts; contributions and influence of modern schools of legal philosophy in relation to law and government. May be applied toward either Field I or IV.

Mr. Rapoport, Mr. Tong

119A-119Z. Special Studies in Political Theory. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: course 10, one additional course in Field I, consent of instructor. Intensive examination of one or more special problems appropriate to political theory. Sections offered on irregular basis with topics announced in preceding fall. Courses 119, 139, 149, and 169 may be applied no more than twice toward field concentration requirement. No more than three of these courses may be applied toward the major.

Field II: International Relations
120. Foreign Relations of the U.S. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Survey of factors and forces entering into formation and implementation of American foreign policy, with special emphasis on contemporary problems.

Mr. Frieden, Ms. Larson, Mr. Rosecrance

121. Studies in Formulation of American Foreign Policy. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Study of formulation of American foreign policy with respect to individual cases. Consult Schedule of Classes for topics to be offered in a specific term.

Mr. Possehl

122. World Order. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Theory of international relations, with emphasis on the major contemporary theories of world order.

Mr. Wilkinson

123A-123B. International Law. (Formerly numbered 175A-175B.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: 122. Theory and practice of international law in conduct of international relations. May be offered in consecutive terms or simultaneously. If offered consecutively, course 123A is prerequisite to 123B, and students may take 123A alone for four units credit. If offered simultaneously, student must take both courses for eight units. Maximum of four units may be applied toward Field II.

Mr. Wilkinson

124. International Political Economy. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 20. Study of political aspects of international economic issues.

Mr. Frieden

125. Arms Control and International Security. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Arms control in context of international security in the nuclear age, arms control efforts between developed countries and nuclear war; roles of technology and ideology; nuclear proliferation; outer space.

126. Peace and War. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 20. Theory and research on causes of war and conditions of peace.

Ms. Larson, Mr. Wilkinson

127A-127B. Atlantic Area in World Politics. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 20. Study of political relations between the U.S. and Western European states.

127A. Western Europe. External relations of the United Kingdom, West Germany, France, Italy, and other European members of NATO, in context of European security in the context of the Atlantic Alliance.

127B. U.S. and Europe. Prerequisite: course 127A or consent of instructor. Relations between the U.S. and Western European members of the Atlantic Alliance, in context of U.S./Soviet relations.

128A-128B. Soviet Sphere in World Politics. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 20. Contemporary survey of foreign policies and aspirations of the Soviet Union and other states of the Communist bloc; performance of conflict and effects of Communist doctrine affecting relations between Soviet and democratic spheres.

Mr. Anderson, Mr. Korbinski

129. Comparative Foreign Economic Policy. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Examination of foreign trade, monetary, and investment policies of the U.S., Japan, France, and Federal Republic of Germany.

130. Politics of Latin American Economic Development. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Interrelation of international and domestic factors in political and economic evolution of Latin America.

Mr. Frieden

131. Latin American International Relations. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. May be applied toward either Field I or III.

Mr. Gonzalez

132A-132B. International Relations of the Middle East. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 20. Contemporary regional and international issues and conflicts, with particular attention to Arab-Arab relations, Arab-Israeli problem, and Persian Gulf area.

Mr. Binder

132B. Role of the great powers in the Middle East, with emphasis on American, Soviet, and Western European policies since 1945.

133. International Relations of Sub-Saharan Africa. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Contemporary regional issues and conflicts; foreign policies of African states; role of external powers.

Mr. Keller, Mr. Lofchie, Mr. Sklar

134. Foreign Policy Decision Making and Tools of Statecraft. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 120 or consent of instructor. Contrasts purposive and process models of individual and group 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.

Mr. Stein
135. International Relations of China. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 20. Relations of China with its neighbors and the other powers, with emphasis on contemporary interests. Prior study of China vis-a-vis the United States and Soviet Union. Mr. Baum

136. International Relations of Japan. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 20. 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. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Mr. Stein

137A. Examination of various theoretical approaches to international relations. P/NP or letter grading.

137B. Alternative approaches to analysis of international politics and their application to historical and contemporary cases. Mr. Stein

139A-139Z. Special Studies in International Relations. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Mr. Gilliam

140A-140C. National Institutions. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Mr. Petrocik

140A. Congress. (Formerly numbered 143.) Study of those factors which affect character of the legislative process and capacity of representative institutions to govern in contemporary society. Ms. Orren, Mr. Snowiss

140B. The Presidency. (Formerly numbered 144.) 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. Mr. Orren, Mr. Snowiss

140C. Supreme Court. (Formerly numbered 70.) Introduction to American constitutional development and role of Supreme Court as interpreter of the U.S. Constitution. Reading of Supreme Court cases as well as various historical and current commentaries. Mr. Rocco

141A-M141D. Political Parties and Interest Groups. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Ms. Orren, Mr. Snowiss

141A. Political Psychology. (Formerly numbered M140A.) (Same as Psychology M138.) Prerequisite: course 40. Examination of public behavior, socialization, personality, and political behavior, character, conflict, and psychological analysis of public opinion on these issues. Mr. Petrocik

141B. Public Opinion and Voting Behavior. (Formerly numbered 141.) Prerequisite: course 40. Study of character and formation of political attitudes and public opinion. Role of public opinion in elections, relationship to the vote, and influence of public opinion on public policy formulation. Mr. Petrocik, Mr. Zaller

141C. Political Behavior Analysis. (Formerly numbered 146.) Prerequisites: courses 6, 40, 141B. Advanced course in use of quantitative methods in study of political behavior, especially in relation to voting patterns, political participation, and techniques of political analysis. Students conduct computer-assisted analyses of issues and problems treated in course 141B and similar courses. Mr. Petrocik, Mr. Zaller

142A-142B-142C. Political Parties and Interest Groups. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 40.

142A. Political Parties. (Formerly numbered 145.) Organization and activities of political parties in the U.S. Attention to historical development of the parties, nature of party functions and party roles, the role of the parties in the political system, and changes in party organization. Mr. Petrocik

142B. Political Parties. (Formerly numbered 144B.) Examination of political parties in the U.S. Attention to historical development of the parties, nature of party functions and party roles, the role of the parties in the political system, and changes in party organization. Mr. Petrocik

142C. Political Parties. (Formerly numbered 144C.) Examination of political parties in the U.S. Attention to historical development of the parties, nature of party functions and party roles, the role of the parties in the political system, and changes in party organization. Mr. Petrocik

143A-143B. Subnational Government. (Formerly numbered 183A-183B.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 40.

143A. American State Government. Examination of governments of states of federal union as major sources of public policy in the U.S., with government of California as principal topic. Ms. Orren

143B. Government of American Cities. Intensive analysis of the controversy over governmental change in the U.S. Emphasis on such student participatory activities as fieldwork, research, and gaming of urban politics and policy problems. Mr. Aberbach

144A-M144D. Ethnic Politics. Lecture, two or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: course 40, and one 140-level course or one upper division course on race or ethnicity from history, psychology, or sociology, or consent of instructor. Mr. Chisholm

144A. Chicano/Latino Politics. (Formerly numbered M147A.) (Same as Chicana and Chicano Studies M147A.) Introduction to political economy of racial and ethnic minority groups in the U.S., concentrating on study of Mexican origin communities in the Southwest and explaining the historically changing relationship between class, race, and power by studying the interaction between state policies and practices, class and racial stratification systems, and cultural and political outcomes of ideological discourse in each historical period. Mr. Rocco

144B. African American Politics. (Formerly numbered M147B.) (Same as Afro-American Studies M144.) Course 144B is not a prerequisite for course 144A. Emphasis on dynamics of minority group politics in the U.S., touching on conditions facing racial and ethnic groups, with black Americans being the primary case for analysis. Three primary objectives: (1) to provide descriptive information about social, political, and economic conditions of the black community; (2) to analyze important political issues facing black Americans; (3) to sharpen students' analytical skills. Mr. Gilliam, Mr. Keller

145A. Public Law and Judicial Process. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 40

145B. Anglo-American Legal System. (Formerly numbered 170.) Evolution of English common law courts and legal system with emphasis on development of basic concepts of law which were received from that system in the U.S. and remain relevant today. Mr. Chisholm

145B. Constitutional Law—Separation of Powers. (Formerly numbered 172A.) Constitutional questions concerning separation of powers, federalism, and relationship between government and property.

145C. Constitutional Law—Civil Liberties. (Formerly numbered 172B.) Protection of civil and political rights and liberties under the constitution.

145D. Judicial Oversight of the Bureaucracy. (Formerly numbered 185.) Legal controls of administrative action. Substantive and procedural limits on administrative discretion imposed by legislation, executive and judicial agencies, and sources of legal powers of administrative bodies within these limits. P/NP or letter grading.

146A-146E. Organization Theory, Public Policy, and Administration. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Mr. Aberbach

146A. Public Administration and Policy. (Formerly numbered 80.) Prerequisite: course 40. Introduction to processes of policy formulation and implementation. Exploration of emergence and performance of governmental bureaucracies and their role in American political process. P/NP or letter grading.

146B. Bureaucracy and Public Management. (Formerly numbered 184.) Prerequisites: course 40, familiarity with American government. Nature of bureaucracy and modern government in the U.S.; explanation of why governments behave as they do. Focus on real and imaginary problems with bureaucratic rule; evaluation of common proposals for solutions for these problems. Examples from schools, armies, welfare bureaus, regulatory agencies, and intelligence services, among others. P/NP or letter grading. Mr. Chisholm

146C. Governing the Bureaucracy in the U.S. (Formerly numbered 185.) Exploration of the role and function of the permanent civil service in the U.S. Attention to historical development of the permanent government, especially efforts of elected and appointed officials to bring about change and those in "permanent government" (career bureaucrats). Mr. Aberbach

146D. Theories of Organization and Decision Making. (Formerly numbered 180.) Prerequisite: course 40. Examination of theoretical frameworks for studying public and private bureaucracies, with emphasis on ideologies, values, behavioral patterns, and concepts of organization. P/NP or letter grading. Mr. Chisholm

146E. National Policy Development and Implementation. (Formerly numbered 182A-182D.) Prerequisite: course 40. Investigation of complex process of policy development and implementation in the U.S., including roles of federal, state, and local agencies as well as private organizations. Subsections offered on particular policy areas, with topics announced in preceding term.

149. Special Topics in American Government and Politics. (Formerly numbered 149A-149Z.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Mr. Aberbach

Also see course 117
Field IV: Comparative Politics

151. Comparative Urban Government. (Formerly numbered 183C.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: basic sociological knowledge of urban government and its administrative organization. Three hours of elementary game theory to investigate post-World War II Western European politics: social and political development into social democracy in West Europe and other states of continental Western Europe, with particular attention to contemporary problems.

152. British Government. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Government and politics of the United Kingdom; British constitution, parliament, parties and elections, administrative problems, and local governments. Mr. Freedman

153. Governments of Western Europe. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Constitutional and political structure and development of France and other states of continental Western Europe, with particular attention to contemporary problems.

Mr. Rogowski, Mr. Tshebels

154. Governments of Central Europe. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Constitutional and political structure and development of Germany and other Central European states, with particular attention to contemporary problems.

Mr. Korbonski, Mr. Rogowski

155. Advanced Pluralist Democracies. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Constitutional and political structure and development of France and other states of continental Western Europe, with particular attention to contemporary problems.

Mr. Mr. Anderson

156. Government and Politics of Post-Soviet States. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Study of institutions and political processes in successor states of the Soviet Union, including interactions among these states, with some discussion of Russia but particular attention to non-Russian states.

Mr. Anderson, Mr. Korbonski

157. Governments of Eastern Europe. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Study of political and governmental organization of the countries of Eastern and Central Europe (exclusive of the U.S.S.R.), with special reference to institutions, practices, and ideologies including interregional relations.

Mr. Korbonski

158. Socialism in Europe. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Origins as a mass movement, split into electoral and insurrectionary wings, development into social democracy in Europe and into state socialism in Russia and East Europe, successes and failures of the welfare state, central planning and collapse of state socialism.

158A. West European Socialism.

158B. East European Socialism.

159. Chinese Government and Politics. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Organization, activities, and interest. Students also meet privately with instructor to emphasize critical and constructive discussions of students' topics, methods, and problems in research, as well as general consideration of political science research topics and methods of current or continuing interest. Students also meet privately with instructor to discuss progress of their research.

160. Japanese Government and Politics. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Structure and operation of contemporary Japanese political system, with special attention to domestic political forces and problems.

163A-163B. Government and Politics in Latin America. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Comparative study of governmental and political development, organization, and practices.

163A. States of Middle America. Mr. Gonzalez

163B. States of South America.

Mr. Geidt, Mr. Gonzalez

164. Government and Politics in the Middle East. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Comparative study of governmental and political development, organization, and practices. Prerequisite: course 153.

Mr. Binder

165A-165B. Political Science in East Asia. Mr. Anderson

166A-166B-190C. Government and Politics in Sub-Saharan Africa. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Patterns of political change in Africa south of the Sahara, with special reference to nationalism, national building, and problems of independence. 166A. Eastern Africa; 166B. Eastern Africa; 166C. Southern Africa.

Mr. Keller, Ms. Lotchie, Mr. Sklar

166D. Special Topics in African Politics. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Consult schedule of Classes for topics to be offered in a specific term. P/NP or letter grading.

Mr. Keller (F,W,Sp)

167A. Ideology and Development in World Politics. (Formerly numbered 167.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 50. Comparative study of major modes of political and economic development in the world today. Relations between industrial and nonindustrial societies and the influence of current debate about imperialism.

Mr. Sklar

167B. Comparative Development and Administration. (Formerly numbered 181.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisite: course 150. 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.

168. Comparative Political Analysis. (Formerly numbered 168L.) Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: two courses in Field IV, course 50 and course 1 in Field IV. Required of all students concentrating in Field IV. Major approaches to study of comparative politics. Concepts and methodology of comparative analysis.

Mr. Braum, Ms. Golden, Mr. Lohmann

169A-169Z. Special Studies in Comparative Politics. Lecture, three or four hours; discussion, one hour (optional); outside study, eight or nine hours. Prerequisites: two courses in Field IV, consent of instructor. Intensive examination of one or more special problems appropriate to comparative politics. Sections offered on regular basis, with topics announced in preceding term.

Mr. Baum, Mr. Lohmann, Mr. Tsebelis

Also see course 115

Special Studies

195A-195B-195C. Honors Seminars and Thesis. Prerequisites: one course in C197 series, 3.5 GPA in upper division political science courses, eligibility for Letters and Science honors. Course 195A is prerequisite to 195B, which is prerequisite to 195C. One-year honors seminar and thesis-writing sequence. Students entering course 195A are expected to have some experience in writing research papers and to have in mind a research topic suitable for treatment at length and depth.

195A. Students define their research topic, select a suitable research method, determine appropriate sources of information, prepare research proposal, find a thesis director, begin their research, and submit progress reports or preliminary drafts. Class sessions emphasize critical and constructive discussions of students' topics, methods, and problems in research, as well as general consideration of political science research topics and methods of current or continuing interest. Students also meet privately to discuss progress of their research.

195B-195C. Writing of honors thesis under direction of a faculty member. Thesis is read by appropriate field committee and graded high honors, honors, or no honors. In Progress grading.

C197A-C197D. Seminars for Majors. (Formerly numbered 183C-197.) Seminar, three hours. Prerequisites: political science major, upper division standing, 3.25 GPA in upper division political science courses, two upper division courses in field in which seminar concentrates, and approval of Classes for topics to be offered in a specific term. May be applied toward distribution or concentration requirement. May be concurrently scheduled with various graduate courses.

M197G. Introduction to Development Studies: Political Economy of Development. (Same as Development Studies M100B.) Seminar, three hours. Prerequisite: some beginning experience in social sciences at college level. Students are designed to examine concepts and issues arising from economic, social, and political change in the Third World.

Mr. Sklar (Sp)

199. Readings in Political Science (2 to 4 units). Prerequisites: upper division standing, 3.0 overall GPA, consent of instructor and department chair: individual studies. May not be applied toward concentration or distribution requirement. May be repeated for a maximum of 18 units.

Graduate Courses

Formal Theory and Quantitative Methods


Mr. DeNardo

200AL. Statistical Methods Laboratory I. Laboratory, three hours. Corequisite: course 200A.

Mr. DeNardo

200B. Statistical Methods II. Lecture, three hours. Prerequisites: courses 200A/200AL. Recommended: knowledge of elementary calculus. Applications of multiple regression in political science.

200C. Statistical Methods III. Lecture, three hours. Prerequisites: courses 200A/200AL, 200B. Knowledge of elementary calculus. Statistical modeling of political processes. Topics include linear models with fixed and random coefficients, and models for categorical data such as choice models, time-series models.

M200E. Advanced Regression Analysis. (Same as Psychology M256.) Seminar, three hours. Prerequisite: consent of instructor. Diagnostically, robust regression, cross validation, resampling, outliers, missing data, geometry of regression, validity of assumptions, categorical dependent variables, transformation of variables. Access to Macintosh computer very helpful.

Mr. de Leeuw, Mr. DeNardo
201A. Introduction to Formal Political Analysis. Seminar, three hours. Survey of formal political theory to enhance literacy and provide analytical tools without presupposing mathematical background. Model building; collective goods, unanimity and the social contract, voting rules, paradoxes and impossibility theorems, stability, individual liberty and decentralization, strategic manipulation, representation, vote trading. Mr. Schwartz

201B. Theory of Collective Choice. Seminar, three hours. Recommended (but not prerequisite) for political science students: course 201A. Open to any student completing 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 sets or solution concepts. Mr. Schwartz

202. Mathematics for Political Science. Lecture, three hours. Prerequisite: working knowledge of high school algebra. Survey of mathematical methods useful in political science. Topics include differential and integral calculus, differential equations, optimization, and linear algebra. Ms. Bawn, Ms. Lohmann

203A. Economic Theory and Methods for Political Science I. (Formerly numbered 203.) Discussion, three hours. Prerequisite: 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 protection, collective bargaining, and economic growth as timepermings. Ms. Bawn, Ms. Lohmann

203B. Economic Theory and Methods for Political Science II. Discussion, three hours. Prerequisite: 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 exter nalities, public goods and allocation mechanisms, collective action, spatial models, structure-induced equilibrium, and information asymmetricities. Ms. Bawn, Ms. Lohmann

204. Game Theory in Politics. Seminar, three hours. Survey of game theory, with emphasis on utilizing mathematical models to understand political and economic phenomena. Applications concern political participation, public goods, legislatures, institutional regulation, bureaucracies, interest groups, and party competition. Designed to help students become informed consumers of game-theoretical literature in political science. Ms. Lohmann, Mr. Tsoublis

M208A. Game Theory. (Same as Economics M214B.) Lecture, three hours. Prerequisites: Economics 213A or suitable mathematics courses. Bargaining theory, the core, the value, other solution concepts. Applications to oligopoly, general exchange and production economies, and allocation of joint costs. S/U or letter grading. Mr. Shapley

M208B. Topics in Applied Game Theory. (Same as Economics M215.) Lecture, three hours. Prerequisites: calculus or introductory probability, and graduate standing in economics or consent of instructor. Survey and discussion of solution concepts to models of bargaining, oligopoly, cost allocation, and voting power. S/U or letter grading. Mr. Shapley

M208C. Large Economies. (Same as Economics M214C.) Lecture, three hours. Prerequisites: Economics 213A or suitable mathematics courses. Consideration of economies with a continuum of consumers and with a continuum of goods. Basic model applied to perfectly competitive equilibrium, the core, location models, and other models with large consumer preferences and/or technology. S/U or letter grading. Mr. Ellikson

M208D. Multivariate Analysis with Latent Variables. (Same as Psychology M257.) Lecture, three hours. Prerequisite: consent of instructor. 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 structured-means factor analytic models. Structural equation models, including path and simultaneous equation models. Parameter estimation, hypothesis testing, and other statistical issues. Computer implementation. Applications. Mr. Bentler

M208E. Bayesian Econometrics. (Same as Economics M232A.) Lecture, three hours. Prerequisites: Economics 231A, 231B. Subjective probability, introduction to decision theory, Bayesian analysis of regression, sensitivity analysis, simplification of models, criticism. S/U or letter grading. Mr. Learner

205. Special Topics in Formal Theory and Quantitative Methods. Seminar, three hours.

Political Theory

210A-210B. Introduction to Political Theory. Lecture, three hours. Exploration of major texts and issues in political theory.

210A. Classical and Medieval Formulations from Plato to Aquinas.

M210B. Early Modern Period from Machiavelli through the Enlightenment.

Mr. Ashcroft, Mr. Campbell, Mr. Rapoport, Mr. Wolfenstein

M211. Morality of Capitalism. (Same as Management M2306B.) Lecture, three hours. Prerequisite: consent of instructor. Examination of major philosophical writings that defend or criticize capitalism on the basis of principles of right conduct and just social arrangements (i.e., moral grounds). Mr. J. Wilson

212. Seminar: Political Theory. Discussion, three hours. Mr. Ashcroft, Mr. Binder

213. The Bible as Political Theory. Seminar, three hours. Examination of the Bible as a political document. Particular attention to concepts which have played an essential part in Western political thought (i.e., covenant, charisma, history, law, states of nature, human nature, and the state). Mr. Rapoport

C217. Selected Texts in Political Theory. Discussion, three hours. Critical examination of major texts in political theory, with particular attention to their philosophical systems, their relations to contemporary political and intellectual currents, and importance of the system for present-day political analysis. May be concurrently scheduled with course C197A.

C218. Selected Topics in Political Theory. Discussion, three hours. Critical examination of a major problem in political theory. May be concurrently scheduled with course C197A.

219. Workshop: Political Theory. Discussion, three hours.

International Relations

220. International Relations Theory. Discussion, three hours. Approaches to and central problems of international relations theory.

M. Rosecrance, Mr. Stein

C221. Advanced International Relations Theory. Discussion, three hours. Introduction to contemporary problems in international relations theory. May be concurrently scheduled with course C197B.

Mr. Stein, Mr. Wilkinson

222. Seminar: Strategic Interaction. Seminar, three hours. A strategic move influences the other man's choice by affecting his expectations of how we will behave. Discussion of theories of deterrence, coercive diplomacy, crisis management, war termination, and negotiation. Use of various theoretical approaches to explaining strategic interaction, including psychology, bargaining theory, and game theory.

Mr. Larson

M223. Politics and Strategies of Modern War. Seminar, three hours. Analysis of various national security problems in both their military/technical and political dimensions. Development in some depth of issues likely to be raised in course 138A (not prerequisite). May be concurrently scheduled with course C197B.

Mr. Rosecrance

225. American Foreign Policy. Discussion, three hours. Discussion of approaches used to explain foreign policymaking by small, group, and large, and other collective choice processes. Application to selected cases in American foreign policy.

Ms. Larson

C228. The Making of American Foreign Policy. Seminar, three hours. Intensive analysis of policy formulation process and substance of selected contemporary problems in foreign policy. Political and institutional factors affecting foreign policies; analysis of policy options. May be concurrently scheduled with course C197B.

Mr. Spiegel

229. Comparative Politics. Discussion, three hours. Approaches to study of comparative politics and problems of comparative political analysis.

Mr. Binder, Mr. Rogowski

C241. African Studies. Discussion, three hours. May be concurrently scheduled with course C197D.

Mr. Keller, Ms. Lotzhe, Mr. Sklar

C242. Chinese and East Asian Studies. Discussion, three hours. May be concurrently scheduled with course C197D.

Mr. Baum, Mr. Tong
C243. Japanese and Western Pacific Studies. Discussion, three hours. May be concurrently scheduled with course C197D.

C244. Latin American Studies. Discussion, three hours. May be concurrently scheduled with course C197D. Ms. Geddes, Mr. Gonzalez

C245. Middle Eastern Studies. Discussion, three hours. May be concurrently scheduled with course C197D. Mr. Binder

C247. Russian and Slavic Studies. Discussion, three hours. May be concurrently scheduled with course C197D. Mr. Anderson, Mr. Horelick

C247A. Evolution of Soviet Politics. Discussion, three hours. Discussion seminar surveying principal scholarly controversies concerning transitions between various stages in political evolution of the Soviet Union. Mr. Anderson

C247B. Domestic Context of Soviet Foreign Policy. Discussion, three hours. Examination of domestic social, political, bureaucratic, and organizational sources of Soviet foreign and strategic policy, with emphasis on Perestroika and its implications. May be concurrently scheduled with course C197B.

C248. South Asian Studies. Discussion, three hours. May be concurrently scheduled with course C197D.

C250A. Western European Studies. Seminar, three hours. May be concurrently scheduled with course C197D. Mr. Golden, Mr. Rogowski, Mr. Tsebelis

C250B. Political Development of Modern Europe. Discussion, three hours. Principal phases of political development from high feudalism to the present. Mr. Yngvag

C252A. Parties and Party Systems. Discussion, three hours. Theories and practices of political parties, party systems, and elections in comparative perspective. Mr. Snowiss

C252B. Foundations of Representative Government. Discussion, three hours. May be concurrently scheduled with course C197D. Mr. Tsebelis

C252A. Parties and Party Systems. Discussion, three hours. Theories and practices of political parties, party systems, and elections in comparative perspective. Mr. Snowiss

C253. Political Change in Communist Systems. Discussion, three hours. Examination of political context and consequences of structural reform in Communist systems following the post-Leninist political pluralization and convergence. Mr. Baum

C254. Seminar: Social Class and Political Analysis. Discussion, three hours. Investigation of concept of social class as a tool of political analysis, with emphasis on current debates regarding definition and utility of class as an analytic category. SU or letter grading. Mr. Ashcraft

C255. Seminar: Political Change. Seminar, three hours. Interdisciplinary seminar directed toward comparative analysis of political development and modernization. Mr. Binder, Mr. Sklar

C256. External Sources of Domestic Politics. Discussion, three hours. Theoretical and historical studies of impact of war and trade on domestic cleavages, policy, and institutions. Mr. Rogowski

C257. Labor and Working-Class Politics. Discussion, three hours. Questions and topics on comparative labor and working-class politics. Ms. Golden

C258. Seminar: Political Violence. Seminar, three hours. Empirical theory and research on major processes and outcomes of violent social conflict, including mass political protest, riot, revolt, terrorism, and revolution. Mr. Tong

C259. Selected Topics in Comparative Politics. Discussion, three hours. Critical examination of a major problem in comparative politics.

C260A. Survey Course in American Politics: Political Parties and the Electoral Process. Discussion, three hours. May be concurrently scheduled with course C197C. Mr. Petrocik, Mr. Zaller

C260B. Survey Course in American Politics: American Political Institutions. Discussion, three hours. May be concurrently scheduled with course C197C. Mr. Petrocik, Mr. Zaller

C261A. Proseminar: Political Psychology. (Same as History M236A and Psychology M228A.) Discussion, three hours. Examination of several major conceptual alternatives for study of political behavior, with emphasis on the American context. Each alternative critically evaluated for its strengths and weaknesses as a tool of understanding political processes. May be concurrently scheduled with course C197C. Mr. Petrocik, Mr. Zaller

C261C. Political Communication. Discussion, three hours. Broad survey of research bearing on role of mass media in American political process. To 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 content. Mr. Yngvag

C261D. Seminar: Political Psychology. (Same as Psychology M228B.) Discussion, three hours. Prerequisite: course M261A or Psychology 228A or consent of instructor. Examination of political behavior, political socialization, racial conflict, mass political movements, and public opinion. Mr. Sears

C262. Political Parties. Discussion, three hours. Critical examination of literature on party systems and organization. Special attention to political functions, electoral campaigns, and party cadres. May be concurrently scheduled with course C197C. Mr. Lofchie

C263. Political Recruitment. Discussion, three hours. Critical examination of literature concerned with bases of public figures and with screening and socializing recruitment to the political career and political perspectives. May be concurrently scheduled with course C197C. Mr. Petrocik

C264. Politics and Society. Discussion, three hours. Application of sociological and historical sociological theories to politics. May be concurrently scheduled with course C197C. Mr. Gilliam

C265. Politics and Economy. Discussion, three hours. Analysis of theoretical and practical relationships between economic organization and governmental institutions. Development and political implications of the market system, banking and finance, corporate enterprise, and organized labor. Ms. Orren

C265. Group Theories of Politics. Discussion, three hours. Critical appraisal of “group theory” approaches to study of political decision making, with special attention to empirical research problems and findings. Ms. Orren

C266. Seminar: Political and Electoral Problems. Seminar, three hours. May be concurrently scheduled with course C197C. Mr. Petrocik

C267. Legislative Behavior. Discussion, three hours. Analysis of major approaches to study of representative institutions, voting, elections, concepts, methods, and theoretical implications associated with each approach. May be concurrently scheduled with course C197C. Mr. Bawn, Mr. Snowiss

C271. Executive Politics and the Presidency. Discussion, three hours. Analysis of executive organization and leadership, with emphasis on the American Presidency. Special attention to theories of organization and personality and relationship between the executive and other institutions and political groups. May be concurrently scheduled with course C197C. Mr. Aberbach, Mr. Snowiss

C272. Political Environment of the Federal Executive. Discussion, three hours. Examination of political environment of the federal executive in the U.S. Special attention to executive/legislative relationships. Mr. Aberbach

C273. American Political Development. Discussion, three hours. National political institutions in historical perspective, theories of state building, state societal relations, political culture. Ms. Orren

C274. Seminar: American Political Institutions. Seminar, three hours.

C276. Public Law. Discussion, three hours. Systematic analysis of scope and nature of public law, with particular attention to its materials and methods as illustrated in concepts and doctrines from various of its subjective fields. May be concurrently scheduled with course C197C.

C277. Making of the Constitution. Discussion, three hours. Examination of development of constitutional law during selected periods of American history, such as founding, Marshall and Taney eras, and New Deal. Emphasis on both judicial and nonjudicial materials. May be concurrently scheduled with course C197C.

C278. Bill of Rights and the States. Discussion, three hours. Examination of problems surrounding application to the states of Amendments 1 through 9. May be concurrently scheduled with course C197C.

C279. Seminar: Public Law. Discussion, three hours. May be concurrently scheduled with course C197C.

C280. Organization Theory Approaches to Organizational Analysis. Discussion, three hours. Analysis of several major conceptual alternatives for study of organizations, with emphasis on public administrative organizations. Topics include structural/functional and systemic approaches to organization, rational-choice models, and social psychological analyses. Each alternative critically evaluated for its strengths and weaknesses as guide to understanding organizational analysis. May be concurrently scheduled with course C197C. Mr. Chisholm

C281. Public Policy Studies. Discussion, three hours. Systematic analysis of nature and scope of public policy and its programmatic implications. Special emphasis on government organizations and processes, as well as types of government intervention and stages of the policy process. Substantive focus primarily on American public policy and analysis. May be concurrently scheduled with course C197C.

C282. Subnational Administrative Systems. Discussion, three hours. Analysis of state administrative systems, their local subsystems, and their outputs. May be concurrently scheduled with course C197C.

C283. Seminar: Public Organization and Policy. Seminar, three hours. May be concurrently scheduled with course C197C. Mr. Chisholm

C284. Seminar: Bureaucracy and Organization. Discussion, three hours. Prerequisite: consent of instructor. 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 the executive. Mr. Chisholm
Special Studies
With consent, credit may be applied toward any field.

290. Modern Political Economy. Discussion, three hours. Discussion of implications for understanding politics of the thinking of politicians, bureaucrats, producers, consumers, and nations as utility maximizers. Topics include microfoundations for macroeconomic models, forms of political participation, the state, government regulation, growth of government, bureaucracy; public policy, inflation. Mr. Stein
M291A-M291B. Social Theory and Comparative History. Same as History M202A-M202B and Sociology M296A-M296B. Colloquium, three and one-half hours every other week. Introduction to historically rooted social theory and theoretically sensitive history, following the program of the Center for Social Theory and Comparative History. Each course may be taken independently for credit.
Mr. Ashcraft, Mr. Brenner


293. Terrorism. Discussion, three hours. Analysis of the concept, relationship of terrorism to other forms of violence, history of the phenomena, various forms, and costs.
Mr. Rapoport

294. Religion, Revolution, and Violence. Discussion, three hours. Critical examination of various accounts of religion as a revolutionary and conservative force. Special attention to millenarianism and revolution and to the revealed religions, Christianity, Judaism, and Islam.
Mr. Rapoport

295. Comparative Fundamentalism. Discussion, three hours. Study of political meaning of the fundamentalist phenomena in various religions, especially Christianity, Judaism, and Islam.
Mr. Rapoport

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit.

495. Teaching Political Science. Workshop in teaching techniques, including evaluation of each student's own performance as a teaching assistant. Normally to be taken by all new teaching assistants in first term of their assistantships. May be taken only in term in which students are teaching assistants. May not be applied toward M.A. or Ph.D. course requirements. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: 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.

590A. Directed Reading for Ph.D. Dissertation Proposal (0 units). Required of all Ph.D. students. Must be taken under supervision of research adviser prior to term in which oral examination is taken. Research for proposed dissertation topic and submission of bibliographic essay on that topic. In Progress grading (credit to be given only on completion of course 590B).

590B. Directed Research for Ph.D. Dissertation Proposal (0 units). Prerequisite: course 590A. Required of all Ph.D. students. Must be taken under supervision of research adviser prior to or during term in which oral examination is taken. Development and writing of research design for Ph.D. dissertation. With consent of research adviser, courses 293A-293B and 293C may, by petition, be accepted as equivalent to courses 590A and 590B.

596. Directed Individual Study or Research (2 to 4 units). May be applied only three times toward minimum course requirement in first two years. May be repeated.

597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). May be repeated. S/U grading.


Program in Computing

See Mathematics

Psychology

1285 Franz Hall, (310) 825-2961

Professors
Paul R. Abramson, Ph.D.
Howard S. Adelman, Ph.D.
Arthur P. Arnold, Ph.D. (Neurosciences)
Bruce B. Baker, Ph.D. (Lickman Distinguished Teaching Award)
Jackson Beatty, Ph.D. (Neurosciences)
Peter M. Bentler, Ph.D.
Elizabeth L. Bjork, Ph.D., Undergraduate Affairs Vice Chair
Robert A. Bjork, Ph.D. (Distinguished Teaching Award)
Larry L. Butcher, Ph.D. (Neurosciences)
Andrew Christensen, Ph.D.
Barry E. Collins, Ph.D.
Jan de Leeuw, Ph.D.
Gaylord D. Ellison, Ph.D. (Neurosciences)
Michael S. Faselosow, Ph.D.
Seymour Feshbach, Ph.D.
rosslyn Gaines, Ph.D., in Residence
C.R. Gallistel, Ph.D. (Neurosciences)
R. Edward Geisselman, Ph.D.
Roche Goldstein, Ph.D.
Michael J. Goldstein, Ph.D. (Distinguished Teaching Award)
Patricia M. Greenfield, Ph.D. (Distinguished Teaching Award)
Carlos V. Grisalva, Ph.D. (Neurosciences)
Constance L. Hamman, Ph.D.
Barbara A. Herick, Ph.D.
Nancy M. Herley, Ph.D.
Eric W. Homan, Ph.D.
Keith Holyoak, Ph.D.
Harry J. Jerison, Ph.D., in Residence
Philip Kellman, Ph.D.
Franklin B. Krasne, Ph.D. (Neurosciences)
John C. Liebeskind, Ph.D. (Neurosciences)
O. Ivo Lovea, Ph.D., in Residence
Donald G. MacKay, Ph.D.
Neil N. Malamuth, Ph.D.
Irving Maitzmann, Ph.D., Graduate Affairs Vice Chair
Vickie M. Mays, Ph.D.
Albert Mehrbani, Ph.D.
Hector F. Myers, Ph.D.
Donald Novin, Ph.D. (Neurosciences)
L. Anne Peplau, Ph.D.
Tom Scanlan, Ph.D.
Richard Schmidt, Ph.D.
David O. Sears, Ph.D.
Marion Sigman, Ph.D., in Residence
James W. Stigler, Ph.D.
Stanley Sue, Ph.D.
Shelley E. Taylor, Ph.D.
James P. Thomas, Ph.D., Academic Personnel Affairs Vice Chair
Bernard Weiner, Ph.D.
John R. Weiss, Ph.D.

597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). May be repeated. S/U grading.


Thomas D. Wickens, Ph.D. (Distinguished Teaching Award)
J. Arthur Woodward, Ph.D., Chair
Eran Zaidel, Ph.D. (Neurosciences)

Professors Emeriti
Richard P. Barthol, Ph.D.
William E. Brow, Jr., Ph.D.
Edward C. Canterette, Ph.D.
James C. Coleman, Ph.D.
Andrew L. Comrey, Ph.D.
Morton P. Friedman, Ph.D.
John Garcia, Ph.D.
Joseph A. Gentegell, Ph.D.
Harold B. Gerard, Ph.D.
Milton E. Hahn, Ph.D.
John P. Houston, Ph.D.
Wendell E. Jeffrey, Ph.D.
F. Nowell Jones, Ph.D.
Harold H. Kelley, Ph.D.
George F.J. Lehner, Ph.D.
Donald B. Lindsay, Ph.D., Sc.D.
John H. Lyman, Ph.D.
George Mount, Ph.D.
Charles Y. Nakamura, Ph.D.
Allen Parish, Ph.D. (Distinguished Teaching Award)
Bertram H. Rawen, Ph.D.
Eliot H. Rodnick, Ph.D.
David Shapiro, Ph.D.
Edwin S. Shneidman, Ph.D.
Gerald H. Shure, Ph.D.

Associate Professors
Terry K. Au, Ph.D.
Patricia Cheng, Ph.D.
Michelle G. Cateske, Ph.D.
Christine A. Dunkel-Schetter, Ph.D.
Patrice L. French, Ph.D.
Gerard M. Goodman, Ph.D.
Steven R. Lopez, Ph.D.
Thomas Minor, Ph.D.
Stanley J. Schein, Ph.D., M.D.
James H. Sidianus, Ph.D.

Assistant Professors
David Boninger, Ph.D.
Thomas N. Bradbury, Ph.D.
John Hummel, Ph.D.
Nancy G. Kesting, Ph.D.
Brett Peiham, Ph.D.
Rena L. Repetti, Ph.D.
Cindy Yee-Bradbury, Ph.D.

Adjunct Professors
Joseph Bogen, Ph.D.
Marion Jacobs, Ph.D.
Claire Kopf, Ph.D.
James G. Miller, Ph.D.
Jill Waterman, Ph.D.

Adjunct Associate Professors
Jacqueline D. Ghodschis, Ph.D.
Dennis McGinty, Ph.D.
Nancy Wooll, Ph.D.

Adjunct Assistant Professors
William McCarty, Ph.D.
Lynn A. Ozkaz, Ph.D.
Dahila Zaidel, Ph.D.

Scope and Objectives
Psychology is a subject of considerable interest to most people — we all tend to practice some form of intuitive psychology in an attempt to understand ourselves and the people and groups with whom we interact. The curriculum offered by the UCLA Department of Psychology presents psychology as a scientific discipline that employs systematic methods of inquiry to study and explain human and animal be-
The structure of the undergraduate curriculum has been designed to reflect the extensive breadth of psychology — in terms both of the range of behavioral phenomena studied and the variety of methods and theoretical approaches employed — while allowing students to pursue in greater depth those areas in which they become most interested. Beyond basic core courses, students can take many specialized courses in areas such as psychobiology, animal behavior, learning and memory, motivation, perception, cognition, measurement, personality, and clinical, social, developmental, community, and health psychology. The curriculum also provides excellent opportunities for research experience — either in the form of laboratory courses or by participation with faculty and graduate students in a wide variety of research projects.

A choice of three undergraduate majors is offered: a B.A. degree in Psychology and B.S. 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 understanding of human behavior, including their own.

At the graduate level, the department offers training leading to the Ph.D. degree with emphases in areas such as behavioral neuroscience, clinical, cognitive, developmental, learning and memory, social, and health psychology. The program is designed to prepare future psychologists for careers as scientific investigators, college and university teachers, and professional psychologists.

Bachelor of Arts in Psychology

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 you with a strong foundation for postgraduate education in psychology and can serve as excellent background to prepare you 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 for the major. Additional courses in psychology, statistics, and related sciences, as well as other types of research and fieldwork experiences, are highly recommended if you 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 this major. For additional information, contact the Undergraduate Advising Office, 1531 Franz Hall.

Preparation for the Major

You need to file a petition in the Undergraduate Advising Office to declare the prepsychology major. You are then identified as a prepsychology major until (1) you satisfy the preparation for the major requirements and (2) you file a petition to declare the psychology major. The following required courses must be taken for a letter grade (a C - or better in each course and a 2.3 overall grade-point average in the preparation courses) before you reach 110 total units (effective Fall Quarter 1990 for all entering freshmen; transfer students must complete all remaining preparation courses by the end of the first year of enrollment): Anthropology 7 or 10 or 12 or 15; Biology 2 or 5; Chemistry and Biochemistry 2 (if you have completed one year of high school chemistry with a C or better, this requirement is waived) or 11A; Mathematics 2 or two terms of calculus; Physics 10 or 3A or 6A or 8A/8AL; one course from Philosophy 1, 4, 6, 7, 8, 9, 21, 22; Psychology 10, 42; Psychology 41 (recommended) or Statistics 50.

Psychology 41 and 42 should be taken early in your career; these courses are open only to students who have declared the prepsychology major one term before the term in which they plan to enroll. You cannot take Psychology 42 until you have passed one of the statistics courses with a grade of C - or better.

Repetition of more than two preparation courses in which a grade of D or F was received or of any preparation course more than once results in automatic denial of admission to the major (effective Fall Quarter 1990 for all entering freshmen and transfer students). The requirements listed below are effective Fall Quarter 1992 for all freshmen and new transfer students and for any students who did not declare the cognitive science major by Fall Quarter 1992. Questions about the major should be directed to the Undergraduate Advising Office, 1531 Franz Hall.

Preparation for the Major

You need to file a petition in the Undergraduate Advising Office to declare the precognitive science major. You are then identified as a precognitive science major until (1) you satisfy the preparation for the major requirements and (2) you file a petition to declare the cognitive science major. The requirements listed below are effective Fall Quarter 1992 for all entering freshmen and new transfer students and for any students who did not declare the cognitive science major by Fall Quarter 1992. Questions about the major should be directed to the Undergraduate Advising Office, 1531 Franz Hall.

The following required courses must be taken for a letter grade (a C or better in each course and a 2.5 overall grade-point average in the preparation courses): Biology 2 or 5; Chemistry and Biochemistry 2 (if you have completed one year of high school chemistry with a C or better, this requirement is waived) or 11A; Mathematics 31A, 31B; Philosophy 7, 8, or 9; Physics 10 or 3A or 6A or 8A/8AL; Program in Computing 10A, 10B, 15; Psychology 10, 42, 85; Psychology 41 (recommended) or Statistics 50. Psychology 41 and 42 should be taken early in your career; these courses are open only to students who have declared the precognitive science major one term before the
term in which they plan to enroll. You cannot take Psychology 42 until you have passed one of the statistics courses with a grade of C – or better.

Repetition of more than two preparation courses in which a grade of D or F was received or of any preparation course more than once results in automatic denial of admission to the major (effective Fall Quarter 1990 for all entering freshmen and transfer students).

The Major

After satisfying the preparation for the major requirements, you need to petition to enter the major at the Undergraduate Advising Office.  

Required: (1) Psychology 115, 120, and one course from 124A through 124F; (2) one course from 168A or 168B and one course from 121, 186A, 186B, or Computer Science 161; (3) three upper division elective courses (12 units) from Psychology 110, 112A through 119N, 123, 124A through 124F (if taken for the major, may not be applied as an elective), 130, 133B, 135, M142, 150, 151, 157, 169, 190B or 190C (if content is approved by the Undergraduate Advising Office and courses have not been applied toward the Psychology 188 requirement), 197 (content must be approved by the Undergraduate Advising Office before elective credit may be granted), Computer Science 111 through M196B, Linguistics 103 through C185B, Mathematics 101A through 151, Philosophy 126A through 136, Statistics M152A through M153B; (4) two terms of Psychology 188 (may be fulfilled by taking any two courses from 188, 190C, or 199, provided content is approved by the Undergraduate Advising Office).

Effective Fall Quarter 1992 students who complete Psychology M117A-M117B-M117C will receive equivalent credit for course 115 and two upper division cognitive science electives. You must have a 2.0 grade-point average in all upper division courses selected to satisfy major requirements. With the exception of Psychology 188, each course must be taken for a letter grade.

Quantitative Methods Concentration

This concentration is intended to give you more extensive preparation in statistics. The following additional courses are required: Mathematics 32A, 32B, 33A, 33B, and either M150A-150B or 151, or Statistics M152A and 152B-152C. Psychology 41 is not required. To declare this concentration, see a counselor in the Undergraduate Advising Office once you have completed all required courses.

Bachelor of Science in Psychobiology

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 you plan to pursue graduate work in any of the above fields; however, you 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 undergraduates students, although such courses may not be applied toward degree requirements for this major. For additional information, contact the Undergraduate Advising Office, 1531 Franz Hall.

Preparation for the Major

You need to file a petition in the Undergraduate Advising Office to declare the psychobiology major. You are then identified as a prespsychobiology major until (1) you satisfy the preparation for the major requirements and (2) you file a petition to declare the psychobiology major. The following required 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 preparation courses): Biology 5, 6, 9, Chemistry and Biochemistry 11A, 11B/11BL, 11CL, 124A, 124B/124BL; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 6A, 6B, and 6C, or 8A/8AL, 8B/8BL, and 8C/8CL; Psychology 10, 42; Psychology 41 (recommended) or Statistics 50. Psychology 41 and 42 should be taken early in your career; these courses are open only to students who have declared the prespsychobiology major one term before the term in which they plan to enroll. You cannot take Psychology 42 until you have passed one of the statistics courses with a grade of C – or better.

Repetition of more than two preparation courses in which a grade of D or F was received or of any preparation course more than once results in automatic denial of admission to the major (effective Fall Quarter 1990 for all entering freshmen and transfer students).

The Major

After satisfying the preparation for the major requirements, you need to petition to enter the major at the Undergraduate Advising Office.  

Required: (1) Biology 100A, 108, 129 or Psychology 118 or Anthropology 128A and 128B, and Psychology 110, 115, 116, 120; (2) one course from Psychology 127, 130, 135; (3) 16 units of graded elective courses from the following list: Biology 107, 112, 113A, 114 (no more than one from this group); Psychology 119A through 119N, 190C (only if content is approved by the Undergraduate Advising Office), 197 (content must be approved by the Undergraduate Advising Office before elective credit may be granted), Biology 102, C104, 105, 106, 110, 111, 115, 117, C119, 120, 122, 124 (only four units may be applied toward the major), 131 (only four units may be applied toward the major), 135, 138, 146, 153, CM156, 157, 158, 164, 166, 167, 168, 171, M173, 179, Chemistry and Biochemistry 153A, 153B. Effective Fall Quarter 1990 students who complete Psychology M117A-M117B-M117C will receive equivalent credit for course 115 and 10 units of upper division psychobiology electives. You 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.

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 198, 199, 193, 194, 199, or the Student Research Program (SRP) through the College of Letters and Science. Information about these courses and programs is available from the Undergraduate Advising Office, 1531 Franz Hall.

Developmental Disabilities Immersion Program and Concentration

The Developmental Disabilities Immersion Program (DDIP) is cosponsored by the Department of Psychology, the Department of Psychiatry and Biobehavioral Sciences, and the Office of Instructional Development — Field Studies Development. Each year a group of 30 students is selected for the program which runs during Winter/Spring Quarters. Students participate in courses, fieldwork, and research at selected University and community facilities serving persons with developmental disabilities. Required courses include Psychology/Psychiatry M180A, M180B, M181A-M181B. Students also take other courses related to developmental disabilities. Many of the courses fulfill psychology undergraduate major requirements (consult the Undergraduate Advising Office for details). Student individualized research projects are also part of the immersion experience.

To earn a concentration, majors in psychology, cognitive science, and psychobiology must be accepted into the Developmental Disabilities Immersion Program. Information and applications are available from Field Studies Development, 80 Powell Library. The following courses are required for the concentration: Psychology 127 (may also be applied as one of the three upper division electives required for the psychology major), 130 (also satisfies a core requirement for the psychology major), M180A, M180B, M181A-M181B, 193 (two terms). With the exception of course 193, each course must be taken for a letter grade. Students in the department who complete the requirements receive a depart-
The Undergraduate Advising Office early in degree with honors or highest honors. Consult grade of B or better in each. Satisfactory completion of the program and the other requirements for a bachelor's degree in your major and a specialization in computing. Consult the Undergraduate Advising Office if you plan to enter this specialization.

**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. All such courses offer credit toward the departmental honors program. Consult the College of Letters and Science for information on requirements for College Honors. Enrollmen priority in honors courses is given to students in the departmental honors program.

**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. You work for a year with a faculty sponsor on a research project that is the basis of a formal honors thesis. During that year you also participate in a weekly seminar (Psychology 190A-190B-190C) in which thesis projects are presented and discussed and other topics of interest are explored with invited faculty members and other guests. In addition, you must take two (or more) psychology honors courses selected from a list provided by the department, with a grade of B or better in each. Satisfactory completion of the program and the other requirements for the major leads to awarding of the degree with honors or highest honors. Consult the Undergraduate Advising Office early in your educational planning for further information and application forms.

**Infant Development Program**

The Infant Development Program 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, and their parents. In addition, the program provides an opportunity for students in developmental psychology and other areas to acquire firsthand experience working with infants and toddlers through a two- or three-term sequence of Psychology 193. The program is located in Franz Hall and provides child care for about 13 infants ranging in age from four months to three years.

**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 apprenticeship relation 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.

**National Research Center on Asian American Mental Health**

The National Research Center on Asian American Mental Health (NRCAAMH) is one of several centers in the nation devoted to ethnic minority research, and the only one focusing on Asian Americans. NRCAAMH acts in a national multidisciplinary leadership role in the conduct and promotion of applied and basic research regarding the mental health of various Asian groups (e.g., Chinese, Japanese, Koreans, Filipinos, Southeast Asians, etc.) in the U.S. The center provides undergraduate and graduate students with opportunity to participate in research projects, publish scholarly articles, and collaborate with other researchers in the field.

**Preparation for Graduate Study**

The curriculum for the undergraduate major fulfills admission requirements at most universities. However, candidates seeking graduate training in psychology should strengthen their preparation by accruing research experience through laboratory and research assistantships and through advanced undergraduate courses and seminars (especially in statistics and research design and methods). Independent study projects, honors theses, community placements, and fieldwork positions are also strongly recommended. Consult the Undergraduate Advising Office in 1531 Franz Hall or the Graduate Admissions Office in 3453 Franz Hall for more information.

**Ph.D. Degree**

The graduate program in psychology leads to the Ph.D. degree. Although you may obtain the M.A. degree en route to the Ph.D., the department does not admit candidates for the M.A. degree only. For the Ph.D. degree, a thorough background in research methodology and psychological theory is required. Major specialized training is available in the areas of psychology listed below under "Major Fields or Subdisciplines."

A departmental brochure describing the graduate program in psychology is available from the Graduate Admissions Office, 3453 Franz Hall.

**Admission**

Successful applicants to the Ph.D. program usually possess an undergraduate psychology degree and extensive research experience. However, students from other disciplines (particularly the mathematical, physical, biological, and social sciences) may be admitted. Admission is for Fall Quarter only and on a full-time basis. Applicants must mail the following documents directly to the Department of Psychology, 3453 Franz Hall, UCLA, Los Angeles, CA 90024-1563, by January 3 to be considered for admission the following Fall Quarter:

1. The University's Application for Graduate Admission and the departmental supplementary materials, available from 3453 Franz Hall.
2. Three letters of recommendation (preferably from research psychologists).
3. One official transcript from each college attended.
4. Official scores on the Graduate Record Examination (GRE) General Test and the Subject Test in Psychology (taken within the last three years).
5. The Test of English as a Foreign Language (TOEFL), required of all international applicants whose native language is not English.

Students who are being considered as finalists for the clinical program may be required to meet with the clinical faculty for an interview. Admitted students are expected to have taken courses equivalent to the following:

1. Psychology 41: (2) two courses from Psychology 110, 115, 120; (3) two courses from the following alternatives: (a) Psychology 127, (b) 130, and (c) 135; (4) one course in biology or zoology, one course in mathematics (preferably calculus or probability), and two courses in the physical sciences (i.e., physics and/or chemistry; a course in anthropology, philosophy, or sociology may be substituted for one of the physical sciences courses). If you have com-
pleted one of the UCLA Psychology Department majors, you will have satisfied the undergraduate preparation requirements. Although it is possible to gain admission into the Ph.D. program with some deficiencies in these basic requirements, they must be remedied within your first four terms of graduate study by taking appropriate coursework or examinations.

Major Fields or Subdisciplines
You may major in behavioral neuroscience, clinical, cognitive, developmental, learning and behavior, measurement and psychometrics, or social psychology. Training is also available in community psychology.

Course Requirements

General Course Requirements — All students, regardless of area, must fulfill the requirements listed below.

The core program must be completed within your first two years in residence. The core program includes four core courses, plus Psychology 250A, 250B, 251A-251B (and 251C, if an additional term is needed to complete the course).

Nine graduate courses (36 units), including Psychology 250A, 250B, 251A-251B (research project must be complete), and at least three of the four core courses are required for the M.A. degree. One 596 course (four units) may be applied. Courses in the 400 series may not be applied. All undergraduate deficiencies must be cleared.

By the end of the second year, you must complete at least one individual research course (596) and at least three second-year graduate courses, including one quantitative course from Psychology 252A, 252B, 253, 254A, 254B, 255, M256, M257, 258, 259, 258, 287.

During the third year, you must enroll in a minimum of three graduate-level courses, plus one term of course 596. At least one term of course 596 or 599 should be taken during the fourth year and each remaining year in the graduate program.

Major Area Course Requirements — Each area has its own specific requirements. A course may not be applied toward requirements in more than one major or minor area unless no other course options are designated. Requirements are as follows: behavioral neuroscience — eight units from the 205 series, three terms of course 212, two approved behavioral neuroscience seminars, and Neuroscience M201 and either M202 and M204, or Psychology M117A; clinical — Psychology 270A-270B-270C, 271A-271B-271C, 277A, and at least four additional clinical courses, distributed among the 272 series (zero to two courses) and advanced courses beyond 272 (two to four courses); cognitive — courses 260A-260B, plus four additional courses, including at least two selected from 259, 261 through 266, and at least one from 268A through 268E or 269; developmental — courses 240A-240B, two courses from 242A through 242F or 244; learning and behavior — courses 200A, 200B, plus two courses from 204A through 204E, 208, 210, 281, 290, 293; measurement and psychometrics — five courses from 249, 252A, 252B, 253, 254A, 254B, 255, M256, M257, 258; social — courses 220A, 220B, 220C, three social seminars taught by three different faculty members, course 226A in the first year of the program, and 226B-226C each year for the first three years of the program.

Minor Area Course Requirements — The minor area requirement is normally satisfied by taking three to four specified courses in one of the following areas: behavioral neuroscience, cognitive, developmental, experimental psychopathology, health, learning and behavior, measurement and psychometrics, political, or social psychology. You may also petition for an individualized minor. See departmental bulletins for further details.

Qualifying Examinations
The qualifying examination generally consists of three separate sections. The first is an examination administered by the major area, which examines in breadth your knowledge of the major field. The second section is an individual examination which examines in depth your knowledge of your area of specialization within the major field. The third section is the University Oral Qualifying Examination. All Ph.D. requirements listed above must be completed before the oral qualifying examination can be taken. After successful completion of the oral examination, you are advanced to candidacy and may begin work on the dissertation.

Contact the department for the specific examination requirements of the various areas of specialization.

Practicum and Internship Requirements for Clinical Students
(1) At least 400 hours of approved supervised internship practicum (Psychology 401) are required, of which 150 hours must involve direct clinical service and 75 hours must be formal schedule supervision. These hours are usually completed during the second through fourth years.

(2) The equivalent of one year of full-time supervised internship (Psychology 451) in an acceptable setting approved by the faculty is required. This is usually taken in the fourth or fifth year. Contact the department for further information on the internship requirement and internship assignments.

If you have (1) completed all academic requirements, (2) passed the final oral examination, (3) received doctoral committee approval to file your dissertation, (4) provided evidence of satisfactory completion of at least nine months of an internship approved by the faculty, and (5) obtained approval from the clinical area chair, you may file your dissertation and be awarded the Ph.D. degree with the clear understanding that the remaining months of internship required by the American Psychological Association will be completed as outlined in the internship contract. Documentation of subsequent internship completion will be provided by the director of clinical training.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
The final oral examination is required of all candidates for the Ph.D. degree.

Psychology Clinic
The Psychology Clinic in the Department of Psychology is a major training center for clinical psychology students in the Ph.D. program. It provides a broad range of psychological services to clients, 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 are encouraged to relate their case material to academic learning and current research. Students and faculty members are also involved in a variety of clinical research projects.

Lower Division Courses

10. Introductory Psychology. Not open to students with credit for course 11. General introduction including topics in cognitive, experimental, personality, developmental, social, and clinical psychology; six hours of psychological research.

11. Principles of Psychology (5 units). Lecture, three hours; discussion, one hour; laboratory, one hour. Recommended for premajors. Not open to students with credit for course 10. Introduction to psychology, with emphasis on critical analysis and research. Readings include selections from primary research literature. Discussion sections focus on writing assignments; laboratory sections focus on research simulations.

15. Introductory Psychobiology. Lecture, three hours. Designed for nonmajors. Survey of genetic, evolutionary, physiological, pharmacological, and experiential factors affecting behavior. Using comparative approach where appropriate, emphasis on relevance of biological mechanisms to understanding of humans and their interaction with their environment.


42. Research Methods in Psychology (6 units). Lecture, two hours; laboratory, four hours. Enforced requisites: courses 10 and 41 (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.

85. Introduction to Cognitive Science. (Formerly numbered 97). 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.
Upper Division Courses

M107. Asian American Personality and Mental Health. (Same as Asian American Studies M107.) Lecture, four hours. Principles in the study of personality development and mental health among Asian Americans. Topics include culture, family patterns, achievements, stressors/resources, and immigrant adjustment. 5 units each.

97. Variable Topics in Psychology. Lecture, three hours. Enforced requirement: courses 10 or 11. Study of selected topics in psychology at introductory level; lecture format designed for freshmen/sophomores.

110. Fundamentals of Learning. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, 110, junior standing. Experimental findings on animal and human conditioning, retention and transfer of learning, and neural mechanisms of learning and memory. Emphasis on the role of conditioning. 5 units each.

112A. Basic Processes of Motivated Behavior. Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: courses 10, 41, 110, junior standing. Examination of some basic processes underlying motivated behavior, including the study of behavior such as feeding, drinking, and reproductive behavior. Study of physiological mechanisms that contribute to such behaviors. Consideration of topics such as reinforcement, acquired immunology, and drug addiction. Evaluation of evidence obtained in laboratory studies conducted with animals.

112B. Psychobiology of Fear and Anxiety. Lecture, three hours. Prerequisites: courses 10, 41, 110, junior standing. Prerequisites: course 115 and junior standing. Prerequisites: course 115 and junior standing. Examination of some basic processes underlying motivated behavior, including the study of behavior such as feeding, drinking, and reproductive behavior. Study of physiological mechanisms that contribute to such behaviors. Consideration of topics such as reinforcement, acquired immunology, and drug addiction. Evaluation of evidence obtained in laboratory studies conducted with animals.

112C. Principles of Skill Acquisition. Lecture, three hours. Prerequisites: course 110 or 120 (recommended). Students interested in psychology or related fields should take this course in their second year. Prerequisites: consent of instructor. Examination of the principles of skill learning, with emphasis on general principles of skill learning derived from laboratory settings. These principles have relevance to various industrial and occupational settings, musical performances, vehicle control, and sport, and other activities in which complex perceptual-motor skills are acquired. This course may be taken concurrently.

113H. Behavior and Alcohol Laboratory (Honors). Discussion, two hours; laboratory, four hours. Prerequisites: courses 10, 41, 42. Honors course parallel to course 113.

114. Alcoholism. Prerequisite: upper division standing. Students study the physiological, behavioral, and psychological characteristics, and treatment of alcoholism considered from a biobehavioral point of view.

115. Principles of Behavioral Neuroscience. Lecture, three hours; discussion, one hour. Prerequisites for nonmajors: Biology 5, consent of instructor. Nervous system anatomy, physiology, pharmacology, and their relationship to behavior.

119F. Neuron Circuitry and Behavior. Prerequisites: courses 115, Biology 171, and junior standing, or consent of instructor. Presentation of current data and theory concerning how neuron circuits produce behavior. Mechanisms of perception, response selection, motor pattern formation, and motivation, with emphasis on operation of these processes in well-defined neural circuits.

119G. Psychobiology of Pain and Pain Inhibition. Lecture, three hours. Prerequisites: courses 115 and senior standing, or consent of instructor. Lectures and discussions on neural mechanisms of pain and pain of chronic pain disease.

119L. Psychophysiology of Motivation. Lecture, three hours. Prerequisites: courses 115, junior standing. Basic psychophysiology, including brain and endocrine mechanisms, involved in control of motivation. Discussion of homeostatic drives such as hunger and thirst and nonhomeostatic drives such as reproduction behavior.

119M. Ethology: Physiology of Behavior and Learning in Animals. (Same as Psychiatry M190.) Prerequisites: courses 115, junior standing. Basic course for undergraduate students which integrates systematic course study with special emphasis on methods of behavioral observation and standard training procedures in laboratory animals (in behavioral, neuropsychological, and pharmacological studies) with broad biological, evolutionary perspective.

119N. Evolution of Intelligence. (Same as Psychology M119.) Lecture, two hours; discussion, two hours. Prerequisites: courses 15 or 115, introductory statistics course, junior or senior standing, consent of instructor. Evolutionary theory of intelligence, its evolution in vertebrates correlated with evolution of enlarged brain. Quantitative approaches in evolutionary biology and neurosciences.

119R. Theories of the Nervous System. Lecture, two hours. Prerequisites: courses 115, 120, consent of instructor. Survey of experimental and clinical human neurophysiology; neural basis of higher cognitive functions.

119S. Psychological Physiology of Learning. Lecture, nine hours. Prerequisites: courses 110, 115, 120, junior standing. Prerequisites: course 115 and junior standing. Prerequisites: course 115 and junior standing. Examination of the principles of skill learning, with emphasis on general principles of skill learning derived from laboratory settings. These principles have relevance to various industrial and occupational settings, musical performances, vehicle control, and sport, and other activities in which complex perceptual-motor skills are acquired. This course may be taken concurrently.

121. Laboratory in Cognitive Psychology. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, 110. Juniors in psychology major standing. Survey of the cognitive psychology of sensation, perception, attention, memory, representation of knowledge, language, action, decision making, thinking.

121. Laboratory in Cognitive Psychology. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 110. Junior standing. Survey of cognitive psychology, the study of how people acquire, represent, transform, and use verbal and nonverbal information. Perception, attention, imagery, memory, representation of knowledge, language, action, decision making, thinking.

122. Language and Communication. Lecture, three hours. Prerequisite: course 10. Introduction to psycholinguistics; the study of language and communication; verbal and nonverbal channels; logical and inductive reasoning; language and cultural variation; animal communication; biological bases of language; acquisition and comprehension of speech and writing; relation to perception, memory, and thought; conversational interaction; language development.

123. Psycholinguistics. Prerequisite: junior standing. Course covers language acquisition, language perception, and language production: language physiology and pathology; prosody of representation, sequencing, and timing in language and other cognitive skills; errors in speech production and perception.
124A. Sensation and Perception. Lecture, three hours. Prerequisites: courses 10, 41, 120, junior standing. Contemporary research and theory about visual and auditory perception. Topics include physiological mechanisms, psychophysical studies and models, and computational approaches.

124B. Visual Information Processing. Lecture, two hours; discussion, one hour. Prerequisites: courses 10, 41, 120, junior standing. Analysis of recent research on basic processes and structural components that comprise the human memory system. Discussion topics include practical implications of such research for instruction, memory, and eyewitness testimony.

124C. Human Memory. Lecture, two hours; discussion, one hour. Prerequisites: course 120, junior standing. Analysis of recent research on basic processes and structural components that comprise the human memory system. Discussion topics include practical implications of such research for instruction, memory, and eyewitness testimony.

124D. Principles of Human Performance. Prerequisite: psychology major standing or consent of instructor. Investigation into laboratory-based methods and principles of human performance. Major topics include reactive-motor human performance, central control of movements, anticipation and timing, automaticity, sensory involvement in action such as vision and kinesthesia, role of reflexes, speed-accuracy trade-offs, and individual differences and abilities. Principles include: 1) various single and multiple knowledge acquisition processes and representations underlying perception, production, attention, and awareness in human cognition.

124F. Thinking. Lecture, three hours. Prerequisites: courses 10, 41, Rationale, methods, and content of studies dealing with problems of describing persons in terms of a limited set of dimensions. Detailed consideration of research literature dealing with a few representative personality dimensions.

125A. Advanced Statistical Methods in Psychology. Lecture, three hours. Prerequisite: course 41. Further study of principles of measurement, observational, experimental, and multiple regression.

125B. Seminar: Cognitive Development. Seminar, three hours. Prerequisites: course 10, 41, 120, or 130. Major theories, approaches, and issues in study of cognitive development. Readings include original research on important topics such as development of perception, language, thinking, and problem solving, and acquisition of concepts and domain-specific language.

125BH. Seminar: Cognitive Development (Honors). Seminar, three hours. Prerequisite: consent of instructor. Honors course parallel to course 125B. Sp

125C. Language Development. Lecture, three hours. Prerequisites: courses 10, 41, 130, Application of principles of cognitive development, learning, and perception to study of language development during childhood. Topics include parent/child attachment, temperament, self-control, aggression, sex-typing, self-concept, moral reasoning and behavior, social status and social skills, and peer group relations.

126. Nonexperimental Methods in Social Psychology. Lecture, two hours; laboratory, two hours. Prerequisites: courses 41, 42, psychology major standing. Introduction to research methods for study of social attitudes or behavior, including fieldwork and sample survey research, naturalistic observation, or questionnaires.

127A. Sport Psychology (Honors). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Honors course parallel to course 127A.

127B. Attitude Formation and Change. Lecture, three hours. Prerequisites: courses 10, 41, 135. Structure and functions of attitudes, their measurement, how they develop, and methods for changing them.

127C. Close Relationships. Lecture, three hours. Prerequisite: course 40 or 135 or consent of instructor. Examination of research and theory about friendship, dating, and marital relationships: how these relationships are affected by gender and changing sex roles.

127D. Introduction to Health Psychology. Prerequisite: course 10. Areas of health, illness, treatment, and prevention. Introduction to research methods in health psychology emphasizing relationship between psychological concepts and research, how health psychology concepts might be enlarged and extended in the medical area.

131E. Work Behavior of Women and Men. (Same as Women's Studies M137E.) Prerequisite: course 10 or Women's Studies 10 or senior standing. Examination of work behavior of women and men. Topics include labor market experiences, career development, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence of work and family roles.

131F. Interpersonal Influence and Social Power. Lecture, three hours. Prerequisite: 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 power holder 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. M137J. Psychology of Language and Gender. (Formerly numbered 137J.) (Same as Communication Studies M124 and Women's Studies M137J.) Lecture, three hours. Prerequisites: courses 10 or equivalent, junior standing. Examination of current topics at intersection of gender and language. Topics include sex differentiation in language cross-cultural; sex and politics; gender and language in lexic, syntax, phonology, and nonverbal; language and expression of gender in children; "women's" and "men's" language in various racial/cultural/sexual preference groups; and conversational interaction.

138. Electoral Politics: Political Psychology. (Same as Political Science M141A.) Lecture, three or four hours; discussion, one hour (optional); outside study, two to nine hours. Prerequisite: course 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and psychological analysis of public opinion on these issues.

142. Advanced Statistical Methods in Psychology. Lecture, two hours; discussion, 90 minutes. Prerequisite: course 41. Survey of statistical techniques commonly used in psychology, education, and behavioral and social sciences: descriptive and inferential techniques, analysis variance, and multiple regression.

144. Psychological Tests and Evaluation. Prerequisite: course 41. Further study of principles of measurement, stress, and basic concepts. Application to problems of test construction, administration, and interpretation.
150. Mathematical Models in Psychology. Lecture, two hours; discussion, two hours. Prerequisites: Mathematics 3C or 31B, Computer Science 10C or 10F, or consent of instructor. Survey of theoretical models and experimental evidence for the mathematical areas of psychology. Topics include mathematical computer models of learning, perception, cognition, and personality.

151. Computer Applications in Psychology. Lecture, two hours; discussion, two hours. Prerequisites: Computer Science 10C or 10F, consent of instructor. Topics include hardware and software computer problems in design, control, and analysis of experiments; programming problems arising in evaluation of models of psychological processes of various content areas such as learning, perception, social, personality, and clinical.

M171. Death and Suicide: Psychological and Sociological Aspects. (Same as Sociology M136.) Lecture, three hours. Prerequisite: junior standing. Definition and taxonomy of death; new permissiveness and taboos related to death; romanticization of death; role of the religious, legal, and medical professions; death and development; 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. Problems of the dying, the bereaved, and positive practices in relation to death and suicide; partial death; megadeath; lethality; psychological autopsy: death of institutions and cultures. P/NP grading recommended (letter grading required for courses to be applied toward psychology or sociology major).

M165. Psychology of Gender. (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, sex differences in intellectual abilities and achievement, and impacts of gender roles.

M168. Environmental Psychology. Lecture, three hours. Prerequisites: courses 10, 41. Research-oriented course which surveys theoretical and methodological issues which comprise the area of environmental psychology. Discussion of basic dimensions of emotional response to physical and social environments, measurement of information of rate of situations, and personality variables that are relevant to environmental theory. Residential fieldwork in recreational environments within a unified framework.

170A. Behavior Modification. Lecture, three hours. Prerequisite: upper division standing or consent of instructor. Applied behavior theory; study of application of principles derived from learning theory, both classical and instrumental (operant) conditioning, to treatment of developmentally disabled, autistic, and schizophrenic children, adult schizophrenics, affective disorders, anxiety states, drug abuse, marital discord, etc. Lectures, discussions, and demonstrations.

170B. Fieldwork in Behavior Modification. Discussion, two hours; fieldwork, six hours. Prerequisites: course 110 with a grade of A or 170A, consent of instructor. Fieldwork in applied behavior therapy, especially to problems of retarded and autistic children. Review of current research in the field. May not be applied as an elective toward any Psychology major.

170C. Advanced Fieldwork in Behavior Modification for Nonpsychology Majors. Lecture, two hours; fieldwork, six hours. Prerequisites: course 170B, consent of instructor. Not open to students with credit for course 171A. Does not fulfill laboratory requirement for majors. Advanced fieldwork in applied behavior therapy, especially related to problems of retarded and autistic children. Review of current research in the field. May not be applied as an elective toward any Psychology Department major.

171A. Advanced Fieldwork in Behavior Modification for Psychology Majors. Discussion, two hours; fieldwork, six hours. Prerequisites: consent of instructor. Advanced fieldwork in applied behavior therapy, especially related to problems of retarded and autistic children. Students design and carry out individualized experimental study to evaluate behavior-al interventions with developmentally disabled clients.

171B. Practicum: Design and Implementation of Behavioral Interventions. Discussion, two hours; fieldwork, six hours; to be arranged, 20 hours. Prerequisites: course 171A, consent of instructor. Design and implementation of behavioral interventions for developmentally disabled children. Topics include goal selection, ethical considerations, behavioral contracting, client right and human use procedures, home and community management, parent and staff training, working with schools, clinical issues.

M172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Women's Studies M172.) Limited to juniors/seniors. Impact of social, 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.

173. Advanced Abnormal Psychology. Lecture, three hours. Prerequisites: courses 10, 41, 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 of following: childhood disorders, anxiety and stress, the schizophrenics, or mood disorders.

174. Interpersonal Process Analysis. Lecture, two hours; discussion, one hour. Prerequisites: limited to psychology majors. Lectures on interpersonal psychology, 127, concentration on interpersonal relationships. Introduction to conceptual tools for analyzing interpersonal structures and functions in goal-oriented human interaction such as social psychology, group psychology, etc. Small group exercises integrated with lecture and discussion (additional laboratory work to be arranged).

175. Community Psychology. Prerequisites: junior or senior psychology major standing, consent of instructor. Application of psychological principles to understanding and solution of community problems. Topics include community development, community mental health problems, drugs, racism, and rehabilitation of persons.

175H. Community Psychology (Honors). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Honors course parallel to course 175.

M176. Communication and Conflict in Couples and Families. (Same as Communication Studies M161.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: courses 10 or 11, 41, and 127, or consent of instructor. Examination of (1) dysfunctional communication in families and (2) the interrelation of these processes to individual psychopathology, marital discord, and family disruption (e.g., separation and divorce).

177. Counseling Relationships. Prerequisites: courses 10, 41, 127, junior or senior standing, and consent of instructor, or junior or senior psychology major standing. Conceptual and empirical foundations of psychological counseling; comparison of alternative models of counseling process. Focus on basis of counseling approaches in community mental health areas such as drug abuse, suicide prevention, and crisis intervention.

178. Human Motivation. Lecture, three hours. Prerequisite: upper division standing. Examination of theories of human motivation, expression, and finding supporting the theories, and history of study of motivation. Topics include sociobiology, conflict, aspiration level, achievement strivings, and causal attribution.

178H. Human Motivation (Honors). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Honors course parallel to course 178.

179B. Biomedical and Psychosocial Aspects of AIDS/HIV. Lecture, three hours. Prerequisites: course 137D or 179A or Health Services 100, junior or senior standing. Basics of epidemiology of the disease, routes of transmission, clinical characteristics of AIDS, neurological and psychiatric aspects of coping with HIV infection and AIDS. Presentation of biologic, behavioral, and therapeutic interventions.

M190A. Contemporary Problems in Mental Retardation. (Same as Psychiatry M190A.) Corequisites: courses 10, 41, and 127 or 130. Corequisites: courses M191A-M191B. Limited to Immersion Program students. Presentation of concepts, issues, and research techniques in the area of mental retardation. Biological, psychological, and sociocultural questions concerning causes and treatment of development disabilities, as well as systems for care and training of retarded individuals. Lectures, directed reading, and discussion.

M180B. Contemporary Issues in Mental Retardation. (Same as Psychiatry M180B.) Prerequisite: course M180A. Limited to Immersion Program students. Psychoeducational issues in mental retardation related to community living. Participation through prose essays through lectures, discussions, media, and six student papers.


186A. Cognitive Science Laboratory: Introduction to Theory and Simulation. (Formerly numbered 186E.) Lecture, two and one-half hours; discussion, three hours. Prerequisites: courses 10, 41, 127, junior or senior psychology major standing, consent of instructor. Models in several psychological domains (e.g., visual perception, categorization, reasoning, and acquisition). Types of models include semantic networks, search, production systems, connectionist networks, and mathematical models. Lectures and discussions interwoven with computer simulations written in common LISP.

186B. Cognitive Science Laboratory: Neural Networks. (Formerly numbered 186B.) Lecture, two and one-half hours; discussion, three minutes; laboratory, three hours. Prerequisites: course 85, Program in Computing 15. Two-hour departmental major standing or consent of instructor. Models in several psychological domains (e.g., visual perception, categorization, reasoning, and acquisition). Types of models include semantic networks, search, production systems, connectionist networks, and mathematical models. Lectures and discussions interwoven with computer simulations written in common LISP.

187A. Psychology and Law. (Formerly numbered 187.) Lecture, two hours; discussion, two hours. Prerequisite: junior standing. Study of new topics on legal psychology, including suspect identification, witness reports, and police procedures. Outside speakers utilized in presentation of these materials. Students participate in presentations and/or discussions.

187AH. Psychology and Law (Honors). (Formerly numbered 187H.) Lecture, two hours; discussion, two hours. Prerequisite: department consent. Examination of special issues in law and psychology while enhancing human rights. Prerequisite: consent of instructor. Honors course parallel to course 187A.

188. Fieldwork in Cognitive Science. Lecture, two hours; fieldwork (approved community setting), six hours. Prerequisites: cognitive science major standing, or department consent. Fieldwork in applications of cognitive science. Consult Undergraduate Advising Office, 1531 Franz Hall, for contracts and further information. May be repeated once for credit. P/NP grading.

189. Human Factors. Lecture, two hours; discussion, one hour. Prerequisites: courses 10, 11, sophomore standing. Principal objective of human factors psychology is optimization of human/machine productivity while ensuring human safety. Research from engineering, computer science, and psychology combined for design of systems for human use. Contemporary applications include health care, computer systems, pollution control, transportation, and urban design.
190A-190B-190C. Honors Course. Seminar, two hours. Prerequisite: psychology honors program standing. Opportunity for development and analysis of creative ideas. Enrollment limited to major and faculty sponsor and discussion of student and faculty research presentations. Information and applications may be obtained from Undergraduate Advising Office, 1531 Franz Hall. Consent of Undergraduate Office, course 190C may be applied toward elective course requirement for any Psychology Department major.

192. Practicum in Teaching Psychology. Prerequisite: junior or senior psychology, psychology, or psychology major standing, consent of department. Training and supervised practicum for advanced graduates in teaching psychology. Students serve as junior teaching assistants and assist in preparation of materials and development of innovative programs. Consult Undergraduate Advising Office, 1531 Franz Hall, for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. P/NP grading.

193. Fieldwork in Psychology. Seminar, two hours; fieldwork (approved community setting), seven hours. Prerequisite: sophomore psychology, prepsychobiology, prepsychology major standing, consent of department. Fieldwork in applications of psychology. Consult Undergraduate Advising Office, 1531 Franz Hall, for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. P/NP grading.

194. Research in Psychology. Seminar, one hour; internship (approved research setting), seven hours. Prerequisite: sophomore psychology, prepsychobiology, prepsychology major standing, consent of department. Practical applications of psychology through research. Consult Undergraduate Advising Office, 1531 Franz Hall, for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward undergraduate degree. May not be applied toward course requirements for any Psychology Department major. P/NP grading.

195. Directed Individual Research and Studies. Prerequisite: sophomore psychology, psychology, or psychology major standing, consent of department. Opportunity for development and analysis of creative ideas. Information and applications may be obtained from Undergraduate Advising Office, 1531 Franz Hall. If approved in advance by Undergraduate Office, course 195 may be applied toward elective course requirement for any Psychology Department major. P/NP grading.

197. Current Issues in Psychology. Lecture, three hours. Prerequisite: junior or senior major standing (some sections may require consent of instructor). Study of selected current topics of psychological interest. Only one course from groups for topics and instructors. Only one graded 197 course may be applied as an elective toward psychology major. If content is approved in advance by Undergraduate Advising Office, psychology and cognitive science majors can petition to use course to satisfy an elective requirement. May be repeated for credit with consent of department.

199. Directed Individual Research and Studies. Prerequisite: junior or senior psychology, psychology, or cognitive science major standing (junior must have at least 3.0 GPA in the major), consent of instructor and vice chair for Undergraduate Affairs (based on written proposal outlining course of study, approved by Undergraduate Advising Office, 1531 Franz Hall, for further information and approval forms). Only one undergraduate course may be taken per term and only one for a letter grade (additional 199 courses may be taken on a P/NP basis). If approved in advance by Undergraduate Office, one course of 199 may be applied toward elective course requirement for psychology major and toward Psychology 188 requirement for cognitive science major.

Graduate Courses

200A. Animal Learning and Behavior. Basic principles and characteristics of learning and behavior, including Pavlovian conditioning, instrumental learning, and species-specific behavior.

200B. Human Learning and Behavior. Topics include human learning and conditioning and application of learning principles in etiology and treatment of a variety of socially significant problems. Special emphasis on systematic analysis of behavior, with particular attention to possible modification programs for schizophrenic children and adults, behavioral pharmacology, control of autonomic behavior, among others.

201. Current Issues in Learning and Behavior (1 unit). Discussion, 90 minutes. Prerequisite: graduate standing. 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, or applied behavioral analyses by experts in the field. Evaluation of their significance and methodological detail. May be repeated for credit. S/U grading.

204A. Psychophysiology of Attention and Learning. Lecture, three hours. Study of research and theories concerned with psychophysiology of attention and learning primarily in humans. Concepts and areas include orientating reflex, dominant focus, classical conditioning, and theories in psychophysiology of psychology and psychiatry.

204B. Theories of Learning. Discussion, three hours. Prerequisite: course 200A or equivalent. Critical discussion of most recent research in the field of learning and some of the approaches to associative learning, with emphasis on recent experimental analyses of conditioning phenomena.

204C. Applied Learning. Lecture, three hours. Prerequisite: graduate standing in psychology, consent of instructor. Lectures and discussion on current research in application of learning principles to clinical and social problems such as alcohol and drug abuse, aggression, fear management, mental retardation, behavioral medicine, autism/schizophrenia, etc.

204D. Fear and Anxiety. Lecture, three hours. Prerequisite: graduate training. Presentation of theoretical and empirical advances, focusing particularly on behavioral perspectives, in the area of fear and anxiety. Integration of animal and human research.

205A. Current Issues in Learning and Behavior (1 unit). Discussion, 90 minutes. Prerequisite: graduate standing. Analysis of conditioned reflex and in-depth analysis of current major theoretical and empirical advances, focusing particularly on behavioral perspectives, in the area of fear and anxiety. Integration of animal and human research.

Prerequisites: graduate standing. May not be applied toward course requirements for any Psychology Department major. P/NP grading.

205B. Human Neurophysiology. Lecture, three hours. Prerequisite: course 200A or equivalent. Critical discussion of most recent research in the field of learning and some of the approaches to associative learning, with emphasis on recent experimental analyses of conditioning phenomena.

205C. Psychobiology of Emotion and Stress (2 units). (Formerly numbered 205A-205B.) Lecture, three hours. Prerequisite: graduate standing. Overview of literature on role of the brain and autonomic nervous system in current behavioral responses. Some emphasis on involvement of neurotransmitters, neuromediators, and hormones in emotional plasticity, visceral function, and bodily disorders.

205F. Physiology of Learning (2 units). (Formerly numbered 205A-205B.) Lecture, three hours. Prerequisite: graduate standing. Search for anatomical loci of engrams. Cell biology of plasticity, including electrophysiological and biochemical approaches. Theories of how neural circuitry might be organized to make learning possible.

205G. Pain (2 units). (Formerly numbered 205A-205B.) Lecture, three hours. Prerequisite: graduate standing. Recent and past thinking about Alzheimer’s disease, Parkinson’s disease, Huntington’s disease, and Down’s syndrome dementia. Mr. Butcher

205H. Motor Coordination (2 units). (Formerly numbered 205A-205B.) Lecture, three hours. Prerequisite: graduate standing. Elementary and complex units of behavior: reflexes, servomechanisms, oscillators, and central pathways. Principles of coordination: effecence copy, oscillator coupling, potentiation, and depotentiation. Relation between levels of integration and anatomical levels: transactions, lesions, fodal stimulation, and single unit recording.

205J. Homeostatic Drive, Hunger, and Thirst (2 units). (Formerly numbered 205A-205B.) Lecture, three hours. Prerequisite: graduate standing. Homeostasis used as framework within which ingestive behavior is discussed. Emphasis on role of feeding and depletion of body fluid compartments. Consideration of hunger, focusing on two theories — “Glucostatic” and “Energeticstic.” Mr. Novin

205K. Vision Neurobiology (2 units). (Formerly numbered 205A-205B.) Lecture, three hours. Prerequisite: graduate standing. Exploration of anatomy, physiology, and computation in visual system, focusing on retina, visual cortex, and overall performance.

Prerequisites: graduate standing. Overview of neural basis of higher cognitive functions, integrating anatomical, physiological, and behavioral approaches and incorporating clinical and experimental data. Systems covered include attention, perception, memory, language, and hemispheric specialization. Mr. Zaidel

205L. Cognitive Neuroscience (2 units). (Formerly numbered 205A-205B.) Lecture, three hours. Prerequisite: graduate standing. Overview of neural basis of higher cognitive functions, integrating anatomical, physiological, and behavioral approaches and incorporating clinical and experimental data. Systems covered include attention, perception, memory, language, and hemispheric specialization. Mr. Zaidel

206. Psychophysiology of Brain Function. Modern concepts of functional organization of the brain, with particular reference to psychological phenomena and behavior. Present and recent approaches in electrophysiology and endocrinology, and electroencephalography bearing on perception, attention, drive, sleep/wakefulness, levels of consciousness, etc. Some emphasis on pathology of behavior resulting from brain injury. Mr. Bratby
220A. Social Psychology. Lecture, three hours. Prerequisite: graduate standing in psychology. Intensive consideration of concepts, theories, and major problems in social psychology.

Ms. Peplau, Ms. Taylor

220B. Research Methods in Social Psychology. (Formerly numbered 234.) Lecture, three hours. Prerequisite: graduate standing in psychology or consent of instructor. Research design and methodological issues in experimental and nonexperimental social research.

Mr. Collins

220C. Advanced Social Psychology. (Formerly numbered 220B.) Lecture, three hours. Prerequisite: course 220A or 220D. Review of contemporary topics and issues in social psychological research and theory.

Ms. Dunkel-Schetter, Mr. Pelham

221. Seminar: Attitude Formation and Change. Discussion, three hours. Prerequisites: courses 220A and 220B, or consent of instructor. Critical review of theory and research on intergroup relations, with emphasis on friendship, dating, and marriage.

Mr. Gerard

222A. Interpersonal Relations. Discussion, three hours. Prerequisites: course 220A or consent of instructor. Critical review of theory and research on interpersonal relations, with emphasis on friendship, dating, and marriage.

Ms. Peplau

222B. Interpersonal Influence and Social Power. Seminar, three hours. Prerequisite: consent of instructor. Advanced social psychology course (psychological or sociological) or consent of instructor. Review of theory and research on interpersonal influence and social power, with applications to various power relationships such as supervisor/subordinate, health care professional/patient, doctor/nurse, parent/child, wife/husband, teacher/student, political figures, etc.

Mr. Dunkel-Schetter

223. Seminar: Social Survey Research. (Formerly numbered 223A, 223B.) Lecture, three hours. Prerequisite: course 220B or consent of instructor. Contemporary issues and topics in social survey research methodology.

225. Seminar: Critical Problems in Social Psychology. Discussion, three hours. Prerequisites: courses 220A and 220B, or consent of instructor. May be repeated for credit with consent of instructor.

226A-226B-226C. Current Literature in Social Psychology. (Formerly numbered 226.) Discussion, 90 minutes. Prerequisite for courses 226B-226C: consent of instructor for nonsocial psychology students. Course 226A is limited to first-year social psychology students. Recent and current research papers in social psychology presented by members of seminar and their significance and methodology discussed and criticized in depth. S/U grading.

Mr. Collins

227. Health Psychology. Lecture, two hours: discussion, one hour. Prerequisite: undergraduate degree or training in psychology. Psychological and social factors involved in etiology of illness, treatment and course of illness, long-term care and adjustment of chronically ill or disabled and practice of psychosocial health care and self-care.

Ms. Taylor

228A. Proseminar: Political Psychology. (Same as History M236A and Political Science M261A.) Discussion, three hours. Introduction to political psychology, psychology of personality and politics, mass attitudes, group conflict, political communication, and elite decision making.

Mr. Sears

228B. Seminar: Political Psychology. (Same as Political Science M261D.) Discussion, three hours. Prerequisite: course 226C or consent of instructor. Examination of political behavior, political socialization, racial conflict, mass political movements, and public opinion.

Mr. Sear

228C. Critical Problems in Political Psychology. (Same as Political Science M261E.) Discussion, three hours.

Mr. Collins

229. Social Cognition. Lecture, one hour; discussion, two hours. Social cognition is concerned with how people organize and interpret social information in their environment. Seminar provides broad background in the field and also gives depth and focus on particular research topics in the field. Weekly papers, as well as a lengthy final paper, required.

Mr. Collins

231. Psychology of Gender. Seminar, three hours. Prerequisite: one other course on gender/stereotypes or consent of instructor. Critical evaluation of current research and theory concerning psychology of gender, drawing on work from various areas of psychology and understanding of gender differences and their consequences for human behavior and social interaction.

Ms. Henley, Ms. Peplau

232. Human Sexuality. Lecture, three hours. Prerequisite: graduate standing. Designed to teach students how to understand and analyze sexual behavior. Topics include: sexuality and sexual orientation. Contents include theory construction, scale development, physiological and endocrinological implications, radioimmunoassay (measuring hormones in blood sample), ethical issues, methodological and statistical considerations, measurement of sexual arousal, fantasy, and sexual dysfunction therapy. Discussion-oriented, with emphasis on operationalizing predictions concerning human sexual functioning.

Mr. Abrahamsen

233. Seminar: Environmental Psychology. Prerequisites: courses 235, 235A, 235B. Critical review of work in environmental psychology designed to identify basic dimensions for analysis of man/environment relationships, develop models to predict human behavior as these relate to environmental changes, and evaluate the ecological impact of economic and social conditions.

Mr. Ariel

234. Social Psychological Aspects of Competitive Youth Sport. (Formerly numbered M234.) Prerequisite: consent of instructor. Review of research concerning social psychological aspects of competitive youth sport for children. Sport is presented as a major achievement domain for young participants. Topics include sources and consequences of competitive stress, significant adult influences and interactions, prediction of performance, determinants of participation and dropping out, and socialization through sport.

Ms. Scariani

235. Personality. Survey of cognitive, analytic, and learning approaches to the study of personality. Emphasis on intensive exploration of selected concepts and related research.

Mr. Mischel

239. Personality, Motivation, and Attribution. (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 affiliation domains.

Mr. Mischel

240A-240B. Developmental Psychology. Lecture, three hours. Prerequisites: one undergraduate developmental psychology course, graduate standing. Consideration of variables influencing cognitive social and emotional development of the human organism from conception through adolescence. Emphasis on research methodology and research base for current theories of development.

241. Current Developments in Developmental Psychology. (1 unit.) Discussion, 90 minutes. Prerequisite: graduate standing in developmental psychology. Presentation of papers on current advances in developmental psychology and closely related areas by experts in the field. Emphasis on approaches to a problem that is amenable to interweave presentations by graduate students.

Ms. Gelman

242A-242F. Seminars: Developmental Psychology. Seminar, three hours. Prerequisites: courses 240A-240B or equivalent, consent of instructor. Each course may be taken independently and may be repeated for credit.

242A. Perceptual Development. Ms. Greenfield

242B. Cognitive Development. Ms. Greenfield

242C. Socialization. Ms. Greenfield

242D. Social Development and Education. (Same as Education A217A.) Designed for graduate students in psychology, education, public health, etc. Consideration of current research and theoretical models; consideration of theoretical and methodological research in family, peer group, social and economic problems, and societal change.

Ms. Gelman

244. Critical Problems in Developmental Psychology. Lecture, three hours. Prerequisites: courses 240A-240B or equivalent, consent of instructor. Current problems, content varies depending on interest of class and instructor. May be repeated for credit with consent of instructor.

245. Personality Development and Education. (Same as Education A217C.) Review of recent research and theory of critical content areas in personality development that bear on school performance: achievement motivation, self-concept, aggression, sex differences, empathy, and change in personal, social and cognitive domains. Emphasis on status of emotional behavior in personality theory and research.

Mr. Tynan

246. Psychological Aspects of Mental Retardation. (Same as Psychiatry M246.) Lecture, 90 minutes. Discussion of psychological aspects of mental retardation, including classification, description, etiology, theory, prevention, treatment, assessment, and other disciplines (ethics, law, religion, welfare systems). Emphasis on research and methodology.

Mr. Tynan

249. Evaluation Research. Prerequisites: courses 250A, 250B. Introduction to evaluation research in psychology, with emphasis on clinical, community, and social psychology applications. Survey includes policy and strategy issues, design of evaluative studies, data analysis, and utilization of findings.

Mr. Woodward

250A. Advanced Psychological Statistics. Review of fundamental concepts. Basic statistical techniques as applied to design and interpretation of experimental and observational research.

Mr. Wickens

250B. Advanced Psychological Statistics. Advanced experimental design and planning of investigations.

Mr. Wickens
251A-251B-251C. Research Methods. Limited to psychology graduate students. Students design and conduct original research projects under supervision of instructor-in-charge. It is anticipated that many students will complete their projects in the terms normally three terms allowed). S/U grading (course 251A only).

252A. Multivariate Analysis. (Formerly numbered 252.) Lecture, three hours. Prerequisites: courses 250A and 250B, or consent of instructor. Introduction to analysis of data having multiple dependent variables. Topics include continuous multivariate distributions, multiple regression, multivariate analysis of variance, discriminant analysis, canonical correlation, principal component analysis. Approaches to clinical, cognitive, physiological, and social psychology. Computer methods

Mr. Wickens
Mr. Woodward

252B. Discrete Multivariate Analysis. Lecture, three hours. Prerequisites: courses 250A and 250B, or consent of instructor. Introduction to analysis of frequency table data. Topics include categorical univariate and multivariate distributions, independence and conditionality independence, log-linear models and assumptions, categorical designs, and ordered categorical variables. Applications from various areas of psychology.

Mr. Wickens


254A. Psychological Scaling. Lecture, three hours. Prerequisite: graduate standing. Theory of measurement. Laws of order, unidimensional scaling, methods of unidimensional scaling, multidimensional scaling, and related topics of current interest. Mr. Holman

254B. Cluster Analysis. Lecture, three hours. Prerequisite: graduate standing. Quantitative methods for classification and assignment, underling major clustering methods. Use of methods in exploratory data analysis.

Mr. Holman


256. Advanced Regression Analysis. (Not the same as course 256 prior to Fall Quarter 1992.) (Same as Political Science M200E.) Seminar, three hours. Prerequisite: consent of instructor. Diagnostics, robustness, non-parametric, and categorical methods. Regression, outliers, missing data, geometry of regression, validity of assumptions, categorical dependent variables, transformation of variables. Access to Macintosh computer useful. Mr. DeNardo

257. Multivariate Analysis with Latent Variables. (Same as Political Science M208D.) Lecture, three hours. Prerequisite: consent of instructor. 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 structured-means factory analytic models. Structural equation models, including path and simultaneous equation models. Parameter estimation, hypothesis testing, and other statistical issues. Computer implementation. Applications.

Mr. Bentler

258. Special Problems in Psychological Statistics. Lecture, three hours. Prerequisites: courses 250A and 250B, or consent of instructor. Special problems in psychological statistics and data analysis.

259. Quantitative Methods in Cognitive Psychology. Prerequisites: courses 250A and 250B, or consent of instructor. Methods in nonlinear mathematical and techniques commonly used in cognitive psychology. Topics include Markov chains, other stochastic processes, queuing theory. Information theory and computer analysis, etc. Mr. Wickens

260A-260B-260C. Proseminars: Cognitive Psychology (1 unit each). Presentation of research topics by students, faculty, and visiting scholars. May be repeated for credit. S/U grading.

261. Perception. Lecture, three hours. Prerequisite: consent of instructor. 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?

Mr. Thomas

262. Human Learning and Memory. Lecture, three hours. Prerequisite: consent of instructor. Contemporary theory and research in learning and decision processes: psychophysical scaling, contextual effects on rating scales, models for analysis of value decisions.

Mr. Thomas

265. Thinking, Lecture, three hours. Contemporary theory and research in thinking, problem solving, inference, semantic memory, internal representation of knowledge, implicit and explicit. Mr. Holman

266. Cognitive Science. Lecture, three hours. Prerequisite: consent of instructor. Major issues in cognitive science. Representation of cognitive structures and higher-level processes. Specific areas include perception, learning and memory, problem solving and reasoning. Relationships to artificial intelligence.

Mr. Wickens

266A-266B. Seminars: Human Information Processing. Seminar, three hours. Prerequisite: consent of instructor. Topics vary with interests of instructor. Each course may be taken independently and may be repeated for credit.

266B. Perception. Mr. Thomas

266B. Human Learning and Memory. Mr. Bjork

266C. Judgment and Decision Processes. Mr. MacKay

266D. Language and Thought. Mr. MacKay

266E. Human Performance. Mr. Beatty

267. Seminar: Cognitive Psychology. Seminar, three hours. Prerequisite: consent of instructor. Discussion of problems in cognitive psychology that encompass more than a single subfield of the area. May be repeated for credit.

270A-270B-270C. Foundations of Clinical Psychology. (Same as Psychology C271A-271B-271C.) Limited to graduate students in clinical psychology.

270A. Analysis of phenomenological, theoretical, and research issues regarding etiology and mediating mechanisms in neurotic, affective, schizophrenic spectrum, and other personality disorders.

270B. Principles and methods of psychological assessment and evaluation.

270C. Principles and methods of psychological intervention in individuals, families, and community settings.


271A. Clinical Supervision (2 units). Discussion, one hour; laboratory, one hour. Corequisites: courses 270A or 270B or 270C, and 271A or 271B or 271C. Limited to graduate students in clinical psychology. Acquaints students with faculty research interests and involves them in their course 271 research at an early stage to insure completion. S/U grading.

Mr. Christensen


271E. Brief overview of research design issues in clinical psychology with emphasis on practical considerations and research activities. 271F. Discussions of students' particular research activities and issues, plus laboratories in computer analysis of statistical data.

272A-272C. Advanced Clinical Psychological Methods. Seminar, three hours. Prerequisite or corequisite: course 401 or 451. Each course may be taken independently for credit.

272A. Behavior Modification with Children. Prerequisites: courses 271A-271B-271C or consent of instructor. Course in series of clinical intervention and assessment offerings for second- and third-year clinical students that covers behavior modification research and practice in clinic, school, institution, and home settings.

Mr. Baker

272B. Psychotherapy with Adults.

272C. Clinical Interventions for Psychological Problems of Children.

272D. Family Therapy and Family Dynamics.

272E. Special Problems.

272F. Behavior Modification with Adults. Prerequisites: second-year graduate standing in clinical psychology. Current cognitive behavioral principles and techniques. Major conceptual issues; specific techniques demonstrated and practiced by students to cover a range of adult problems such as depression, stress and anxiety management, and assertion and assertive behavior problems.

Ms. Hammen, Ms. Mays

272G. Marital Therapies. Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: courses 270A-270B-270C, 271A-271B-271C. Examination of assessment and treatment approaches for marital relationship problems in couples. Presentation, discussion, and illustration of procedures derived from social learning, psychodynamic, and systems theories, with relevant research findings.

Mr. Christensen

272H. Interpersonal Communication Seminar. Prerequisite: course 282 or consent of instructor. Development of a design for studying help-oriented interchange in community and clinical settings. Initial focus on measuring interpersonal application, response styles, and training effects.

Mr. Goodman

274A-274B. Group Therapy Dynamics.

275. Family Process: Psychological and Social Perspectives on the Family. (Formerly numbered M275.) Various theoretical perspectives applicable to an understanding of family structure and function. Related issues in application of family constructs to clinical problems.

Mr. Goldstein

276. Clinical Approaches to Children with Learning and Behavior Problems. Lecture, three hours; discussion, one hour. Prerequisite: doctoral standing. Theoretical and research issues and problems related to purposes of and practices 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.

Mr. Adelman

277A-277B. Advanced Clinical Assessment. Laboratory, two hours; additional hours to be arranged through Psychology Clinic. Prerequisite: graduate standing in clinical psychology. Projective techniques, clinical interpretation, case studies, psychological test batteries, and assessment and application of assessment to problems in psychotherapy.

278. Seminar: Motivation, Conflict, and Neurosis. Mr. Feshbach

279. Seminar: Research in Psychopathology.

M280. Affective Disorders (2 or 4 units). (Same as Psychology M284. Seminar, two hours. Students may select topics related to primary affective disorders (depression, manic-depressive illness), including diagnosis, pharmacology, epidemiology, psychology, phenomenology, biology, and treatment. Students enrolled for four units are assigned a more intensive reading list and required to make a presentation or prepare a research paper.

Mr. Gillin, Ms. Hammen
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 197) 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 your course of study may be applied toward the major requirements (but not the group requirements) with consent of the adviser.

Special studies courses (198) 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.

Honors Program

The honors program provides exceptional students with an opportunity to do independent research under the tutorial guidance of a faculty member. If you are admitted to honors, you should take three 199 courses under the guidance of the sponsoring professor. These courses are taken in the senior year and count as part of the regular requirement of 14 upper division courses. The program culminates in an honors thesis.

In order to qualify for admission, you 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 David C. Rapoport at the program address.

Scope and Objectives

The UCLA major in the study of religion is designed to give students a broad humanistic perspective. It introduces students to several religious traditions and thus to an appreciation of the very nucleus of civilization in various periods of history and various parts of the world, as well as to an understanding of fundamental human orientations. The program also provides opportunity to study one or more particular religious traditions in greater depth. Coherence and integrity in the program are furthered by courses dealing with philosophical problems in religion and with general anthropological reflections.

Bachelor of Arts Degree

Preparation for the Major

Required: History 4; Philosophy 2; two courses from Anthropology 9, East Asian Languages and Cultures 60, History 1A, 1B, 1C, 9A, 9C, 9D, 10A, 10B, 11A, 11B.

Group II — Nonliterate and Ancient Religious Traditions

Ancient Near East (Near Eastern Languages) 130.

Ancient Egypt (Philosophy 175)

Anthropology 114P. Ancient Civilizations of Western Near East (The Ancient Near Eastern and Classical World)

History 114Q. Ancient Civilizations of Western Middle East (Maya, Andes, and the Pre-Columbian World)

History 117I. Sub-Saharan Africa

History 174F. Ethnography of South American Indians

History 177. Cultures of the Pacific

Classics 161. Introduction to Classical Mythology

166A. Greek Religion

166B. Roman Religion

168. Introduction to Comparative Mythology

Dance 181B. Dance in Southeast Asia

181D. Dance in Southeast Asia

C187. Dance in Native American Cultures

Folklore and Mythology M122. Celtic Mythology

M126. Baltic and Slavic Folklore and Mythology

M128. Hungarian Folklore and Mythology

M129. Folklore and Mythology of the Ugric Peoples

130. North American Indian Folklore and Mythology Studies

131. Folklore of India

M155. Oral Traditions in Africa

History 1930. Religions of the Ancient Near East

Iranian (Near Eastern Languages) 170. Religion in Ancient Iran

Group III — Western and Near Eastern Religious Traditions

Christianity

Classics M170. Power and Imagination in Byzantium

Greek (Classics) *130. Readings in the New Testament

History 119. The Christian Church, 100-1517

120. The Christian Religion, 100-1350

125B. History of Modern Europe: Reformation

150C. History of Religion in the U.S.

194A. History of Early Christians

194B. Religious Environment of Early Christians

194C. Jesus of Nazareth in Historical Research

Philosophy 100B. Medieval and Early Modern Philosophy

107. Topics in Medieval Philosophy

118. Kierkegaard

Islam

Arabic (Near Eastern Languages) *120. Islamic Texts

History 107A-107B. Islamic Civilization

109A. History of North Africa from the Moslem Conquest to 1578

Islamics (Near Eastern Languages) 110. Introduction to Islam

Judaism

Ancient Near East (Near Eastern Languages) 170. Introduction to Biblical Studies

Hebrew (Near Eastern Languages) *120. Biblical Texts

130. Rabbinic Texts

History M191A-M191B. Survey of Jewish History from the Creation to 1578

M192A-M192B. Jewish Intellectual History

*Mandatory courses. See departmental course listings for prerequisites.
Romance Linguistics and Literature (Interdepartmental)

2326 Murphy Hall, (310) 825-0237

Professors
Shirley L. Acora, Ph.D. (Spanish)
Luigi Battiini, Dottore in Lettere (Italian)
Rubén A. Benítez, Ph.D. (Spanish)
Franco Bettì, Ph.D. (Italian)
Patrick Coleman, Ph.D. (French)
Marga Cottino-Jones, Ph.D., Dottore in Lettere (Italian)
Eric Gans, Ph.D. (French)
Joaquim Gimeno, Ph.D. (Spanish)
Peter Hidalgo, Ph.D. (French)
Bruce P. Hayes, Ph.D. (Linguistics)
Carroll B. Johnson, Ph.D. (Spanish)
Bengt T.M. Liljestedt, Ph.D. (Classics)
Gerardo Lucziuagia, Ph.D. (Spanish)
C. Brian Morris, Litt.D. (Italian)
A. Carlos Quicoli, Ph.D. (Portuguese, Romance Linguistics), Chair
Enrique Rodríguez-Cepeda, Ph.D. (Spanish)
Donca Steriade, Ph.D. (Linguistics)
Edward F. Tuttle, Ph.D. (Italian)
Stephen D. Werner, Ph.D. (French)

Professors Emeriti
George D. Bedell, Ph.D. (Linguistics)
Marc Benson, Ph.D. (French)

Giovanni Cecchetti, Dottore in Lettore (Italian)
E. Mayone Dias, Ph.D. (Portuguese)
Hassan el Nouty, Docteur ès Lettres (French)
Claude L. Hulet, Ph.D. (Spanish and Portuguese)
C.P. Otero, Ph.D. (Spanish, Romance Linguistics)
José Pascual-Buxó, Ph.D. (Spanish)
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere (Italian)

Associate Professors
Jean-Claude Carron, Docteur ès Lettres (French)
Shuhai Kao, Ph.D. (French)
Hilda J. Koopman, Ph.D. (Linguistics, African Languages)
Efrain Kristal, Ph.D. (Spanish)
Sara Metzner, Ph.D. (French)
José Monleón, Ph.D. (Spanish)
Susan Plann, Ph.D. (Spanish)
Lucas Re, Ph.D., Dottore in Lettere (Italian)
A. John Skrius, Ph.D. (Spanish)
Paul C. Smith, Ph.D. (Spanish)
Dominique L. Sportiche, Ph.D. (Linguistics)
Timothy A. Stowell, Ph.D. (Linguistics)

Assistant Professors
Adriana Bergero, Ph.D. (Spanish)
Verónica Cortés, Ph.D. (Spanish)
Andrea Loselle, Ph.D. (French)
Claudia Parodi, Ph.D. (Spanish)
Malina Stefanovska, Ph.D. (French)

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.

Master of Arts Degree

Admission
The UCLA Bachelor of Arts degree in French, Italian, Portuguese, or Spanish, or the equivalent, is required. Applicants are expected to have a grade-point average of at least 3.4 in upper-division courses, especially in those judged germane to their proposed program.

Three letters of recommendation and the General Test of the Graduate Record Examination (GRE) are also required and should be submitted to the Chair, Romance Linguistics and Literature Program, 2326 Murphy Hall, UCLA, Los Angeles, CA 90024-1535. Students admitted from elsewhere whose preparation is considered deficient in view of their intended specialization are required to take specified upper-division courses. Such courses may be taken concurrently with graduate courses, but they may not be applied toward the course requirements for the M.A. degree. Before enrolling for the first term in the program, new students must consult the program chair concerning the formation of their guidance committee. Students who know only the language of their major should prepare to take at least one other Romance language during the first graduate year so they can take courses in their minor no later than the second year of graduate study.

Foreign Language Requirement
In addition to the Romance language of major interest and that of minor interest, you are required to take either Latin 3 or the equivalent, or Italian 3 or the equivalent (provided Italian is not your major), whether you specialize in linguistics or in literature. The language requirement must be completed no later than the term before you expect to receive your degree.

Course Requirements
Twelve courses are the minimum requirement, of which six courses (at least five of them graduate) must be in your major language, with specialization either in linguistics or in literature. One course in the history or development of the major language is highly recommended. At least three courses would be in the minor language, also with specialization in either linguistics or in literature. The remaining three courses should be selected in consultation with the guidance committee so as to be logically supportive of your major field of study. Linguistics 20 is required as a prerequisite for all students majoring in the linguistics field but may not be applied toward the total number of courses required for the degree. Up to eight units of Romance Linguistics and Literature 596 may be applied toward the M.A. Courses 597 and 598 may not be applied toward the degree.

Teaching Experience
Teaching experience is not required but is desirable. Consult the chair regarding the availability of teaching assistantships.

Thesis Plan
The program favors the comprehensive examination plan but will approve M.A. theses for exceptionally well-qualified students under special circumstances. You may petition for authorization to write an M.A. thesis only after completion of six courses applicable toward the degree. It is your responsibility to select an appropriate topic and find a professor to direct the thesis. After completion of the thesis, you must pass a two-hour oral examination testing your knowledge of the field of the thesis and your general competence. Only those students who attain a high pass on the examination are encouraged to proceed to candidacy for the Ph.D. degree.

Comprehensive Examination Plan
The comprehensive examination is administered by three members of the guidance committee, appointed by the chair. The written examination, consisting of one four-hour examination in the major field, one two-hour examination in the minor field, and one oral examination not to exceed one hour, is given each term two weeks prior to final examinations. If you fail the examination or any part thereof, you may retake the failed portions only once when the examination is next regularly offered. Only those students who attain a high pass grade on the master’s examination are automatically eligible for the Ph.D. program.
Ph.D. Degree

Admission

The UCLA Master of Arts degree in Romance Linguistics and Literature or the UCLA M.A. in French, Italian, Portuguese, or Spanish, or the equivalent, is required. A strong academic record (normally a GPA of 3.4 or better), three letters of recommendation, and the Graduate Record Examination (GRE) General Test (normally with a combined verbal/quantitative score of 1,100 or better) are also required.

Formal application is required of all students. Entering students who have completed the UCLA M.A. in Romance Linguistics and Literature with a high pass grade are automatically eligible for admission to the Ph.D. program; those who received a middle pass are reviewed like candidates from other institutions; those who received a low pass grade are ineligible for admission. Students whose M.A. program registers deficiencies in scope or quality may be admitted but are required to complete three graduate courses (with grades of B or better) approved by the chair.

Following your formal admission, you select your guidance committee in consultation with the chair. You then meet as soon as possible with your committee to work out your program of courses and set a tentative date for the qualifying examinations. The guidance committee has final authority to prescribe the course of study. Until you have met with this committee and placed yourself under its direction, you are not officially in the Ph.D. program.

Major Fields or Subdisciplines

The program recognizes two fields of specialization: linguistics and literature.

Linguistics — Major fields include (1) the present-day grammar of the Romance language of your major interest and its relation to the grammar of its sister languages and to language in general, (2) the development of the Romance language of your major interest in relation to its sister languages (and possibly other interrelated cultural aspects) from the perspective of historical linguistics, and (3) the genetic and typological relationships of the Romance languages to other Indo-European languages and to language in general. The two minors may be other Romance languages, or one other Romance language plus a field of Romance literature.

Literature — Major fields include one of the following in the literatures of at least two Romance languages: (1) early Romance literature and philosophy; (2) Renaissance and baroque; (3) modern literature, preferably with emphasis in one century. The first minor may be one of the preceding fields not selected for the major. The second minor may be the same field or a new field in another Romance language, or some other related field in the major language or in Romance linguistics.

Foreign Language Requirement

In addition to the minimum of two Romance languages, Latin or Italian 3 or the equivalent is required of all students in the program. Students selecting option 2 or 3 in linguistics or option 1 in literature must also take German, whereas those selecting option 1 in linguistics or option 2 or 3 in literature must take another foreign language to be determined by the guidance committee. In non-Romance languages, you must pass the Graduate School Foreign Language Test (GSFLT). In languages where there is no such test, passing a departmental examination fulfills the requirement. This requirement may also be met by completing two years of college-level courses in the language with grades of B or better or by fulfilling the foreign language requirement in connection with an M.A. obtained elsewhere. The foreign language requirement must be satisfied no later than the term before the qualifying examinations are taken.

Course Requirements

In each of the two specializations (linguistics or literature) the Ph.D. program consists of a major and two minors. The courses (a minimum program) are distributed as follows: major — five courses, first minor — three courses, second minor — two courses. At least one seminar is required in each of the three fields. In addition to those required for the master's degree (or equivalent) at least 10 other graduate courses (of which no more than two 596 courses may be applied), as well as such courses as the guidance committee may prescribe, are required. Linguistics 20 is required as a prerequisite for all students majoring in the linguistics field but may not be applied toward the total number of courses required for the degree.

Teaching Experience

Teaching experience is not required but is desirable. Consult the chair regarding the availability of teaching assistantships.

Qualifying Examinations

The qualifying examinations, given by the doctoral committee during Fall, Winter, and Spring Quarters, consist of (1) a three-hour written examination in the major field, (2) a two-hour examination in the first minor, (3) a one-hour examination in the second minor, and (4) a two-hour University Oral Qualifying Examination in the three fields, at which time your prospects for the dissertation is also discussed and approved. Failed portions of the examination may be repeated once after any remedial preparation the committee may specify.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation

The dissertation may be on any subject within the general area of Romance linguistics and literature. If more than five calendar years elapse between advancement to candidacy and the presentation of the dissertation, the program may require revalidation of the qualifying examinations.

Graduate Courses

204A-204B. Romance Syntax: French (1 to 4 units each). Lecture, three hours. Prerequisites: Linguistics 120B, 200B, consent of instructor. Course 204A is prerequisite to 204B. Structure of French from point of view of contemporary syntactic theory, with emphasis on considerations of comparative syntax with other Romance languages. Topics include verbal/auxiliary system; WH-movement and Complementizer system; cleft constructions, causatives, inversion phenomena; quantifier distribution; impersonal constructions; negation and subjunctive. S/U or letter grading.

Mr. Sportiche

255. Topics in Romance Syntax (1 to 4 units). Prerequisite: consent of instructor. Topics in syntax of Romance languages, with emphasis on recent development in comparative studies; theoretical innovations based on Romance syntax. Mr. Sportiche

596. Directed Individual Study or Research (4 to 8 units). Prerequisite: consent of instructor and program chair. 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 units). Prerequisite: consent of graduate adviser. Individual preparation for M.A. comprehensive examination or Ph.D. qualifying examinations. May be taken only once for each degree examination and in only term that comprehensive or qualifying examinations are to be taken. S/U grading.


Romance Linguistics and Literature Course List

In consultation with the appropriate adviser(s), courses should be selected with an eye to the organic relationship between them, preferably among those listed below and/or their prerequisites:

Introductory Courses

Italian 201. Bibliography and Methods of Research

Spanish M200. Research Resources

Linguistics Courses

Grammatical Theory: Linguistics 201. Phonological Theory II

Development of the Romance Languages

Hispano-Romance: Spanish M205A-M205B. Development of Portuguese and Spanish Languages


Seminars: Indo-European Linguistics

Italic Dialects: Latin 242. Italic Dialects and Latin Historical Grammar

Italian-Romance: Italian 222A. History of the Italian Language
ROC Programs

In accordance with the National Defense Act of 1920 and with the concurrence of The Regents of the University, a unit of the Senior Division Reserve Officers' Training Corps (ROTC) was established on the Los Angeles campus of the University in July 1920.

This voluntary training allows you to qualify for an officer's commission in the Army, Navy, Air Force, or Marine Corps while completing your 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). They are not considered academic majors, but ROTC courses may be taken as free electives and applied toward the total course requirements of your 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 students who apply early in their sophomore year. All have leadership laboratories which help to build management skills. The majority of commissions are reserve commissions. Active duty obligation following commissioning varies depending on branch of service.

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 mone
tary allowance of $100 per month during the academic year. Applications for four-year scholarships may be obtained by calling the appropriate department at UCLA — Army, (310) 825-7381; Air Force, (310) 825-1742; Navy, (310) 825-9075 — or by writing to Armed Forces Opportunities, P.O. Box 2665, Huntington Station, NY 11746-2102. When writing,
Aerospace Studies

210 Men's Gym, (310) 825-1742

Professor
William F. Porter, M.S., Colonel, Chair

Adjunct Assistant Professors
Barbara L. Carpenter, M.A., Captain
James D. Quilliam, M.B.A., Major
Kurt S. Shigeta, M.B.A., Captain

Air Force ROTC Scope and Objectives

Air Force ROTC provides selected students the opportunity to develop those attributes essential to positions of high responsibility as commissioned officers in the U.S. Air Force. This includes understanding Air Force history, doctrine, operating principles, and national security policies, demonstrating ability to apply modern principles of management and human relations in the Air Force environment, and mastering of leadership theory and techniques. Students must demonstrate dedication to their assignments, willingness to accept responsibility, and the ability to think critically and communicate with clarity and precision.

Four-Year Program

The four-year program is available to first-term freshmen and those full-time students with at least four years of undergraduate and/or graduate study remaining and consists of an initial two-year General Military Course, or GMC (Aerospace Studies 1A-1B-1C and 20A-20B-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 in the summer following GMC completion. At field training, students are provided meals, quarters, clothing, and travel expenses and are paid about $450 to cover 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 and 140A, 140B, 140C. POC participation requires two hours of leadership laboratory and three hours of academic class each week during the academic year.

Prerequisites 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 are encouraged to apply to the department chair early during Fall Quarter of their sophomore year. The application deadline normally is February 1, but earlier submission is recommended, as the selection board considers applications monthly. 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, medical examination results, 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, travel expenses, and approximately $675 to cover 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 POC incur a military obligation and are paid $100 per month during the academic year. Graduation and successful completion of POC leads to a commission as a second lieutenant. Cadets then report to one of the challenging assignments in the Air Force.

Freshman-Year Courses

1A-1B-1C. U.S. Military Forces in the Contemporary World (2 units each). Lecture, one hour. Air Force ROTC students should complete all three courses, preferably in sequence. Willingness to participate in class discussion required. P/NP or letter grading;

1A. Examination of roles and norms expected from military officers, with emphasis on characteristics of national power, U.S. national security apparatus, and key elements of current strategic doctrine. Role of U.S. Navy, Marine Corps, and Army.

1B. Focus on roles, missions, and organization of the Air Force, covering basic elements of air doctrine and functions of general purpose, strategic, and aerospace support forces. Emphasis on how aerospace forces are utilized during conflict, as well as current problems in defense procurement.

1C. "Threat assessment" of U.S.S.R. military and political policies and potential for military conflict in selected regions of the world. Examination of low-level conflict as represented by terrorist actions and guerrilla warfare. Analysis of basic elements of strategy which deter war.

Sophomore-Year Courses

20A-20B-20C. Developmental Growth of Air Power (2 units each). Lecture, one hour. Development of air power over past 80 years. Development of various concepts of employment of air power, with emphasis on factors which have prompted research and technological change. Key events and elements in history of air power, especially where these provide significant examples of impact of air power on strategic thought. P/NP or letter grading.

Upper Division Courses

130A-130B-130C. Concepts of Air Force Management and Leadership. Lecture, three hours. Course 130A is prerequisite to 130B, which is prerequisite to 130C. Analysis of principles and functions of management, leadership, and organizational behavior, with special reference to the Air Force as a model. Problem solving, information systems and models, quantitative methods, and computer systems. Group discussions, case studies, films, and role-playing used as teaching devices. Communicative skills strengthened through preparation of written reports and oral presentations.

140A. Military Judicial System. Lecture, three hours. Introduction to military justice system, international laws of armed conflict relating to air operations, and foundations of military professionalism. Oral and written reports to strengthen communicative skills. P/NP or letter grading.

140B. The Military in American Society. Lecture, three hours. Forces and issues in social context of the American military. Influence of social norms, societal pressures, and cultural factors on functions and role of the military professional in the U.S. Communicative skills strengthened through extensive classroom presentations. P/NP or letter grading.

Military Science

127 Men's Gym, (310) 825-7381, 825-7384

Professor
Michael L. Graves, M.S., Lieutenant Colonel, Chair

Adjunct Assistant Professors
Edmund Davis, B.A., Major
Rodney J. Leonard, M.A., Captain
Laurie E. McCabe, B.A., Captain

Army ROTC Scope and Objectives

Army ROTC prepares selected students for leadership as commissioned officers in the U.S. Army, Army Reserve, or National Guard. This training includes in-depth study of the military establishment, military history, doctrine, leadership principles, management, and many other
basic skills necessary to build motivated, effective leaders.

**Programs**

The military science curriculum is divided into two parts: (1) the Basic Course, two years of lower division study during which students must complete 12 units of coursework and (2) the Advanced Course, two years of upper division study consisting of 14 units of coursework and a six-week summer camp.

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 of $100 a month for 10 months during each of the two academic years, plus military science books and 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 17 specialty areas in either the Army National Guard, Reserves, or Active Army. Students' desires are a major factor in determining which branch is selected.

Students selected for Advanced ROTC must attend a six-week Advanced Camp 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. Students accepting ROTC scholarships and a commission in the Regular Army, or who are selected to enter the Active Army, serve longer terms. ROTC students wishing to obtain 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**

This program is designed for students who receive placement credit for two years of ROTC and directly enter the Advanced Course. Placement credit may be given for completing three years of high school Junior ROTC, attending a paid ROTC summer camp, joining the Army Reserve or National Guard (veterans may receive VA benefits concurrently with Advanced Course subsistence allowances), completing two years of college-level Air Force or Navy ROTC, completing an ROTC compression course, or previous military service.

**Commissioning**

Successful completion of the Advanced Course program, one course each in computer literacy, mathematical reasoning, written communications, military history, and human behavior, and a bachelor's degree may lead to a commission as a second lieutenant in the Army Reserve, National Guard, or Active Army. Distinguished graduates may qualify for a commission in the Regular Army.

**Lower Division Courses**


000. Leadership Laboratory (No credit). Laboratory, three hours (lower division cadets) or four hours (upper division cadets). All cadets must be concurrently enrolled in a military science course; upper division cadets must also be under a contracted obligation with department. Designed to allow cadets to apply leadership techniques and military skills taught in classroom and to develop their confidence as future military leaders. (F, W, Sp)

10. Introduction to Leadership (2 units). Lecture, one hour; discussion, one hour. Introduction to leadership and motivational theory. Topics include the nature of organizations, individual behavior, motivation and performance, roles, and organizational commitment, and influence processes. (F)

11. U.S. Defense Establishment I (2 units). Lecture, one hour; discussion, one hour. Study of organization of U.S. Department of Defense, including study of military services, with emphasis on the U.S. Army. P/NP or letter grading. (W)

12. U.S. Defense Establishment II (2 units). Lecture, one hour; discussion, one hour. Fundamentals of national security policy development. P/NP or letter grading. (Sp)

14. Principles of Land Navigation Applicable in Maneuver (2 units). Lecture, one hour; discussion, one hour. Introduction to topographic maps and aerial photographs and their relation to land navigation; concepts relating to basic military tactics. Topics include map coordinate systems, scale and distance relationships, topography, and photos interpretation, squad and platoon operations, and resource planning techniques. Introduction to new technologies, including Global Positioning Systems (GPS). (Sp)

18. Modern Guerrilla Warfare (2 units). Lecture, one hour; discussion, one hour. Limited to undergraduate students. Introduction to low intensity conflict and guerrilla strategy, and impact of society on leadership process. Introduction to external environmental pressures on a leader and psychology of the individual as a follower, examined in areas of motivation, peer pressure, and group norms. (W)

21. Psychology of Leadership I (2 units). Lecture, one hour; discussion, one hour. Study of relationship of individual differences, group dynamics, formal organization, and impact of society on leadership process. (F)

24. Theory of Warfare (2 units). Inquiry into theory, nature, causes, and elements of warfare, with attention also to evolution of weapons and warfare. (F)

**Upper Division Courses**

110. U.S. Military History (3 units). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Survey of American military history from 1860 to the present. Causes of war, strategy, tactics, and technological developments set against economic, political, and diplomatic concerns. Impact of warfare on society. (F)

112. Psychology of Leadership II (3 units). Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Introduction to various individual leadership styles and personalities to assist students in development of their own individual style. Different philosophies of leadership, along with dimensions of leader behavior. Special consideration to counseling, management, and communication techniques that must be mastered to be an effective leader. (W)

113. Theory of Learning Applied to Teaching (2 units). Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Study of instructional procedures, lesson content planning techniques, applications of educational psychology, and applications of instruction to various components of leadership and functions of management in order to understand where problems develop and decision making impact and how they fit into leadership and management. Various steps which comprise the problem analysis and decision making processes. (Sp)

125. Decision Making (2 units). Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Designed to present students who will become commissioned officers with new insight into modern methods of managerial decision making and into various steps entailed in the decision making process and model. (W)

126. Military Professionalism and Ethics (2 units). Lecture, 30 minutes; discussion, 90 minutes. Prerequisite: consent of instructor. Ethical concepts held by America's military institution. Classification of the military as a profession, special social responsibilities of those in the military, values related to and accepted by military society, and an ethical reasoning/decision making process and model. (W)

199. Supervised Independent Studies (1 to 3 units). Prerequisites: upper division standing, consent of instructor. Supervised independent studies and research for undergraduate students who desire to pursue topics of their own selection.

**Naval Science**

123 Men's Gym, (310) 825-9075

**Professor**

Daniel P. McKnight, M.S., Colonel, U.S. Marine Corps, Chair

**Adjunct Assistant Professors**

Paul M. Dalessandro, B.S., Lieutenant, U.S. Navy

Cass D. Howell, M.S., Lieutenant Colonel, U.S. Marine Corps

Barry J. Phillips, B.S., Lieutenant, U.S. Navy

Eric M. Tranter, B.S., Captain, U.S. Marine Corps

James D. Whitlock, B.A., Lieutenant, U.S. Navy

**Navy ROTC Scope and Objectives**

Navy ROTC at UCLA offers subsidized and non-subsidized programs for college students who...
wish to serve their country as commissioned officers in the U.S. Navy or Marine Corps. The primary objectives of NROTC are to provide students with understanding of the fundamental concepts and principles of naval science; basic understanding of associated professional knowledge; appreciation of the requirements for national security; and a strong sense of personal integrity, honor, and individual responsibility.

NROTC enables college graduates to use their education in such military fields as marine engineering, nuclear propulsion engineering, aviation, and Marine Corps infantry, aviation, and combat service support roles. It also provides opportunity to develop leadership and management skills in a challenging environment of high responsibility.

The Department of Naval Science offers several programs for which U.S. citizenship is required.

College Program

This is a four-year program open to physically qualified men and women between the ages of 17 and 21. Students receive $100 per month in their junior and senior years and complete one summer training cruise after their third year. After graduation, students are commissioned as Ensign, U.S. Naval Reserve, or Second Lieutenant, U.S. Marine Corps Reserve. A three-year active duty obligation is incurred.

Two-Year Program

Applications are accepted from UCLA students as well as incoming junior college transfers. After a six-week summer training period, students enroll in NROTC as juniors. Applicants should contact the department no later than March 1 of their sophomore year.

Freshman-Year Courses

1A. Introduction to Naval Science (2 units). Introduction to organization of the Naval Service, various components of the Navy, career opportunities, shipboard damage control, fire fighting, propulsion systems, and some customs and traditions of the Naval Service. Lt. Col. Howell

20B. Seapower and Maritime Affairs (2 units). Conceptual study of seapower, emphasizing historical development of naval and commercial power. Seapower examined in relation to economic, political, and cultural strengths, focusing on current abilities of specific nations to use the oceans to attain national objectives. Lt. Phillips

Sophomore-Year Courses

18. Naval Ship Systems I. Introduction to naval engineering, with emphasis on steam, nuclear, diesel, and gas turbine propulsion systems and their associated auxiliary components. Basic thermodynamic theory, electrical theory, stability, and buoyancy. Lt. Whitlock

20A. Naval Ship Systems II. 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. Lt. Whitlock

Junior-Year Courses


101B. Navigation II. Prerequisite: course 101A. Study of rules of the road, shiphandling, 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.

103. Evolution of Warfare. Study of evolution of warfare, including historical and comparative consideration of influence that leadership, political, economic, and sociological and technological development factors have had on warfare and influence they continue to exert in age of limited warfare. Capt. Tranter

Senior-Year Courses

102B. Naval Leadership and Management I. Examination of current and classical leadership and management theories, with emphasis on their 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. Capt. Tranter

102C. Naval Leadership and Management II (2 units). Prerequisite: course 102B. Current leadership and management in the U.S. Navy. Areas include human resources management, personnel management, material management, and performance and career evaluation. Lt. Dalessandro

104. Expeditionary Military Operations. 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. Capt. Tranter

199. Supervised Independent Studies (1 to 4 units). Prerequisites: upper division standing, consent of instructor. Supervised independent studies and research for undergraduate students who desire to pursue topics of their own selection. P/NP or letter grading.

Scandinavian Section

See Germanic Languages

Slavic Languages and Literatures

115 Kinsey Hall, (310) 825-2676

Professors

Henning Andersen, Ph.D. (Slavic Languages)
Hennik Birmbaum, Ph.D. (Slavic Languages and Literatures)

*Course to be taken by candidates for commissions in the Marine Corps or Marine Corps Reserve in lieu of courses 101A, 101B, 102B, 102C.

Michael Heim, Ph.D. (Czech and Russian Literature)
Vycheslav Is. Ivanov, Ph.D. (Slavic Languages, Russian Literature)
Emily Kenin, Ph.D. (Slavic Languages and Literatures)
Gail Lenhoff, Ph.D. (Russian Literature)
Alessandro L. Capiot, Ph.D. (Russian Literature)
Ronald Vroon, Ph.D. (Russian Literature), Chair
Dean S. Worth, Ph.D. (Slavic Languages)
Alesandar Albijanic, Ph.D., Emeritus
Thomas Eekman, Ph.D., Emeritus
Kenneth E. Harper, Ph.D., Emeritus
Vladimir Markov, Ph.D., Emeritus
Rochelle Stone, Ph.D., Emerita

Associate Professor

Peter Hodgdon, Ph.D. (Russian Literature)

Assistant Professors

Irina Gutkin, Ph.D. (Russian Literature)
Roman Koropeckyj, Ph.D. (Polish and Ukrainian Literature)

Lecturers

Edward Denzler, M.A. (Russian)
Olga Kagan, Diploma (Russian)

Scope and Objectives

The Bachelor of Arts degree in Russian Language and Literature is designed to provide students with basic mastery of the Russian language and familiarity with the classics of Russian literature. Within the major, students can concentrate either in Russian literature or Russian linguistics. 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 requirements by combining regular coursework with summer programs or with the University of California semester program at the Financial Academy of the Russian Federation in Moscow, which is open to students who have completed the equivalent of two years of study (American Council of Teachers of Foreign Languages — ACTFL — level 1). Students interested in this program should consult the undergraduate adviser as early as possible.

The Bachelor of Arts degree in Slavic Languages and Literatures is designed to provide students with basic mastery of two Slavic languages and familiarity with their literatures, as well as general background in the cultural, political, and social history of the Slavic peoples.

The department also offers a Bachelor of Arts degree in Russian Studies in which students achieve a basic mastery of the Russian language, as well as familiarity with Russian literature, history, and culture.

The graduate program provides advanced training in Slavic linguistics and literature 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 careers in college teaching and research in the Slavic field. Alternative careers include language teaching, translation, interpreting, librarianship, and government service.

College of Letters and Science / Slavic Languages and Literatures / 319
Undergraduate Study
The department offers three majors: (1) Russian language and literature, with concentrations in Russian literature or Russian linguistics, (2) Slavic languages and literatures, and (3) Russian studies. The equivalent of a major in Slavic 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 Slavic 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 required. Qualified seniors may also take graduate courses numbered below 220 with consent of the instructor and the graduate and undergraduate advisers.

Bachelor of Arts in Russian Language and Literature
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), 99A.

The Major
Required: Russian language skills equivalent to ACTFL level 2 (students usually take Russian 101A-101B-101C and 102A-102B-102C to attain level 2 proficiency; consult the undergraduate adviser for information on summer programs and the Moscow semester program), Russian 106, 130A, 140A.

You also must concentrate in either literature or linguistics. For the literature concentration, Russian 118, 119, 120 (all three may be taken in the sophomore year) and two courses from 124A through 124F, 125, 126, 130B, 130C, 134, 140B, 140C, 140D, M150 are required. For the linguistics concentration, two courses from Linguistics 103, 110, 120A, 120B, and two courses from Slavic 201, 202, Russian 118, 119, 120, 124A through 124F, 125, 126, 130B, 130C, 134, 140B, 140C, 140D, M150, Linguistics 103, 110, 120A, 120B, 127 are required.

Bachelor of Arts in Slavic Languages and Literatures
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), Slavic 99.

The Major
Required: Russian 101A-101B-101C or equivalent proficiency as determined through departmental testing (equivalent to ACTFL level 1+); courses 118, 119, 120 (all three may be taken in the sophomore year); one three-course sequence from Czech 102A-102B-102C, 102D-102E-102F, Polish 102A-102B-102C, 102D-102E-102F, Serbo-Croatian 103A-103B-103C, 103D-103E-103F (placement with consent of instructor); three courses from Czech 102D, 102E, 102F, Polish 102D, 102E, 102F, Serbo-Croatian 103D, 103E, 103F, Russian 102A, 102B, 102C, 123, 130A, 130B, 130C, 134, 140A through 140D, M150; two courses from Czech 155A, 155B, Polish 152A, 152B, Serbo-Croatian 154A, 154B, Slavic M125, M126.

Bachelor of Arts in Russian Studies
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), 99A.

The Major
Required: Russian 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 131A through 131D, two courses from Economics 182, Geography 184, Political Science 120A, 128B, 156A, Russian M170, and five additional courses selected from those listed above, from Russian language, literature, or linguistics courses, or from special courses (approved by the undergraduate adviser) offered by the Departments of Art, History, Design, Film and Television, History, Music, Political Science, Slavic Languages and Literatures, and Theater.

Graduate Study
The Department of Slavic Languages and Literature at UCLA offers M.A. and Ph.D. degrees in Slavic Languages and Literatures.

Admission
In addition to the University minimum requirements, the department requires an undergraduate major in the field or three years of Russian language and a sufficient number of Russian history, literature, and linguistics courses to document a foundation for graduate study. For application to the Ph.D. program, the department requires a UCLA M.A. in Slavic Languages and Literatures or its equivalent. If you do not hold a UCLA M.A. in Slavic Languages and Literatures, you are required to make up deficiencies as stipulated by the graduate adviser and take the M.A. examination as a screening examination within your first year.

All applicants must provide three letters of recommendation from persons capable of judging their academic potential and submit a writing sample in the field they wish to pursue. No departmental admission tests are necessary, but the Graduate Record Examination (GRE) is required.

A department brochure describing the curriculum in some detail (graduate and undergraduate) is available from the Graduate Adviser, Department of Slavic Languages and Literatures, 115 Kinsey Hall, UCLA, Los Angeles, CA 90024-1502.

Major Fields or Subdisciplines
Candidates for the M.A. and Ph.D. degrees select a specialization in either literature or linguistics, with Russian as the principal language and literature. On the Ph.D. level, students may specialize in a language or literature other than Russian by special arrangement.

Master of Arts Degree

Foreign Language Requirement
There are two foreign language requirements which must be completed before the M.A. comprehensive examination: (1) you must pass a departmental Russian language proficiency examination which tests your ability to translate from Russian to English and vice versa. This examination may be retaken each term until a pass grade is achieved; (2) you must demonstrate ability to read scholarly literature in either French or German by one of three methods: (a) passing the appropriate Graduate School Foreign Language Test (GSFLT) reading examination with a score of 500 or better, (b) passing the departmental reading examination, or (c) completing level five at UCLA in one of the languages with a grade of B or better (equivalent university-level coursework in French or German taken within two years of admittance may satisfy this requirement at the discretion of the graduate adviser).

Course Requirements
Slavic 201, Russian 204, 212A, 220A are required of all M.A. students. Literature students must also take Russian 211A, 211B, 212B, 213, 219. Linguistics students must also take Slavic 202, Russian 220B, one course from 211A, 211B, 212B, 213, and three courses from the following: Russian 241, 242, 265, 243, 263, 264, 210, Slavic 241A, 241B.

Courses in the 500 series may not be applied toward the M.A. course requirements.

Comprehensive Examination Plan
Application for advancement to candidacy must be made no later than the second week of the term in which the M.A. examinations are to be taken and is accepted only if you have satisfied the foreign language requirement in French or German and have passed the Russian Language Proficiency Examination. M.A. examinations are offered at the end of Fall, Winter, and Spring Quarters. After you have declared your intention to take the examination, a committee is appointed by the chair. The comprehensive examination has two parts — written (three hours) and oral (two hours) — and is based on coursework and the departmental reading list. The examinations include materials from both subdisciplines. If you receive a pass grade on the written examination, you are admitted to the oral examination which is designed to test
the fields of major interest and general background. It may be conducted partly in Russian. Your combined performance in the written and oral examinations is graded high pass, pass, or fail. A grade of high pass or pass is necessary to receive the M.A. degree; the grade of high pass is necessary to enter the Ph.D. program. Examinations may be repeated once; there is a six-month limit on retaking examinations graded pass and a one-year limit on examinations graded fail.

Ph.D. Degree

Admission
You are formally admitted to the Ph.D. program after (1) passing the UCLA M.A. comprehensive examination with a grade of high pass, (2) passing the reading examination in both French and German (see "Foreign Language Requirement"), and (3) demonstrating proficiency in modern Slavic languages other than Russian. Literature students must complete one year of the language of their second Slavic literature; linguistics students must complete one year of one language and two years of another (one of the languages should represent the West Slavic group, the other the South Slavic group). You may demonstrate equivalent proficiency through written and oral examinations in lieu of taking the language courses.

The comprehensive examination serves as a screening examination for admission to the doctoral program if you are entering UCLA with an M.A. from another institution. You may re-take the examination once in order to achieve the necessary high pass grade.

Foreign Language Requirement
You must demonstrate ability to read scholarly literature in both French and German by completing one of the three methods listed under the master's degree. With departmental consent, students specializing in linguistics may substitute reading knowledge in another language important to the study of Slavic linguistics (Finnish, Hungarian, Lithuanian, Latvian, Romanian, or a Turkic language relevant to East or South Slavic historical linguistics) and a score of 450 on the Graduate School Foreign Language Test (GSFLT) in either French or German. Reading knowledge of two such languages may, by the same procedure, be substituted for the entire French or (more rarely) German examination.

Course Requirements
Before the formation of a doctoral committee, you must have been officially admitted to the doctoral program and have taken the following required courses.

Linguistics students must take Slavic 221, 222, 223, and three other advanced linguistics courses or seminars (numbered above 220).

Recommended preparation for linguists includes Linguistics 103, 110, 120A, 120B, M150. Literature students must take two courses from Slavic 230A-230B-230C and four additional advanced literature courses or seminars.

Candidates specializing in literature are advised to acquire sound general knowledge of modern Western European literature.

Qualifying Paper
You are required to submit to the faculty a qualifying paper that demonstrates your ability to conduct serious and original research. The paper must be received and approved by your faculty advisor (usually the prospective examination and dissertation committee chair) no later than one term preceding the term in which you expect to take the qualifying examinations.

Qualifying Examinations
All students are expected to have sound general knowledge of both Slavic philology and Russian literary history equivalent to that required for the M.A. at UCLA.

Students in linguistics must take one written examination on the structure of modern Russian and another on comparative Slavic linguistics, the history of Russian, and the history and structure of a second Slavic language. Each examination lasts three hours.

Students in literature must take a series of six examinations on Russian literature and one examination on a Slavic literature other than Russian. Each examination is one hour in length; all seven must be taken within a one-week time period.

If you receive a grade of pass on the written examination(s), you are admitted to a two-hour University Oral Qualifying Examination, which is designed to test the fields of major interest and general background, and which typically includes discussion of the dissertation topic.

After considering your overall performance in both the oral and written examinations, the committee assigns a cumulative grade. A pass grade entitles you to write a dissertation in order to receive the Ph.D. degree. At the committee’s discretion, you may be required to retake any or all portions of the Ph.D. examinations within one calendar year after the first attempt.

Within two terms (or one term and a summer) after passing the qualifying examinations, you must prepare a prospectus of the dissertation.

You are required to deliver a formal lecture in the California Slavic Colloquium no later than two calendar years after advancement to candidacy.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
A final oral examination is not required.

Slavic

Lower Division Course

99. Introduction to Slavic Civilization. Lecture, three hours. Introductory survey of social and cultural institutions of the Slavic peoples and their historical background.

Upper Division Courses

M125. Interwar Central European Prose. (Same as German M119G and Humanities M162.) 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.

M126. Postwar Central European Prose. (Same as German M119H and Humanities M166.) 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.

177. Baltic Languages and Cultures (2 units). General survey of peoples speaking Old Russian, Lithuanian, and Latvian; their linguistic, historical, and ethnic affiliations.

M179. Baltic and Slavic Folklore and Mythology. (Same as Folklore M126.) Lecture, three hours. General course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities.

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor.

Graduate Courses

200. Proseminar. Presentation/discussion, three hours. Prerequisite: graduate standing. Introduction to research tools and techniques, as well as broad exposure to metalinguages of linguistics and literary criticism.

Linguistics

201. Introduction to Old Church Slavic. Lecture, three hours. Required for M.A. (linguistics, literature). Introduction to phonology and grammar; readings.


223. Introduction to South Slavic Languages. Lecture, three hours. Prerequisite: course 202. Recommended: Serbo-Croatian 103A-103B-103C or Bulgarian 103A-103B-103C. Required for Ph.D. (linguistics). Introduction to the structure and history of South Slavic languages.

224. Introduction to Ukrainian and Belorussian. Lecture, three hours. Prerequisite: course 202. Introduction to history and structure of Ukrainian and Belorussian.
Literature Courses

230A-230B-230C. Topics in Comparative Slavic Literature. Lecture, three hours. Recommended prerequisites: upper division courses in Czech, Polish, Russian, and South Slavic literatures. Two terms required for Ph.D. (literature). May be repeated for credit with consent of instructor and graduate adviser.

15A. Middle Ages through Baroque. 230B. Classicism to Romanticism; 230C. Realism to Modernism.

250. Seminar: Comparative Slavic Literature. Seminar, three hours. Recommended: courses 230A-230B-230C. Reading knowledge of one Slavic language in addition to Russian. Selected topics involving more than one Slavic literature or Slavic and Western literatures. May be repeated for credit with consent of instructor and graduate adviser.

255. Seminar: Literary Analysis. Seminar, three hours. Recommended (but not prerequisite): reading knowledge of one Slavic language in addition to Russian. Selected topics involving analysis of literary methods. May be repeated for credit with consent of instructor and graduate adviser.

Special Studies

275. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice is under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research (2 to 8 units). Prerequisite: consent of instructor and graduate adviser.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 6 units). Prerequisite: consent of instructor and graduate adviser.

599. Research for Ph.D. Dissertation (2 to 12 units).

Bulgarian Courses

Lower Division Course

99. Introduction to Bulgarian Civilization. Lecture, three hours. Introductory survey of social and cultural institutions of the Bulgarian people and their historical background.

Upper Division Courses

103A-103B-103C. Elementary Bulgarian. Recitation, five hours. Basic courses in the Bulgarian language.

154. Survey of Bulgarian Literature. Lecture, three hours. Prerequisite: upper division standing. Lectures and readings in English. Survey of Bulgarian literature from the Middle Ages to the present.

Polish Courses

Upper Division Courses

102A-102B-102C. Elementary Polish. Recitation, five hours. Basic courses in the Polish language.

102D-102E-102F. Advanced Polish. Recitation, three hours. Prerequisite: course 102C.

155A-155B. Czech Literature. Lecture, three hours. Lectures and readings in English. 155A. Survey of Czech Literature from the Middle Ages to the Present; 155B. Selected Topics.

Graduate Course

280. Seminar: Polish Literature. Seminar, three hours. Selected topics in Polish prose, poetry, and drama. May be repeated for credit with consent of instructor and graduate adviser.

Russian Courses

Language Courses

1. Elementary Russian. Recitation, five hours; laboratory, one hour.

2. Elementary Russian. Recitation, five hours; laboratory, one hour.

3. Elementary Russian. Recitation, five hours; laboratory, one hour.

4. Intermediate Russian. Recitation, four hours; laboratory, one hour.

5. Intermediate Russian. Recitation, four hours; laboratory, one hour.

6. Intermediate Russian. Recitation, four hours; laboratory, one hour.

10. Intensive Course in Russian (12 units). Intensive basic course in the Russian language equivalent to courses 1, 2, and 3.

9. Introduction to Bulgarian Civilization. Lecture, three hours. Introductory survey of social and cultural institutions of the Bulgarian people and their historical background.

10. Upper Division Course (2 to 12 units). Basic courses in the Russian language. Two terms of upper division courses in sequence require 30 minutes of laboratory session per week and 30 minutes of discussion session per week, plus individual instruction as required by the student. Courses 11B and higher require completion of an entire semester's work in the same course sequence.

10A-10B-10C. Advanced Russian. Lecture, five hours. Prerequisite: course 11C. Emphasis on integrating concepts about the structure of Russian into reading and analysis of difficult texts.

107. Russian for Social Scientists (2 units). Prerequisite: three years of Russian or consent of instructor. Reading of texts relevant to social scientists viewing of Soviet television. Emphasis on development of specific reading strategies.


Linguistics Course

123. Historical Commentary on Modern Russian. Lecture, three hours. Prerequisite: course 101C. Historical explanation of phonological and morphological anomalies of modern Russian.

Literature and Civilization Courses


99A. Introduction to Russian Civilization. Lecture, three hours. Introductory survey of social and cultural institutions of the Russian people and their historical background.


119. Survey of Russian Literature to Pushkin. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

119. Survey of 19th-Century Russian Literature. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

120. Survey of 20th-Century Russian Literature. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.


125. The Russian Novel in its European Setting. Lecture, three hours. Prerequisite: upper division standing. Lectures and readings in English. Emphasis on 19th- and 20th-century novelists.
Linguistics

203. Practicum in Russian (2 units). Prerequisite: 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.


210. Readings in Old and Russian Texts. Lecture, three hours. Prerequisite: Slavic 201 or consent of instructor. Readings in premodern Russian texts. May be repeated for credit.


241. Topics in Russian Phonology. Lecture, three hours. Prerequisite: course 220A. Selected topics in Russian phonology. May be repeated for credit with consent of instructor.

242. Topics in Russian Morphology. Lecture, three hours. Prerequisite: course 220A. Selected topics in Russian inflection and derivation. May be repeated for credit with consent of instructor.

243. Topics in Historical Russian Grammar. Lecture, three hours. Prerequisites: course 204, Slavic 221. Selected topics in Russian historical phonology, morphology, and syntax. May be repeated for credit with consent of instructor.

244. History of the Russian Literary Language. Lecture, three hours. Prerequisites: course 204, Slavic 201. Evolution of literary Russian from the 11th to 20th century. Lectures and analysis of texts.

245. Topics in Russian Syntax. Lecture, three hours. Prerequisites: course 220B. Traditional and generative approaches to Russian syntax. May be repeated for credit with consent of instructor.

263. Russian Dialectology. Lecture, three hours. Prerequisites: Slavic 221. Phonology and grammar of modern Great Russian dialects.

264. History of the Russian Literary Language. Lecture, three hours. Prerequisites: course 204, Slavic 201. Evolution of literary Russian from the 11th to 20th century. Lectures and analysis of texts.

291A. Seminar: Literature of Medieval Rus'. Seminar, three hours. Prerequisite: 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. Seminar, three hours. Prerequisite: 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. Seminar, three hours. Prerequisites: 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. Seminar, three hours. Prerequisites: courses 212A-212B. 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. Seminar, three hours. Prerequisites: courses 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. Simultaneous or similar phenomena in literary criticism in the West. May be repeated for credit with consent of instructor and graduate adviser.

295. Seminar: History of Russian Culture. Discussion, three hours. Reading and discussion on selected topics in history of Russian culture.

Serbo-Croatian

Upper Division Courses

103A-103B-103C. Elementary Serbo-Croatian. Recitation, five hours. Basic courses in the Serbo-Croatian language.

103A-103B-103C. Advanced Serbo-Croatian. Recitation, three hours. Prerequisite: course 103C.

113A-113B-113C. Advanced Reading and Composition. Recitation, three hours. Prerequisite: course 103C. Recommended. Reading and translation of difficult texts; advanced composition.

154A-154B. Yugoslav Literature. Lecture, three hours. Lectures and readings in English. Survey of Yugoslav literature from the Middle Ages to the Present; 154B. Selected Topics.

Slovak

Graduate Course

222. Structure of Slovak. Lecture, three hours. Prerequisite: Slavic 202. Recommended. Slavic 222. Introduction to phonological and morphological structure of the Slovak language, especially as contrasted with Czech.

Ukrainian

Upper Division Courses


152. Ukrainian Literature. Lecture, three hours. Lectures and readings in English. Survey of writers, literary trends, and issues in Ukrainian literature from the late 18th century to the present. Special attention to works of such major figures as I. Kotlyarevsky, T. Shevchenko, I. Franko, L. Ukrainka, and P. Tychyna.
Non-Slavic Languages of Eastern Europe

Lithuanian

Upper Division Courses


102. Survey of Lithuanian Language. Lecture, three hours. Course in advanced courses in the Lithuanian language.

Linguistics

20, Laboratory 131A-131D, 200F, 233A-233B; Related Courses in Other Departments

Sociology

201. Romanian as a Romance Language. Lecture, three hours. Survey of Romanian language and special emphasis on relationship of Romanian to other members of the Romance group.

202. Survey of Romanian Literature. Lecture, three hours. Lectures and readings in English. Survey of Romanian literature from the Middle Ages to the present.

Graduate Course

203. Romanian as a Romance Language. Lecture, five hours. Advanced courses in the Romanian language.

Social Sciences Collegium

A265 Murphy Hall, (310) 825-3697

Professors

Jeffrey C. Alexander, Ph.D. (Sociology), Director
Joyce Appleby, Ph.D. (History)
Ivan T. Berend, Ph.D. (History)
Edward G. Berenson, Ph.D. (History; Distinguished Teaching Award)
Richard Berk, Ph.D. (Sociology)
Elena Dubois, Ph.D. (History)
Bryan C. Ellickson, Ph.D. (Economics; Distinguished Teaching Award)
J. Nicholas Entenkin, Ph.D. (Geography)
Peter B. Hammond, Ph.D. (Anthropology)
Jack Katz, Ph.D. (Sociology)
William Mason, Ph.D. (Sociology)
Eric H. Monkmon, Ph.D. (History)
Gary B. Nash, Ph.D. (History; Distinguished Teaching Award)
Karen J. Orren, Ph.D. (Political Science)
David G. Sears, Ph.D. (Political Science, Psychology)
Edward W. Soja, Ph.D. (Urban Planning)
Steven L. Spiegel, Ph.D. (Political Science)
Ivan Szelenyi, Ph.D. (Sociology)
Donald J. Treiman, Ph.D. (Sociology)
Roger Waldinger, Ph.D. (Sociology)
Scott L. Waugh, Ph.D. (History; Distinguished Teaching Award)

Associate Professors

Peter Baldwin, Ph.D. (History)
Ruth Bloch, Ph.D. (History)
Rogers Brubaker, Ph.D. (Sociology)
Judith A. Carney, Ph.D. (Geography)
Franklin D. Gilliam, Jr., Ph.D. (Political Science)
J. Eugene Grubbs III, Ph.D. (Urban Planning)
Douglas Hall, Ph.D. (Anthropology)
Ruth M. Milkman, Ph.D. (Sociology)
Kathryn Norberg, Ph.D. (History)
Raymond A. Rocco, Ph.D. (Political Science)
William G. Roy, Ph.D. (Sociology; Distinguished Teaching Award)
Miriam Silverberg, Ph.D. (History)
Alison M. Urdank, Ph.D. (History)

Assistant Professors

Peter E. Kollock, Ph.D. (Sociology; Luckman Distinguished Teaching Award)
Muriel McClendon, Ph.D. (History)
Josef Moya, Ph.D. (History)
David N. Myers, Ph.D. (History)
Simon Potter, Ph.D. (Economics)
Edward E. Telles, Ph.D. (Sociology)

The Social Sciences Collegium is a consortium of social sciences faculty dedicated to the enrichment of lower division education. These top faculty members have come together to develop innovative courses which are (1) sensitive to your needs, providing you with a basic introduction to social scientific research and theories and (2) geared to your interests, helping you develop sophisticated, in-depth understanding of contemporary social problems and events.

The collegium offers three different kinds of opportunities:

Social Sciences Collegium Seminars are excellent opportunities to explore a social issue in an intimate classroom environment. With an enrollment capacity of 20, these seminars allow you to build your writing and speaking skills while learning about the events and forces that shape headlines and lives. The seminars are taught by advanced graduate students with outstanding academic and teaching records. The graduate student instructors, selected by a competitive awards process, bring enthusiasm and fresh perspectives to the seminars.

Social Sciences Collegium Lecture Courses are reduced-enrollment courses taught by cutting-edge scholars. Faculty members have developed a variety of new lecture courses specifically for first- and second-year students, integrating interdisciplinary and multimedia approaches to contemporary and often controversial issues. These courses offer excellent TA-student ratios and opportunities to do original research on relevant topics.

Social Sciences Collegium Omnibus Course - Los Angeles in Transition is a unique and dynamic learning experience focused on one of the most fascinating urban environments: our own backyard. The course is taught in Winter Quarter by 10 distinguished faculty members from the social sciences and professional schools who have research expertise in some aspect of Los Angeles, such as the city's history, ecology, government, or educational system. Each professor holds a weekly seminar meeting with 20 students, and all 200 students and 10 faculty members gather for a weekly lecture and debate session. The course relies on contemporary writings, media resources, and field trips to integrate these diverse perspectives.

For further information, contact Christopher Campbell at the program address.

Sociology

264 Haines Hall, (310) 825-1313

Professors

Jeffrey Alexander, Ph.D.
Walter Allen, Ph.D.
Rodolfo Alvarez, Ph.D.

Social Sciences

A265 Murphy Hall, (310) 206-7575

Lower Division Courses

There is no major in social sciences; however, the following courses are offered for interested students.

20. Racial Minorities in the U.S. Lecture, three hours; discussion, one hour. Multidisciplinary examination of history and culture of Afro-Americans, Asian Americans, Chicano, and Native Americans in the U.S. Topics include origins and maintenance of inequality, ethnic images in literature and art, psychosocial dimensions of racism, social movements, and minorities in California.

30. Law and Society (3 units), Introduction to nature of legal institutions, processes, and norms. Mr. Abel (W)
Ronald Andersen, Ph.D.
Perry Anderson, B.A.
Kenneth D. Bailey, Ph.D.
Richard Berk, Ph.D.
Lawrence Bobo, Ph.D.
Phillip Bonacich, Ph.D.
Loie C. Cheng, Ph.D.
Robert M. Emerson, Ph.D.
Michael S. Goldstein, Ph.D.
Oscar Grusky, Ph.D.
John C. Heritage, Ph.D.
Jack Katz, Ph.D.
Darwin H. Light, Ph.D.
Michael Mann, Ph.D.
William Mason, Ph.D.
Melvin Oliver, Ph.D. (Luckman Distinguished Teaching Award)

Melvin Pollner, Ph.D.
Jerome Rabow, Ph.D.
Emanuel A. Schegloff, Ph.D.
Ivan Szelenyi, Ph.D., Chair
Warren D. TenHouten, Ph.D.
Donald J. Treiman, Ph.D.
Roger Waldinger, Ph.D.
Maurice Zeilin, Ph.D.
Lyne G. Zucker, Ph.D.

Professors Emeriti
Burton R. Clark, Ph.D.
Harold Garfinkel, Ph.D.
C. Wayne Gordon, Ph.D.
John E. Horton, Ph.D.
Harry H.L. Kitano, Ph.D. (UCLA Alumni and Friends of Japanese Ancestry Professor Emeritus of Japanese American Studies)
Grene N. Levine, Ph.D.
Valerie K. Oppenheimer, Ph.D.
Georges Sabagh, Ph.D.
Melvin Seaman, Ph.D.
Edwin S. Shneidman, Ph.D.
Gerald H. Shure, Ph.D.
Samuel J. Surace, Ph.D.
Robert M. Emerson, Ph.D.
Phillip Bonacich, Ph.D.
Bobo, Ph.D.
Lawrence Berk, Ph.D.
Kenneth D. Bailey, Ph.D.

Admission
In addition to the minimum University requirements, the department requires (1) three letters of recommendation, preferably from professors of sociology who are familiar with your written work and research experiences, (2) transcripts from all colleges where you have studied, (3) a statement of purpose outlining reasons for pursuing graduate work, interests within sociology, career objectives, and any personal experiences bearing on these, (4) copies of one or two term papers or research reports you have written, (5) an official statement of scores on the Graduate Record Examination (GRE), and (6) for applicants whose native language is not English, the Test of English as a Foreign Language (TOEFL).

You graduate with a bachelor's degree in sociology and a specialization in computing.

Honor 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 major, you must complete an honors section of Sociology 1 and 18, and Mathematics 2, 3A, or 31A.

Prior to taking other upper division sociology courses, you must complete an honors section of Sociology 101 and 102 (honors collegium 61 may be substituted for course 102) and one method course selected from Sociology 106, CM124A, 209A.

Also required are three undergraduate seminars from the Sociology 197 series; any two additional upper division sociology courses; courses 199HA-199HB-199HC (honors thesis seminars); four upper division allied field courses (16 units) in other departments (the allied fields are anthropology, communication studies, economics, geography, history, political science, and psychology); and one course from English 100W, 129, 131A through 131J (may be taken on a P/NP grading basis).

Qualifications —You 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, 254A Haynes Hall. You should apply in the last term of your junior year.

M.A. and Ph.D. Degrees
The graduate program of the department takes as its primary aim the training of scholars who will conduct original research contributing to the advancement of sociological knowledge. For this reason, the department ordinarly accepts only students who are seeking the Ph.D. degree. A master's degree may be earned as part of the process of completing the requirements for the Ph.D.

Scope and Objectives
Variety is the special characteristic both of the field of sociology and of the UCLA Department of Sociology, which was judged among the 10 best in the nation in a recent survey conducted by the Conference Board of the Associated Research Councils.

Sociology will have a particular appeal to those students whose interests are broad and specialized. At both undergraduate and graduate levels, students study history, politics, statistics and mathematics, race relations, demography, psychology, language, and many other topics. A sociology student becomes a member of an intellectual community in which all these interests are represented.

The primary purpose of the major in sociology is to enhance the student's capacity for critical analysis and understanding of social phenomena. It is intended, at the same time, to serve as preparation for careers in high school or junior college teaching, social work, architecture and urban planning, law, public health, and government service, among others. It also provides training for advanced graduate work in sociology and social psychology.

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.

Bachelor of Arts Degree
Preparation for the Major
Required: One course from Sociology 1, 2, 3, 4, 5S, 31; one course from Mathematics 2, 3A, 31A; Sociology 18 (or Statistics 50, Psychology 41, or Economics 40).

All courses required for the major in sociology, including lower division and allied field courses, must be taken for a letter grade. A 2.0 grade-point average is required for the preparation and for the major.

The Major
Required: Ten upper division sociology courses (40 units), including Sociology 101, 102, and one course from 104, 105, 106, 113. These courses, devoted to the systematic exploration of sociological methods and theories, should be completed as early as possible and before taking other upper division courses. You must also take seven additional upper division sociology courses.

To complete the major, four upper division allied field courses (16 units) in other departments are required (the allied fields are anthropology, communication studies, economics, geography, history, political science, and psychology), as is one course from English 100W, 129, 131A through 131J (may be taken on a P/NP grading basis).

Only eight 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.

Courses 104, 210A, and 210B are recommended for students who intend to pursue graduate work in sociology.

Specialization in Computing
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.
Although background preparation in sociology is highly desirable, it is not mandatory for admission to the department.

In addition to relatively formal criteria (such as analytic proficiency and articulateness), the department pays particular attention to applicants who seem likely to contribute considerable intellectual, social, or cultural diversity to its student body. Women and minorities are therefore encouraged to apply. The deadline for receipt of applications is December 15. Application forms and more detailed information are available from the Graduate Affairs Assistant, Department of Sociology, 254C Haines Hall, UCLA, Los Angeles, CA 90024-1551.

Major Fields or Subdisciplines

In the first two years you usually satisfy the course requirements for the M.A. degree and write a master's paper that is evaluated by the department in your sixth term of residence. During the first year of graduate study, and no later than the second week of instruction in your fourth term in residence, you are expected to form a two-person master's committee to help you prepare the master's paper.

In the term following acceptance of your master's paper, usually at the beginning of the third year, you must affiliate with one of the department's five area programs in order to pursue more advanced, specialized, advanced study and research toward the Ph.D. The five area programs represent the special strengths of the department in research and graduate instruction:

(1) Communities and Institutions — Studies in community organization and local and institutional processes of deviance and social control, particularly as they are affected by race, ethnicity, gender, and class: social networks; ethnic conflict and cooperation; organization of immigrant and minority communities; gender relations; social organization of work and occupations; institutional processes in criminal justice and medical settings.

(2) Ethnomethodological, Phenomenological, and Observational Sociologies — Studies of work especially in the sciences and professions, sociology of knowledge, sociology of law, deviance, social control, conversational and other forms of ordinary interaction, and historical studies of everyday interaction and consciousness.

(3) Macrosociology — Political sociology, economy and society, historical and comparative sociology, macrosociological theory, and comparative stratification.

(4) Quantitative Sociology — Survey research methods, methods of applied and evaluation research, formal and social demography, social stratification, advanced statistical and mathematical sociology.

(5) Social Psychology — Attitudes and social structure, collective behavior, socialization, social interaction and small group behavior, and organizational social psychology.

Foreign Language Requirement

There is no foreign language requirement for either the master's degree or the Ph.D. Students affiliated with the macrosociology area program are required to demonstrate reading knowledge of sociological texts in any foreign language.

Course Requirements

In addition to the departmental requirements, area programs and some subareas have their own course requirements for affiliated students.

Before the Master's Paper Review — Nine courses (36 units) are required.

(1) Sociology 202A-202B (must be taken in the first year).

(2) A two-term graduate-level methodology sequence from Sociology 211A through 216B, 217B-217C, 218A-218B, C244A-C244B.

In choosing a methodology sequence, you should note that some of the Ph.D. area programs and subprograms require particular methodology sequences.


Because four of the five area programs require successful completion of Sociology 209A or 210A-210B, you would ordinarily take these courses in your first two years and are strongly urged to do so in your first year.

Students intending to affiliate with an area would do well to satisfy some of its requirements in the first two years. Contact the department for information about entering the area programs.

After the Master's Paper Review — Two courses (eight units) are required. An additional methodology sequence (from courses 211A through 216B, 217B-217C, 218A-218B) must be completed before the awarding of the Ph.D. degree.

Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details.

(1) Communities and Institutions — Sociology 290A-290B-290C and a second methods sequence selected from courses 211A through 216B or 217B-217C, 218A-218B must be completed before the awarding of the Ph.D. degree.

Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details.

(1) Communities and Institutions — Sociology 290A-290B-290C and a second methods sequence selected from courses 211A through 216B or 217B-217C, 218A-218B must be completed before the awarding of the Ph.D. degree.

Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details.

(1) Communities and Institutions — Sociology 290A-290B-290C and a second methods sequence selected from courses 211A through 216B or 217B-217C, 218A-218B must be completed before the awarding of the Ph.D. degree.

Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details.

(1) Communities and Institutions — Sociology 290A-290B-290C and a second methods sequence selected from courses 211A through 216B or 217B-217C, 218A-218B must be completed before the awarding of the Ph.D. degree.

Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details.

(1) Communities and Institutions — Sociology 290A-290B-290C and a second methods sequence selected from courses 211A through 216B or 217B-217C, 218A-218B must be completed before the awarding of the Ph.D. degree.

Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details.
Lower Division Courses

1. Introductory Sociology. Survey of characteristics of social life, processes of social interaction, and tools of sociological investigation.

2. Changing Society and Making History. Lecture, three hours; discussion, one hour. Leading question is how do politics, economics, and culture interact in changing society and shaping history? Answering this question is provided by introductory level of study of contending substantive theories and contrasting methods of inquiry contained both in classic and exemplary contemporary works of scholarship. Prerequisite: course M107.

3. Sociology of Everyday Life. Lecture, three hours; discussion, one hour. Examination of ways in which taken-for-granted aspects of everyday life and relationships are shared by interactional, cultural, and historical processes. Cultivation of capacity to critically observe and conduct practices through which everyday life is constructed.


M5. Social Organization of Black Communities. (Formerly numbered S.) (Same as Afro-American Studies M5.) Lecture, three hours; discussion, one hour. Focus on social processes and interaction of black communities, with focus on origins and development of black communities, competing theories and research findings, defining characteristics and contemporary issues. Prerequisite: course M107.

18. Interpretation of Quantitative Data. Enforced requirement: course 1 may be taken concurrently and (Mathematics 2 or 3A). Satisfies statistics requirement for sociology major. Reading graphs and tables; statistical description using indicators of central tendency, dispersion, and association; simple linear regression. Proportion; binomial, normal, t, and chi-square distributions and hypothesis testing based on them. Examples from recent issues of American Sociological Review or other leading sociological journals.

31. Dilemmas of Third World Development. Lecture, three hours; discussion, one hour. Introduction to understanding dilemmas of Third World social development and prospects for progress in the future. Prerequisite: course 104. Mr. López, Mr. Zeilin

88A-88Z. Lower Division Seminars. Lecture, three hours. Limited to 15 freshmen/sophomores. Variable topics of current sociological interest. Consult Schedule of Classes or "Department Announcements" for topics and instructors.

Upper Division Courses


102. Contemporary Sociological Theory. Prerequisite: course 101. Critical examination of significant theoretical formulations from 1920 to the present; analysis of relation between theoretical development and current research emphasis.

103. Marxist Sociology. Fundamentals of Marxist theory and method and their historical development. Attention to continuing debates within Marxism and to differences between Marxism and other schools of sociological thought. May not be applied toward upper-division major.

104. Introduction to Sociological Research Methods. Systematic treatment and semiquantitative analysis of methods used in sociological research (e.g., questionnaire and schedule design, content analysis, critical analysis of studies, conceptual analysis of case materials). Fieldwork may be required.

105. Research Methods in Policy Analysis and Evaluation. Prerequisite: course M144 or consent of instructor. Recommended: course 104. Approaches for identifying social problems and for assessment of policies and interventions for their control and management.

106. Field Research Methods (8 units). Lecture, two hours; discussion, two hours; fieldwork, 12 hours. Prerequisite: upper-division major. Authoritative report of instructor. Fieldwork and extensive field notes required. Theory and practice of field research, with particular emphasis on interrelations between fieldwork role and objective findings.

107. Urban Poverty and Public Policy in the U.S. (Field Component). (Same as Geography M147.) Prerequisite: course M144. Corequisite: one course from Geography 150 or 159A through 159E. Supplemental readings and extended fieldwork and research for identifying and analyzing social problems and for undergraduate students, especially sociology honors students. P/NP or letter grading.

109A-109B. Data Analysis for Social Scientists. Lecture, three hours; laboratory, one hour. Introduction to applied statistics and data collection for undergraduate students, especially sociology honors students. P/NP or letter grading.

112. Introduction to Mathematical Sociology. Prerequisites: course 18, Mathematics 2, 3A (course whose content includes introductory concepts to probability theory, matrix algebra, and differential and integral calculus), or equivalent. 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 mathematical configurations).

113. Statistical and Computer Methods for Social Research. Lecture, three hours; laboratory, one hour. Introduction to applied statistical data collection for undergraduate students, especially sociology honors students. P/NP or letter grading. Prerequisite: course 18. Continuation of course 18, covering more advanced statistical methods such as multiple regression, analysis of variance, or factor analysis. Content varies. Students learn how to use the computer and write programs analyzing prepared data. Prerequisite: course CM124B. Mr. Tatsuoka


117. Sociology of Family and Demographic and Economic Behavior. Examination of demographic behavior associated with social organization of the family and its relationship to society's economic system. American and European historical studies of family socioeconomic and demographic characteristics and behavior in first half of course; U.S. experience since the 1930s in second half.

Ms. Oppenheimer

CM124A-CM124B. Conversational Structures I, II. (Formerly numbered C124A-C124B.) (Same as Communication Studies M144A-M144B.) Lecture, three hours; discussion, one hour. May be concurrently scheduled with course CM124A-CM124B. P/NP or letter grading. CM124A. Introduction to some structures which are employed in organization of conversational interaction, such as turn-taking organization, organization of repair, and some basic analysis structuring with limited expansions. CM124B. Prerequisite: course CM124A. Consideration of some more expanded sequence structures, story structures, topical sequences, and overall structural organization of single conversations.

126. Study of Norms. Properties of norms, of normatively governed conduct, of lay and professional methods for describing, producing, using, and validating norms in contrasting settings of socially organized activities; relevance of these properties for problematic questions of analytic sociology. Fieldwork required.

Mr. Herbage, Mr. Poliner
127. Mind and Society. Lecture, two and one-half hours; discussion, one hour. Prerequisite: course 1 or equivalent. 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. Mr. Poliner, Mr. TenHouten.

128. Sociology of Emotions. Lecture, three hours; discussion, one hour. Prerequisite: course 1. Emotions; their role and meaning in society, social context, and interdependency of emotions; partial death; lethality; psychological autopsy; death of taboos related to death; romanticization of death; role and meanings of death in modern societies in the U.S. and the world. Ms. Hart.

143. Human Health and Society. Lecture, three hours; discussion, one hour. Prerequisite: course 1. Exploration of long-run historical trends in relationship between human health and social organization, drawing on historical, anthropological, demographic, and sociological concepts, theories, and data. Ms. Hart.

M144. Urban Poverty and Public Policy in the U.S. (Formerly numbered 144.) (Same as Geography M143.) Historical overview of urban poverty and social welfare policies; organization debates about causes and consequences of poverty. Ms. Ortiz (F).

145. Sociology of Deviant Behavior. Examination of leading sociological approaches to study of deviance and general survey of major types of deviance in American society.

146. Sociology of Disputes and Troubles. (Not the same as course 146 prior to Spring Quarter 1992.) Lecture, three hours; discussion, one hour. Theoretical perspectives and research on the social bases of conflict; causes, origins, progression, and outcomes of informal disputes; disputing in intimate family; community, public place, and workplace settings; forms, dynamics, and consequences of third-party intervention. Mr. Emerson, Mr. Katz.

147A. Sociology of Crime. (Formerly numbered 146.) Lecture, three hours; discussion, one hour. Sociological theories of social origins, organization, and meanings of crime and criminal behavior. Mr. Katz, Mr. Rabow.

147B. Sociology of Criminal Justice. (Formerly numbered 147.) Lecture, three hours; discussion, one hour. Examination of structures and routine decision making processes of key criminal justice institutions, including police, courts, probation and parole, jails and prisons. Mr. Emerson.

148. Sociology of Mental Illness. Analysis of major sociological and social psychological models of madness. Study of social processes involved in production, recognition, labeling, and treatment of “mental illness.” Mr. Emerson, Mr. Pollner.

149. Social Organization of Psychiatric Treatment. Strongly recommended (but not prerequisite). Column 148. Research and discovery research on psychiatric treatment processes and treatment organizations, including mental hospitals and community mental health organizations. Mr. Emerson.

153. Chinese Immigration. Lecture, two hours; discussion, one hour. Sociological and historical studies of Chinese immigration, with focus on international context, organization, and institutions of Chinese Americans and its interactions with the social environment. Mr. Cheng (F).

M155. Latinos in the U.S. (Formerly numbered 155.) (Same as Chicano and Chicano Studies M155.) Lecture, three hours; discussion, one hour. Prerequisites: course 1 and junior standing, or consent of instructor. History of 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. Ms. Ortiz, Mr. Telles.

156. Ethnic and Status Groups. Characteristics of “visible” ethnic groups (e.g., Japanese, Mexican, and black), their organization, acculturation, and differentiation from one another, and effects of selective immigration and population mobility. Status of chief minorities in continental U.S., with comparative materials from Jamaica, Hawaii, and other areas. Mr. Milbank, Mr. Prager.

157. Social Stratification. 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. Mr. McFarland.

158. Urban Sociology. Lecture, three hours. Description and analysis of urbanization and urbanism in the U.S. and the world. Mr. Halle, Mr. Light, Mr. Telles.

159. Comparative Studies of Jewish Communities in the U.S. and Abroad. Lecture, three hours; discussion, one hour. History, distribution, structure, and functioning of major Jewish communities, with particular emphasis on North America and Israel. Interrelationships 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. 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 the individual; and possibilities for attitude and behavior change. Mr. Bobo, Mr. Olver.

161. Comparative American Indian Societies. Lecture, three hours. Prerequisite: course 1. Comparative and historical study of political, economic, and cultural change in indigenous North American societies. Several theories of social change, applied to sociocultural processes in Indian society. Mr. Grusky.

M162. Sociology of Gender. (Same as Women's Studies M162.) Lecture, three hours; discussion, one hour. Prerequisite: course 1 or Women's Studies 10, or consent of instructor. Examination of roles and processes by which gender is constructed and reconstituted. Concepts include distinction between biological sex and sociological gender, causes and consequences of gender inequality, and recent changes in gender relations in modern industrial societies. P/NP or letter grading. Ms. Hart.

163. Gender and Work. (Same as Women's Studies M164.) Lecture, three hours. Prerequisite: course 1 or Women's Studies 10, or consent of instructor. 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. Ms. Milkman.

168. Organizations and Society. Sociological analysis of organizations and their social environment. Introduction to basic theories, concepts, methods, and research on behavior of organizations in society.

169. Law and Society. Specific topics may include law in preindustrial and industrialized societies, legalization of contemporary social relations, participants' experiences of legal processes, lay perceptions of justice, legal movements toward equality, roles of lawyers and judges, social impact of court decisions.

170. Medical Sociology. Prerequisite: course 1 or consent of instructor. Provides majors in sociology and other social sciences, as well as students preparing for health sciences careers, with understanding of health-seeking behavior and interpersonal and organizational relations that are involved in receipt and delivery of health services. Mr. Goldstein, Ms. Hart.

171. Occupations and Professions. Description and analysis of representative occupations and professions, with emphasis on the contemporary U.S. Mr. Grusky.

172. Entrepreneurship. Lecture, three hours; discussion, one hour. Prerequisite: course 1. Description and analysis of entrepreneurship, with special reference to historical origins, ideology, international comparisons, women and minority participation, legal and illegal forms, public and private auspices. Mr. Light.

173. Economy and Society. Sociology of economic life, with emphasis on principal economic institutions of the U.S. Mr. Light.

174. Sociology of the Family. Theory and research on intergenerational and intragenerational processes in the modern family, its structure and functions, including historical changes, variant family patterns, family as an institution, and influence of contemporary society on the family. Ms. Milkman.
M196-M196B. Contemporary Issues in Urban Poverty Research. (Formerly numbered M197A-M197B.) (Same as Geography M146A-M146B.) Prerequisite: Geography 140B. Two-term research seminar designed to engage students in ongoing faculty research projects focusing on models of urban poverty and underclass behaviors. Mr. Oliver, Ms. Ortiz

197. Undergraduate Seminar. Prerequisites: upper division standing, in major, sociology, consent of instructor.

199. Special Studies (2 to 8 units). Prerequisites: senior standing, 3.0 GPA in major, courses 1 and 18 or equivalent. Course of independent studies designed for graduate or senior undergraduate students who (1) desire a more advanced or specialized treatment of an area covered in regular course work, and who present that course as a prerequisite or (2) desire to work in an area of sociological analysis currently covered by an upper division course. Only eight units are allowed. See undergraduate counselor for course contract.

199HA-199HB-199HC. Special Studies for Honors. Prerequisite: honors program standing. In Progress grading.

199HA. Design of research project to serve as student's honors thesis. Topic development, research design, and paper composition. Course of independent studies designed for students who have completed at least two courses in the discipline's formative and exemplary works to learn the methodology and techniques used in the discipline. In Progress grading. Mr. Prager, Mr. Roy, Mr. Zeitlin

201A-201B. Intermediate Statistical Methods I, II. Lecture, three hours; discussion, two hours. Prerequisite: course 18 or equivalent. Required for M.A. degree by four area programs. Intermediate statistical methods using computer packages: probability theory, sampling distributions, hypothesis testing, interval estimation, multiple regression and correlation, experimental design, analysis of variance and covariance, contingency tables, sampling theory. In Progress grading. Mr. Berk, Mr. Bonacich, Mr. McFarland, Mr. TenHouten

211A-211B. Comparative and Historical Methods: I, II. Prerequisites: course 210A or equivalent. Procedures and techniques for collection, evaluation, and analysis of demographic and ecological data; models of population and social and economic change; applications to study of social structure and social change. Professors: Mason, Mr. Telles

214A-214B. Naturalistic Methods for Recorded Data. Prerequisite: consent of instructor. Special features of audio and video recordings as sources of data; problems of description and analysis posed by working with recorded data; practical exploration of techniques of data collection and transcription with both audio and video data; analysis of single cases and analytically defined collections; use of computer to organize research with recorded data. In Progress grading. Mr. Schegloff

215A. Experimental Social Research. Prerequisites: course 210A or equivalent, consent of instructor. Basic fundamentals of experimental method, particularly as it is used in social psychology. In Progress grading. Mr. Gruisky, Mr. Rabow

216A-216B. Survey Research Methods. Course concentrates on methodology and techniques: formulation of research problem; study design; hypotheses; sampling; measurement; questionnaire and schedule construction; interviewing and data collection; processing and tabulation; analysis and interpretation; presentation of findings; cross-national, replicative, panel, and other complex survey designs. Students participate in survey research project. In Progress grading. Mr. Burke, Mr. Franklin, Mr. Treiman

217A. Analyzing Ethnographies. Seminar, three hours. Prerequisite: consent of instructor. Analysis of ethnographic monographs. Mr. Emerson, Mr. Katz

217B-217C. Ethnographic Fieldwork. (Formerly numbered 217A-217B.) Seminar, three hours. Prerequisite: consent of instructor. Fieldwork used to design and conduct courses 217A. Theories and techniques of ethnographic fieldwork. Kinds of problems amenable to ethnographic approaches, methods, and techniques for doing fieldwork, and problems involved in such research. In Progress grading. Mr. Emerson, Mr. Katz

218A-218B. Ethnomethodological Methods. Prerequisite: consent of instructor. Examination of techniques used in ethnomethodological research, practice in critical evaluation of research, and directed experience in conduct of an extended investigation employing ethnomethodological procedures. In Progress grading.
Spanish and Portuguese

5310 Rolfe Hall, (310) 825-1036

Professors
Shirley L. Arora, Ph.D. (Spanish)
Rubén A. Benítez, Ph.D. (Spanish)
Joaquín Gimeno, Ph.D. (Spanish)
Carroll B. Johnson, Ph.D. (Spanish), Chair
J. Randal Johnson, Ph.D. (Portuguese)
Gerardo Luzuriaga, Ph.D. (Spanish)
C. Brian Morris, Litt.D. (Spanish)
A. Carlos Quicoli, Ph.D. (Portuguese, Romance Linguistics)
Enrique Rodríguez-Cepeda, Ph.D. (Spanish)

Professors Emeriti
José R. Barcia, Lic. F. y L.
John A. Crow, Ph.D.
E. Mayone Dias, Ph.D.
Claude L. Hulet, Ph.D.
C. P. Otero, Ph.D.
José Pascual-Buxó, Ph.D.
Stanley L. Robe, Ph.D.
Aníbal Sánchez-Reulet, Ph.D.
Marion A. Zeitlin, Ph.D.

Associate Professors
Héctor Calderón, Ph.D. (Spanish)
Guillermo Hernández, Ph.D. (Spanish)
Efrain Kristal, Ph.D. (Spanish)
José Morileón, Ph.D. (Spanish)
Susan Piann, Ph.D. (Spanish)
A. John Skirius, Ph.D. (Spanish)
Paul C. Smith, Ph.D. (Spanish)

Assistant Professors
Adriana Bergero, Ph.D. (Spanish)
Verónica Cortínez, Ph.D. (Spanish)
Claudia Parodi, Ph.D. (Spanish)

Lecturers
José M. Cruz-Salvadores, M.A. (Spanish)
George L. Voyl, J.D., Emeritus

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 Chicanas 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 four B.A. programs: B.A. in Spanish (Plan A), B.A. in Spanish and Linguistics (Plan B), B.A. in Portuguese, and B.A. in Spanish and 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 Instructional Credential in Spanish, B.A. and M.A. programs in Latin American Studies, M.A. program in Folklore and Mythology, and M.A. and Ph.D. programs in Comparative Literature and Romance Linguistics and Literature.

Bachelor of Arts in Spanish and in Spanish and Linguistics
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.

Preparation for the Majors
Required: Spanish 25 or equivalent as determined by the placement test; courses M35, M42, or M44, or equivalent.

The Major, Plan A (Spanish Language and Literature)

The Major, Plan B (Spanish and Linguistics)
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. Portuguese is recommended.

Honors Program
To qualify for graduation with departmental honors, you must achieve a 3.0 overall grade-point average and a 3.5 grade-point average in the major and have completed two of the three senior honors seminars (Spanish 170A, 170B, 170C) with appropriate grades.

Bachelor of Arts in Portuguese
Preparation for the Major
Required: Portuguese 3, 25, M35, M42 or M44, 46, or equivalent.

The Major (Portuguese Language and Literature)
Required: Thirteen upper division courses, including Portuguese 100A, 100B, 105, 120A-120B, 130A-130B, and six elective courses in Portuguese, or four electives in Portuguese plus two courses from areas that complement your program approved by the undergraduate adviser in Portuguese.

Portuguese and Linguistics 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, 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 adviser in Portuguese as early as possible in their B.A. program.

Study in a Portuguese-Speaking Country
You 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 your individual program, arranged in consultation with the undergraduate faculty adviser in Portuguese. Proposals must be submitted in advance in writing and must be approved by the department.

Bachelor of Arts in Spanish and Portuguese
Preparation for the Major
Required: Spanish 25, Portuguese 25, M35, M42 or M44, 46, or equivalent.
The Major

Required: Six upper division courses in language and linguistics, including Spanish 100A-100B, Portuguese 100A, 100B, M118A or M118B, and either Spanish 105 or Portuguese 105; nine upper division courses in literature selected from one of the following groups: group A (peninsular literature to 1700) — Spanish 123, 124, 127, Portuguese C124, C125, C126, and three other literature courses, one of which must be in Spanish and one in Portuguese; group B (peninsular literature from 1700 to the present) — Spanish 128, 130, 133, Portuguese C127, C128, C129, and three other literature courses, one of which must be in Spanish and one in Portuguese; group D (Spanish-American and Brazilian literature from 1800 to the present) — Spanish 142, 143, Portuguese C134, C135, and five other literature courses, two of which must be in Spanish and two in Portuguese.

Master of Arts in Spanish

Admission

Admission to the M.A. program is based on careful review of your academic record by the graduate admissions committee. Minimum requirements include a B.A. in Spanish or the equivalent from UCLA or another recognized university, a satisfactory score on the Graduate Record Examination (GRE) General Test, and three letters of recommendation, preferably from professors with whom you have studied in the major field, who can comment on your potential as a graduate student. For admissions information, write to the Department of Spanish and Portuguese, S310 Rolffe Hall, UCLA, Los Angeles, CA 90024-1532.

You may be required to take one or more complementary courses (which may not be applied toward the M.A.) if the committee determines that some area of your preparation in language or literature is deficient.

Foreign Language Requirement

You are required to study one of the following languages: French, German, Italian, Latin, Portuguese, or another language approved by your guidance committee. The requirement may be fulfilled by (1) passing the Graduate School Foreign Language Test (GSFLT) with a score of 500 or better, (2) passing the University reading examination in one of these languages when no GSFLT is available, or (3) passing at least a level equivalent from UCLA or another recognized institution.

Course Requirements

Eleven graduate Spanish courses are required, at least one of which must be a seminar taken only after the appropriate preseminar. Course 596 may be included once; courses 597 and 598 may not be applied toward the degree.

Three plans of study for the M.A. in Spanish are offered: Plan A, Linguistics; Plan B, Literature; Plan C, Linguistics and Literature.

Plan A (Linguistics) — One graduate course in literature offered by the department, and eight elective graduate courses are required. You must select one major field (five courses) and one minor field (three courses) from the following areas of specialization: phonology and morphology; syntax; diachronic or synchronic language variation. Also required are Spanish M201A-M201B or two additional courses selected from an area outside your major and minor fields.

Plan B (Literature) — Spanish M201A-M201B, one course from 202A through 209, and eight elective graduate courses are required. You must select one major field (four courses) and one minor field (three courses) from the following areas of specialization: Spanish literature from its beginning to 1700; Spanish literature from 1700 to the present; Spanish-American literature from its beginning to 1900; Spanish-American literature from 1900 to the present. One additional course must be selected from areas outside your major and minor fields.

Plan C (Linguistics and Literature) — Spanish M201A-M201B and nine elective graduate courses, four in literature and five in linguistics, are required. The four literature courses are to be selected from two of the fields specified in Plan B, two courses from each of two areas. Of the five courses in linguistics, one must be in phonology and morphology, one in syntax, and one in diachronic or synchronic language variation.

Comprehensive Examination Plan

One term before you propose to take the comprehensive examination, you must present to your guidance committee reading lists which constitute the basis for your examination. Students in Plan A receive a list of essential reading when they enter the plan and must present one reading list for the major field and one for the minor field. If you are in Plan B, you also must present for approval one reading list in your major field and one in your minor field. Plan C students must present for approval reading lists representing the literature fields (the reading list for linguistics is established by the guidance committee).

Thesis Plan

You may petition to present a thesis in lieu of taking the comprehensive examination only after you complete five graduate courses. The graduate adviser and your committee will approve your petition only if they find evidence of exceptional ability and promise in your term papers and coursework.

Master of Arts in Portuguese

Admission

The UCLA Bachelor of Arts in Portuguese or the equivalent is required. Other admission requirements are the same as those for the M.A. in Spanish.

Major Fields

You must select one major field and two minor fields from the following specialization areas: Portuguese literature; Brazilian literature; Portuguese linguistics.

Foreign Language Requirement

You are required to study one of the following languages: French, German, Italian, Latin, Spanish, or another language approved by your guidance committee. The requirement may be fulfilled by (1) passing the Graduate School Foreign Language Test (GSFLT) with a score of 500 or better, (2) passing the University reading examination in one of these languages when no GSFLT is available, or (3) passing at least a level equivalent from UCLA.

Course Requirements

Portuguese M201A-M201B, and eight elective graduate courses in Portuguese are required, at least one of which must be a seminar. You must select four courses in your major field and two courses in each of your two minor fields. Course 596 may be included once; courses 597 and 598 may not be applied toward the degree.

Comprehensive Examination Plan

The examination consists of (1) a three-hour written test in your major field and (2) a 90-minute written test in each of your two minor fields. One term before you propose to take the comprehensive examination, you must present for approval to your guidance committee one reading list for your major field in literature (approximately 15 authors and 30 works) and one reading list for your minor field in literature (approximately 6 authors and 15 works). The reading lists form the basis of the literature section of the examination (the reading list for linguistics is established by the guidance committee).

Thesis Plan

You may petition to present a thesis in lieu of taking the comprehensive examination only after you complete five graduate courses, one of which must be a seminar. The graduate adviser and your committee will approve your petition only if they find evidence of exceptional ability and promise in your term papers and coursework.

Ph.D. in Spanish

Languages and Literatures

Admission

The UCLA Master of Arts in Spanish or in Portuguese, or the equivalent, is required. Three letters of recommendation are also required.
from professors familiar with your work as a graduate student, to be addressed to your capacity for research-oriented doctoral studies and possible entry into the profession. The Graduate Record Examination (GRE) General Test is also required. A combined score of 1,000 is preferred; the verbal score is considered more important than the quantitative.

Students who hold the M.A. in Spanish or in Portuguese from UCLA fall into one of three categories and are so notified on receipt of the degree. The categories are (1) low pass (terminal M.A.) — not eligible for admission into the Ph.D. program, (2) mid pass — may continue toward the Ph.D. on a probationary basis, and (3) high pass — automatically eligible to enter the Ph.D. program.

Major Fields or Subdisciplines

The department recognizes the following areas of specialization, from which you select one major field and two minor fields, together with an optional complementary support area: (1) Spanish linguistics; (2) Portuguese linguistics; (3) diachronic Hispanic linguistics and philology; (4) medieval Spanish literature; (5) Renaissance and Golden Age Spanish literature; (6) 18th- and 19th-century Spanish literature; (7) 20th-century Spanish literature; (8) colonial and 19th-century Spanish-American literature; (9) 20th-century Spanish-American literature; (10) early Portuguese literature; (11) modern Portuguese literature; (12) Brazilian literature; (13) Spanish and Luso-Brazilian folklore.

Foreign Language Requirement

Reading knowledge of two foreign languages in addition to both Spanish and Portuguese is required. The languages are selected in consultation with your guidance committee. The requirement may be fulfilled by (1) passing the Graduate School Foreign Language Test (GSFLT) with a score of 500 or better, (2) passing the University reading examination in the language when no GSFLT is available, or (3) passing at least a level three course at UCLA. You must fulfill the requirement in one of the languages no later than the sixth term of graduate study.

Course Requirements

After the B.A., a minimum of 20 graduate courses is required. Spanish or Portuguese M201A-M201B may be required if you do not have prior credit for it. You normally take a minimum of six graduate courses in your major field, of which at least two must be seminars. In each of the minor fields, you normally take a minimum of four graduate courses, of which at least one must be a seminar.

Qualifying Examinations

The qualifying examinations, given during the fifth and sixth weeks of Fall, Winter, and Spring Quarters, consist of (1) a four-hour written examination in the major field, (2) a two-hour written examination in each minor field, and (3) a two-hour University Oral Qualifying Examination on the three fields and at which your prospectus for the dissertation is discussed and approved. The written examinations are normally taken no later than nine terms after receiving the B.A. and six terms after receiving the M.A. Only students who pass the qualifying examinations are advanced to candidacy for the Ph.D.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination

The final oral examination is optional at the committee's discretion.

Spanish

Lower Division Courses

Spanish 1 through 3 use Shumway and Forbes' *Español en español*. 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. No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition.

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.

1. Elementary Spanish. Discussion, five hours; laboratory, one hour.
2. 10 Reading Course for Graduate Students. Lecture, three hours. Knowledge of Spanish not required. May not be applied toward degree requirements. S/U grading.
3. 10 Elementary Spanish. Discussion, five hours; laboratory, one hour. Enforced requisite: course 1.
4. 20 Reading Course for Graduate Students. Lecture, three hours. Enforced requisite: course 1G. May not be applied toward degree requirements. S/U grading.
5. 20 Elementary Spanish. Discussion, five hours; laboratory, one hour. Enforced requisite: course 3.
6. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Enforced requisite: course 5. Review and analysis of the more sophisticated and complex syntactic structures of Spanish, verb morphology, and lexical discrimination. Students who have completed course 5 with a grade of A – or better may enroll directly in course 25.


50 Spanish Conversation (2 units each). Discussion, three hours. Course 8A is open to students with credit for course 4 or equivalent. Students who have completed course 3 with a grade of B or better may be admitted. (F,W,Sp)

Upper Division Courses

Prerequisite to all upper division courses is Spanish 25 or equivalent as determined by the placement test.

100A-100B. Introduction to Study of Spanish Grammar. Lecture, three hours. Prerequisite: course M35.

100A. Phonology and Morphology. Analysis of phonemic and morphological systems of Spanish. Ms. Plann

100B. Syntax. Study of syntactical systems of Spanish. Mr. Otero, Ms. Plann
105. Spanish Composition. Lecture, three hours. Practice in writing Spanish with appropriate vocabulary, syntactical structures, and stylistic patterns.

107. The Spanish of Southern California. Lecture, three hours. Prerequisites: courses M35 and M100A-100B, or consent of instructor. Analysis of pronunciation, word formation, syntax, and lexicon of the Spanish of Southern California, with attention to regional features and social and age levels of speech and inference from English.

115. Applied Linguistics. Lecture, three hours. Prerequisites: courses M35, 100A. Major features of development of Portuguese and Spanish languages from their origins in Vulgar Latin to modern times. M118A. Phonology, M118B. Morphology and Syntax. Ms. Plann, Mr. Quicoli, Mr. Smith

119A. Introduction to Study of Literature: Prose. Lecture, three hours. Introduction to study of literary devices, figures of speech, versification, and distinctive stylistic features in prosse literature of Spain and Spanish America, particularly in the novel and essay.

119B. Introduction to Study of Literature: Poetry. Lecture, three hours. Introduction to study of literary devices, figures of speech, versification, and distinctive stylistic features in the poetry of Spain and Spanish America.

119C: Introduction to Study of Literature: Drama. Lecture, three hours. Introduction to principal periods, currents, and authors of Spanish literature. Ms. Gimeno, Mr. Johnson, Mr. Rodriguez-Cepeda

122. Medieval Literature: Prose. Lecture, three hours. Recommended (but not prerequisite): course 120A. Study of main genres through representative works. Mr. Gimeno

123. Medieval Literature: Poetry. Lecture, three hours. Recommended (but not prerequisite): course 120A. Study of main genres through representative works. Mr. Gimeno

124. Golden Age: Poetry and Drama. Lecture, three hours. Recommended (but not prerequisite): course 120A. Study, through representative works, of the Golden Age poetry and drama. Mr. Johnson, Mr. Rodriguez-Cepeda


127. Golden Age: Don Quijote. Lecture, three hours. Recommended (but not prerequisite): course 120A. Development of the novel in the Golden Age, with particular reference to Don Quijote. Mr. Gimeno

128. The Enlightenment and Romanticism in Spain. Lecture, three hours. Recommended (but not prerequisite): course 120B. Study, through representative works, of main manifestations of thought and literature from 1700 to 1850. Mr. Benitez, Mr. Rodriguez-Cepeda

130. Post-Romanticism, Realism, and Naturalism in Spain. Lecture, three hours. Recommended (but not prerequisite): course 120B. Development of main trends of Spanish literature from 1850 to 1898. Mr. Benitez, Mr. Smith

132. 20th-Century Spanish Poetry and Drama. Lecture, three hours. Recommended (but not prerequisite): course 120B. Study of several representative works of Spanish prose literature since 1898. Mr. Monleón, Mr. Morris

133. 20th-Century Spanish Poetry and Drama. Lecture, three hours. Recommended (but not prerequisite): course 120B. Study of several representative works of Spanish poetry and drama since 1898. Mr. Monleón

136A-136B. Survey of Spanish-American Literature. Lecture, three hours. Introduction to principal periods, currents, and authors of Spanish-American literature. Ms. Arora, Mr. Luzuriaga, Mr. Skirius

137. Literature of Colonial Spanish America. Lect,ure, three hours. Recommended (but not prerequisite): course 136A. Study of most important genres and authors from the Conquest to 1810. Ms. Arora

139. Romanticism and Realism in Spanish-American Literature. Lecture, three hours. Recommended (but not prerequisite): course 136A. Study of representative literary works, of most important currents of thought and literary trends from 1810 to 1880. Mr. Luzuriaga, Mr. Skirius


142. 20th-Century Spanish-American Literature: Fiction and the Essay. Lecture, three hours. Recommended (but not prerequisite): course 136B. Study of major movements and authors of Mexican literature. Mr. Skirius

144. Mexican Literature. Lecture, three hours. Recommended (but not prerequisite): course 136B. Study of major movements and authors of Mexican literature. Mr. Skirius

145. Introduction to Chicano Literature. (Same as Chicana and Chicano Studies M145.) Lecture, three hours. Recommended (but not prerequisite): course 136B. Study of Chicano literature. Mr. Otero, Ms. Plann

146. Folk Literature of the Hispanic World. (Same as Folklore M149.) Lecture, three hours. Study of history and present dissemination of folk literature throughout the Hispanic countries. Ms. Arora

151A-151B. Women in Hispanic Literature. Discussion, three hours. Study of works by and about women, with emphasis on portrayal of women, women's roles, and myths of womanhood within the Hispanic socio-ideological context. 151A. Spain. Recommended (but not prerequisite): courses 120A-120B. 151B. Spanish America. Recommended (but not prerequisite): courses 136A-136B.

151B. Film and Literature of the Spanish-Speaking World. (Formerly numbered M151B.) Lecture, three hours. Exploration of perceptions of reality offered by different authors from Spain, Latin America, and the Chicano community. Mr. Otero, Mr. Skirius

170A. Senior Honors Seminar: Topics in Spanish Literature. Lecture, three hours. Prerequisite: senior Spanish major with 3.5 GPA in the major. Directed research on topics within general area of Spanish literature. Two senior seminars required for departmental honors.

170B. Senior Honors Seminar: Topics in Spanish-American Literature. Lecture, three hours. Prerequisite: senior Spanish major with 3.5 GPA in the major. Directed research on topics within general area of Spanish-American literature. Two senior seminars required for departmental honors.

170C. Senior Honors Seminar: Topics in Hispanic Linguistics. Lecture, three hours. Prerequisite: senior Spanish major with 3.5 GPA in the major. Directed research on topics within general area of Hispanic linguistics. Two senior seminars required for departmental honors.

197. Undergraduate Seminar. Lecture, three hours. Prerequisites: upper division Spanish major, consent of instructor. Limited to 15 students. Topics and specific offering of course with readings, discussions, and papers; consent of Schedule of Classes or department counselor for topic to be offered in a specific term.

197A. Studies in Hispanic Culture and Civilization. Lecture, three hours. Prerequisite: two divisions of study in Hispanic culture and civilization, and history. Classroom discussions, papers, and examinations in Spanish.

199. Special Studies (2 to 4 units). Prerequisite: consent of adviser and instructor. Eight units may be applied toward the major requirements.

Graduate Courses

M200. Research Resources. (Same as Portuguese M200.) Lecture, three hours. Identification and use of research resources for graduate students. Mr. Benitez, Mr. Smith

M201A-M201B. Literary Theory and Criticism. (Formerly numbered M201.) Lecture, three hours. Definition, discussion, and application of main current of contemporary literary theory and criticism. In Progress grading.

202A. Phonology. (Formerly numbered 202A.) Lecture, three hours. Study of the sound structure of Spanish and its main phonological processes that map underlying representations into surface representations. Bearing of phonological theory on study of meter.

202B. Morphology. (Formerly numbered 202B.) Lecture, three hours. Study of derivational and inflectional word formation processes and their interaction with syntactic structure. Mr. Otero, Ms. Plann

204A-204B. Generative Syntax and Semantics. Lecture, three hours. Study of syntactic structure of Spanish and its main syntactic processes that map underlying representations and logical form within a principles-and-parameters framework. Bearing of syntactic and semantic structure on study of literature. Mr. Otero

M205A-M205B. Development of Portuguese and Spanish Languages. Lecture, three hours. Study of historical development of Portuguese and Spanish languages from their origin in spoken Latin.

209. Dialectology. 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.

221. Medieval Lyric Poetry. Lecture, three hours. Readings and of lectures on Spanish lyric poetry from the beginning to 1500. Mr. Gimeno

222. Medieval Epic and Narrative Poetry. Lecture, three hours. Readings and of lectures on Spanish epic and narrative poetry from the beginning to 1500. Mr. Gimeno

223. Medieval Prose. Lecture, three hours. Readings of and lectures on Spanish prose from the beginning to 1500. Mr. Gimeno

224. History of the Golden Age. Lecture, three hours. Readings of and lectures on Spanish poetry from the beginning to 1700. Mr. Morris, Mr. Rodriguez-Cepeda

225. Drama of the Golden Age. Lecture, three hours. Readings of and lectures on the comedia. Mr. Rodriguez-Cepeda

226. Prose of the Golden Age. Lecture, three hours. Readings of and lectures on fictional, didactic, religious, and historical writings. Mr. Johnson
227. Cervantes. Lecture, three hours. Readings of and lectures on works of Cervantes. Mr. Johnson
228. The Enlightenment. Lecture, three hours. Readings of and lectures on representative works of the period. Mr. Benitez
229. Romanticism. Lecture, three hours. Readings of and lectures on representative works of the period. Mr. Benitez
230. Realism and Naturalism. Lecture, three hours. Readings of and lectures on literary works, principally novels, from 1850 to 1898. Mr. Benitez, Mr. Smith
231. Major Currents in Modern Spanish Literature. Lecture, three hours. Introduction to modern literary currents, including symbolism, Parnassianism, and the Generation of 1898. Mr. Morris
232. Spanish Prose Literature from 1898 to the Civil War. Lecture, three hours. Readings of and lectures on representative essays, novels, and short stories of the period. Mr. Monleon, Mr. Morris
233. Spanish Prose Literature after the Civil War. Lecture, three hours. Readings of and lectures on representative works from 1850 to 1898. Mr. Monleon, Mr. Morris
234. Spanish Drama and Poetry from 1898 to the Civil War. Lecture, three hours. Readings of and lectures on representative plays and poems. Mr. Morris
235. Spanish Drama and Poetry after the Civil War. Lecture, three hours. Readings of and lectures on representative plays and poems of the period. Mr. Morris
237. Literature of the Spanish Conquest. Lecture, three hours. Readings of and lectures on chronicles, poems, and indigenous accounts of the Spanish Conquest. Ms. Arora
238. Baroque, Enlightenment, and Neoclassicism in Colonial Literature. Lecture, three hours. Readings of and lectures on representative texts. Ms. Arora
239. Romanticism and Realism in Spanish-American Literature. Lecture, three hours. Intensive study of Romanticism and realism in Spanish-American literature. Mr. Skirius
240. Major Currents in Modern Spanish-American Literature. Lecture, three hours. Study of principal trends in modern Spanish-American literature, particularly naturalism and modernismo. Mr. Luzuriaga
241A-241B. Contemporary Spanish-American Short Story. Lecture, three hours. Study of important short story writers from modernism to the present. Mr. Luzuriaga
243A-243B. Contemporary Spanish-American Poetry. Lecture, three hours. Intensive study of important poets of Spanish America from modernism to the present. Mr. Luzuriaga
244A-244B. Contemporary Spanish-American Novel. Lecture, three hours. Study of important novelists from modernism to the present. Mr. Luzuriaga
246. Contemporary Spanish-American Drama. Lecture, three hours. Study of principal Spanish-American dramatists and theater movements in the 20th century. Mr. Luzuriaga
247. Chicano Literature. Lecture, three hours. Study of major movements and authors of Mexican American literature. Mr. Calderón, Mr. Hernández
249. Folk Literature of the Spanish and Portuguese Worlds. (Same as Folklore M249 and Portuguese M249.) Lecture, three hours. Intensive study of folk literature of the Spanish and Portuguese cultures as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech. Ms. Arora

Seminars (M251A through 290) may be taken for a maximum of eight units each with consent of the appropriate guide committee and with topic change.

M251A-M251B. Studies in Galician-Portuguese and Old Spanish. (Same as Portuguese M251A-M251B.) Lecture, two hours. Study of problems related to historical development of Galician-Portuguese and Old Spanish. Mr. Otero, Mr. Smith
256A-256B. Studies in Spanish Linguistics. Lecture, two hours. Study of problems in analysis and description of the contemporary Spanish language. Mr. Otero
257. Studies in Dialectology. Discussion, two hours.
262A-262B. Studies in Medieval Spanish Literature. Discussion, two hours. Mr. Gemen
264A-264B. Studies in Golden Age Spanish Literature. Discussion, two hours. Mr. Johnson, Mr. Morris, Mr. Rodríguez-Cepeda
265. Cervantes. Discussion, two hours. Mr. Johnson
270A-270B. Studies in 18th-Century Spanish Literature. Discussion, two hours.
271A-271B. Studies in 19th-Century Spanish Literature. Discussion, two hours. Mr. Benitez, Mr. Smith
272A-272B. Studies in 20th-Century Spanish Literature. Discussion, two hours. Mr. Monleon, Mr. Morris
277A-277B. Studies in Colonial Spanish-American Literature. Discussion, two hours. Ms. Arora
278A-278B. Studies in 19th-Century Spanish-American Literature. Discussion, two hours. Ms. Arora
280A-280B. Studies in Contemporary Spanish-American Literature. Discussion, two hours. Mr. Luzuriaga
281. Studies in Chicano Literature. Discussion, two hours. Mr. Calderón, Mr. Hernández
286A-286B. Studies in Hispanic Folk Literature. (Same as Folklore M286A-M286B.) Lecture, two hours. Readings of and lectures on representative works.
290. Special Topics. Lecture, two hours. Variable topics: consult Schedule of Classes or department counselor for topics to be offered in a specific term.
310. Teaching Spanish in Elementary School. Lecture, three hours. Mr. Luzuriaga
375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.
495. Teaching Spanish at College Level. Prerequisite: grade standing in department. Basic concepts of modern theories of language and language acquisition which underlie modern methods of second language teaching. S/U grading.
566. Directed Individual Study or Research (4 to 8 units). Prerequisite: consent of graduate adviser and chair. Study or research in areas or subjects not offered as regular courses. No more than four units may be applied toward M.A. course requirements.
597. Preparation for Graduate Examinations (4 to 12 units). Prerequisites: official acceptance of candidacy by department, completion of graduate adviser. Individual preparation for M.A. comprehensive examination or Ph.D. qualifying examinations. May be taken only once for each degree examination and in term that comprehensives or qualifying examinations are to be taken. S/U grading.

Portuguese Lower Division Courses

No credit is allowed for completing a less advanced course after completion of a more advanced course in grammar and/or composition.

1. Elementary Portuguese. Discussion, five hours; laboratory, one hour.
2. Elementary Portuguese. Discussion, five hours; laboratory, one hour. Enforced prerequisite: course 1.
4A-4B. Portuguese Conversation (2 units each). Discussion, three hours. Enforced prerequisite: course 3 (B or better).
M35. Spanish, Portuguese, and Nature of Language. (Same as Spanish M35.) Lecture, three hours. Introduction to language study within context of Romance languages, focusing on Spanish and Portuguese. Nature of language: structure, diversity, evolution, social and cultural settings, literacy uses, Study of language and its relation to other areas of human knowledge.
M42. Civilization of Spain and Portugal. (Same as Spanish M42.) Required of majors. Conducted in English. Highlights of civilization of Spain and Portugal, with emphasis on the artistic, economic, and historical development as background for upper division courses. Mr. Cruz-Shafareira, Mr. Johnson
M44. Civilization of Spanish America and Brazil. (Same as Spanish M44.) Required of majors. Conducted in English. Highlights of civilization of Spanish America and Brazil, with emphasis on the artistic, economic, and historical development as background for upper division courses. Mr. Skirius
46. Civilization of the Portuguese-Speaking World. Lecture, three hours. Conducted in English. Topical analysis of cultural history of Brazil, Portugal, and Portuguese-speaking African countries, with emphasis on physical environment, principal historical, social, and economic development, and artistic manifestations. P/NP or letter grading.

Upper Division Courses

Prerequisite to all upper division courses is Portuguese 25 or consent of instructor.

100A. Phonology and Morphology. Lecture, three hours. Analysis of phonetic, phonemic, and morphological systems of Portuguese. Mr. Quicoli
100B. Syntax. Lecture, three hours. Review of patterns of the Portuguese language. Mr. Quicoli
101A. Advanced Reading and Conversation. Lecture, three hours. Reading and discussion of writings by modern Brazilian and Portuguese authors.
102A-102B. Intensive Portuguese. Prerequisite: foreign language experience (other than Portuguese) or consent of instructor. 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.
105. Advanced Composition and Style. Practice in writing Portuguese with appropriate vocabulary, syntactical structures, and stylistic patterns.

M118A-M118B. History of Portuguese and Spanish. (Same as Spanish M118A-M118B.) Lecture, three hours. Prerequisites: courses M35, 100A. Major features of development of Portuguese and Spanish languages from their origins in Vulgar Latin to modern times. M118A. Phrases; Syntax; M118B. Morphology and Syntax. Ms. Plann, Mr. Quicoli, Mr. Smith

120A-120B. Survey of Portuguese Literature. Lecture, three hours. Introduction to principal periods, currents, and authors of Portuguese literature.

C124. Medieval Portuguese Literature. Lecture, three hours. Study of main genres of Renaissance Portuguese literature, with particular emphasis on the works of Luis de Camoes. May be concurrently scheduled with course C224.

C125. Renaissance Portuguese Literature. Lecture, three hours. Study of main genres of Renaissance Portuguese literature, with particular emphasis on the works of Luis de Camoes. May be concurrently scheduled with course C225.

C126. Baroque and Neoclassical Portuguese Literature. Lecture, three hours. Study of main genres of baroque and neoclassical Portuguese literature through representative works. May be concurrently scheduled with course C226.

C127. Romanticism and Realism in Portuguese Literature. Lecture, three hours. Study of principal features through representative works. May be concurrently scheduled with course C227.

128. Post-Romanticism and Naturalism in Portuguese Literature. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C228.

C129. 20th-Century Portuguese Literature. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C229.

130A-130B. Survey of Brazilian Literature. Lecture, three hours. Introduction to principal periods, currents, and authors of Brazilian literature.

C131. Colonial Brazilian Literature. Lecture, three hours. Study of most important authors to 1830. May be concurrently scheduled with course C231.

C132. Romanticism in Brazilian Literature. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C232.

C133. Naturalism, Realism, and Symbolism in Brazilian Literature. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C233.

C134. 20th-Century Brazilian Literature: Poetry and Drama. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C234.

C135. 20th-Century Brazilian Literature: Novel. Lecture, three hours. Study of most important Brazilian novelists. May be concurrently scheduled with course C235.

141. Film and Literature of the Portuguese-Speaking World. Lecture, three hours. Not open for credit to students with credit for course 197. Topical analysis (conducted in English) of main literary and historical themes of Brazilian culture, through films and literary texts, from colonial beginnings to the present day.

197. Undergraduate Seminar. Lecture, three hours. Variable topics course with readings, discussions, and papers; consult Schedule of Classes or department counselor for topic to be offered in a specific term.

199. Special Studies (2 to 4 units). Prerequisite: consent of adviser and instructor. Eight units may be applied toward the major requirements.

**Graduate Courses**

M200. Research Resources. (Same as Spanish M200.) Lecture, three hours. Identification and use of research resources for graduate students.

M201A-M201B, Literary Theory and Criticism. (Formerly numbered M201.) (Same as Spanish M201A-M201B.) Lecture, three hours. Definition, discussion, and application of main currents of contemporary literary theory and criticism. In Progress grading.

M204A-204B. Generative Grammar. Lecture, three hours. Prerequisite: consent of instructor. Course 204A or consent of instructor is prerequisite to 204B. Generative approach to the Portuguese language, with some consideration of bearing of syntax, semantics, and phonology on style, metaphor, and meter. Mr. Quicoli

M205A-M205B, Development of Portuguese and Spanish as languages. (Same as Spanish M205A-M205B.) Lecture, three hours. Intensive study of historical development of Portuguese and Spanish languages from their origin in spoken Latin.

C124. Medieval Portuguese Literature. Lecture, three hours. Study of main genres of medieval Portuguese and Galician literature through representative works. May be concurrently scheduled with course C124.

C125. Renaissance Portuguese Literature. Lecture, three hours. Study of main genres of Renaissance Portuguese literature, with particular emphasis on the works of Luis de Camoes. May be concurrently scheduled with course C125.

C126. Baroque and Neoclassical Portuguese Literature. Lecture, three hours. Study of main genres of baroque and neoclassical Portuguese literature through representative works. May be concurrently scheduled with course C126.

C127. Romanticism and Realism in Portuguese Literature. Lecture, three hours. Study of principal features through representative works. May be concurrently scheduled with course C127.

C128. Post-Romanticism and Naturalism in Portuguese Literature. Lecture, three hours. Study of principal features through representative works. May be concurrently scheduled with course C128.

C129. 20th-Century Portuguese Literature. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C129.

C130A-130B. Survey of Brazilian Literature. Lecture, three hours. Introduction to principal periods, currents, and authors of Brazilian literature.

C131. Colonial Brazilian Literature. Lecture, three hours. Study of most important authors to 1830. May be concurrently scheduled with course C131.

C132. Romanticism in Brazilian Literature. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C132.

C133. Naturalism, Realism, and Symbolism in Brazilian Literature. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C133.

C134. 20th-Century Brazilian Literature: Poetry and Drama. Lecture, three hours. Study of representative trends and authors. May be concurrently scheduled with course C134.

C135. 20th-Century Brazilian Literature: Novel. Lecture, three hours. Study of most important Brazilian novelists. May be concurrently scheduled with course C135.

141. Film and Literature of the Portuguese-Speaking World. Lecture, three hours. Not open for credit to students with credit for course 197. Topical analysis (conducted in English) of main literary and historical themes of Brazilian culture, through films and literary texts, from colonial beginnings to the present day.

197. Undergraduate Seminar. Lecture, three hours. Variable topics course with readings, discussions, and papers; consult Schedule of Classes or department counselor for topic to be offered in a specific term.

199. Special Studies (2 to 4 units). Prerequisite: consent of adviser and instructor. Eight units may be applied toward the major requirements.

**Colleges and Schools**

334 Kinsey Hall, (310) 825-3303

**Graduate Courses**

M251A-M251B. Studies in Galician-Portuguese and Old Spanish. (Same as Spanish M251A-M251B.) Lecture, two hours. Study of problems related to historical development of Galician-Portuguese and Old Spanish.

Mr. Otero, Mr. Smith

252. Studies in Early Portuguese Literature. Discussion, two hours.

253. Studies in Modern Portuguese Literature. Discussion, two hours.

254. Studies in Early Brazilian Literature. Discussion, two hours.

255. Studies in Modern Brazilian Literature. Discussion, two hours.


Mr. Quicoli


375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research (4 to 8 units). Prerequisite: consent of graduate adviser and chair. Study or research in areas or subjects not offered as regular courses. No more than eight units may be applied toward M.A. course requirements.

597. Preparation for Graduate Examinations (4 to 12 units). Prerequisites: official acceptance of candidacy by department, consent of graduate adviser. 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.


**Speech**

334 Kinsey Hall, (310) 825-3303

**Professors**

Neil M. Malamuth, Ph.D. (Communication Studies), Chair

Donald E. Hargis, Ph.D., Emeritus

Charles W. Lomas, Ph.D., Emeritus

**Associate Professors**

Paul I. Rosenthal, Ph.D. (Communication Studies; Distinguished Teaching Award)

Ralph Richardson, Ph.D., Emeritus

**Lecturers**

Dee Bridgewater, Ph.D.

Stephen A. Doyle, M.A.

Marcel S. Gregory, M.A., Senior (Distinguished Teaching Award)

Thomas E. Miller, M.A.

Sonya H. Packer, M.A.

There is no major in speech; however, the following undergraduate courses are offered for interested students.
Lower Division Courses

1. Principles of Oral Communication. Preparation: satisfaction of Subject A requirement. Theory and practice of informal public speaking, including selection of content, organization of ideas, language, and delivery; practice in extemporaneous and manuscript speaking; training in critical analysis through reading and listening to contemporary speeches.

2. Public Speaking and Discussion. Enforced prerequisite course 1. Continuation of course 1, with special emphasis on group discussions, panels, symposia, debates, and formal public speaking; Critical analysis of speeches in both contemporary and historical settings.

Upper Division Courses


190A-190B. Forensics (2 units each). Prerequisite: consent of instructor. May be repeated once for credit. Mr. Miller

151. Analysis and Briefing (2 units). Intensive study of selected political or social issues; preparation of bibliography; analysis and evaluation of issues and arguments. May be repeated once for credit.

197. Proseminar: Rhetoric. Prerequisite: senior standing or consent of instructor. Variable topics course involving intensive study of discourse associated with a single major issue or personality.

199. Special Studies (2 to 4 units). Prerequisites: senior standing, consent of instructor.

Study of Religion

See Religion, Study of

Teacher Education

See Diversified Liberal Arts and Education

Teaching English as a Second Language and Applied Linguistics

3300A Rolfe Hall, (310) 206-1985

Professors
Roger W. Anderson, Ph.D.
Lyle Bachman, Ph.D.
Marianne Celce-Murcia, Ph.D. (Distinguished Teaching Award)
Elaine Ochs, Ph.D.
John H. Schumann, Ed.D., Chair
Russell N. Campbell, Ph.D., Emeritus

Evelyn R. Hatch, Ph.D., Emeritus
Earl J. Rand, Ph.D., Emeritus

Assistant Professor
Asif Agha, Ph.D.

Lecturers
Donna Brinton, M.A.
Janet Goodwin, M.A. (Luckman Distinguished Teaching Award)
Christine Holten, M.A.
Linda Jensen, M.A. (Luckman Distinguished Teaching Award)

Scope and Objectives

The Teaching English as a Second Language and Applied Linguistics (TESL) Department offers a program designed for students who wish to develop research skills related to the teaching and learning of English as an additional language. The program is a two-year course of graduate study leading to a Master of Arts degree.

The first year of the program is designed to improve teachers’ performance in the ESL classroom. The second year provides opportunities to investigate in depth some particular aspect of teaching and learning English as a second language. The course of study includes a practical element: observing classes, preparing lesson plans, and actual classroom teaching. There is, however, greater emphasis on theory in the program. Students are expected to become familiar with current theories regarding the nature of language, as well as the ways in which people acquire and use language. They are also expected to be able to relate theoretical guidelines to practical procedures. The program is therefore not appropriate for the student who is interested exclusively in receiving vocational training. Admission preference is granted to applicants with strong research interests.

In addition, the Department of Teaching English as a Second Language and Applied Linguistics and the Department of Linguistics offer an interdepartmental degree program leading to a Ph.D. in Applied Linguistics. For information, write to the Applied Linguistics Program, 3300A Rolfe Hall, UCLA, Los Angeles, CA 90024-1531. (Also see the section on Applied Linguistics earlier in this chapter.)

A limited number of teaching assistantships are available to qualified M.A. and Ph.D. students. For information and applications, write to the Academic Coordinator, ESL Service Courses, 3310 Rolfe Hall, UCLA, Los Angeles, CA 90024-1531.

Master of Arts Degree

Admission

Students normally apply for the M.A. in TESL if they desire advanced training in the field. Because of the sequential nature of courses given during the first year, students are admitted only for Fall Quarter. To be admitted to the M.A. program, U.S. citizens and students from other countries must have the equivalent of an American bachelor’s degree.

After admission, you must maintain a grade-point average of at least B (3.0). A GPA of 2.5 (B+) is required in order to continue into the second year of the M.A. program and must be maintained throughout the second year.

Applications for admission may be obtained from the graduate adviser and are due by December 15 of the year prior to admission. The program requires three letters of recommendation in support of the application. You are requested to submit the letters of recommendation directly to the Graduate Adviser, Department of Teaching English as a Second Language and Applied Linguistics, 3300A Rolfe Hall, UCLA, Los Angeles, CA 90024-1531. Since admission is limited to approximately 25 students per year, it is important that supporting papers be submitted by January 8.

The admissions committee screens all applications, using the following criteria: grade-point average (must be 3.0 or better), Graduate Record Examination (GRE) scores, letters of recommendation, statement of purpose, and relevant research paper. A personal interview is not required for admission. The statement of purpose should contain the following information: (1) reasons for wishing to study TESL at UCLA, (2) special qualifications and experience as a teacher, (3) knowledge of languages other than English, and (4) knowledge of other cultures.

All international students who are nonnative speakers of English must submit the results of the Test of English as a Foreign Language (TOEFL) as part of the application process. 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, or who have completed at least two years of full-time study at such an institution, are exempt from the UCLA English as a Second Language Placement Examination (ESLPE).

Foreign Language Requirement

Students whose native language is English generally use their Fall and Winter Quarters electives to acquire or perfect knowledge of the native language or dialect of the pupils to whom they expect to teach English. This can be done by taking any one of three combinations of two courses: (1) two foreign language courses; (2) one foreign language course plus a corresponding course in the Linguistics 220 or 225 series; (3) Teaching English as a Second Language and Applied Linguistics 227 plus an unrestricted elective.

Those particularly interested in working with Mexican American, Asian American, or American Indian pupils normally choose the third of these alternatives. When there is doubt as to which language is most appropriate, a non-European language should be selected because of the greater broadening of linguistic horizons that such a selection offers. Foreign language courses that deal with linguistic structure should be selected whenever possible.
Nonnative speakers of English, depending on the results of the UCLA English as a Second Language Placement Examination (ESLPE), may be required to take a course to improve their practical command of English.

Exemption from the foreign language requirement may be granted if you can demonstrate a strong need to take other electives and have an unusually extensive background of previous foreign language study. For more information, contact the graduate adviser.

First-Year Curriculum

The typical course of study for the first year of the M.A. program is as follows:

Fall Quarter:
Teaching English as a Second Language and Applied Linguistics 209 or 249, 370, foreign language requirement or elective (course depends on language requirement plan)

Winter Quarter:
Courses C122, 241 or 261 or 269 or 271, foreign language requirement or elective (course depends on language requirement plan)

Spring Quarter:
Courses 106 or 107 or 109, 380, 103 or Linguistics 103

Exceptions to the above requirements are made only after consultation with the faculty adviser.

Of the nine courses required the first year, at least seven must be in TESL and applied linguistics, linguistics, or structure of language courses in language departments.

Successful completion of the above courses qualifies students for a TESL certificate (which is not a California State Instructional Credential).

Teaching Experience

One term of supervised teaching (Teaching English as a Second Language and Applied Linguistics 380) is required during the first year unless you have had extensive teaching experience. If this requirement is completed at UCLA in an adult education setting, you are eligible for the California Adult Education Credential in ESL (call 310-825-4581 for more information). The California Basic Educational Skills Test is required of all applicants for the credential.

Second-Year Curriculum

A total of 14 courses is required for the M.A. degree, including a minimum of four 200-series courses. Four of the nine courses taken during the first year (usually Teaching English as a Second Language and Applied Linguistics C122, 209 or 249, 241 or 261 or 269 or 271, and 103 or Linguistics 103) and, in special cases, two of the electives (100 or 200 series only) may be applied toward the University's nine-course minimum requirement for master's degrees. This leaves five courses, at least two of which must be at the graduate level, to be completed in consultation with the faculty adviser during the second year.

Eight units of 500-series courses may be applied toward the M.A. degree, but only four units may be applied toward the graduate course requirement. You must enroll in course 598 each term you are registered; however, only four units may be applied toward the degree (to be taken either in Spring Quarter of your first year or Fall Quarter of your second year).

Course 400 is a seminar in which TESL M.A. candidates present and defend the results of their thesis research. Enrollment is required in Spring Quarter but does not count as one of the 14 courses required for the M.A.

The electives taken during your second year should be selected, in consultation with the faculty M.A. adviser and the chair of your thesis committee, as a sequence of related courses relevant to your thesis topic. Any changes in the program must be approved by both the committee chair and the M.A. adviser.

Course Plan

By the end of the fourth term, your thesis proposal, signed by two faculty members, is submitted to the faculty. At this time, plans for the thesis are approved and the thesis committee is established.

Upper Division Courses

101. Introduction to Language Learning and Language Teaching. Lecture, two hours; discussion, two hours. Prerequisite: Linguistics 1 or consent of instructor. Exploration of skills and conditions involved in successful second and foreign language learning; application of this knowledge in development of framework for teaching second and foreign languages, P/NP or letter grading.

103. Phonetics for Teachers of English as a Second Language. Prerequisite: consent of instructor. Analysis of phonological structure of contemporary English, with attention to differences between British and American speech. Drill directed toward individual needs.

106. Writing in the ESL Context. Provides opportunities for practice and improvement in writing skills and thus fulfills composition requirement for TESL M.A. degree. Survey of important theoretical and methodological issues related to teaching writing; composition to ESL students and examination of appropriate classroom materials and authentic student compositions. Ms. Holten (WI)

107. Reading in the ESL Context. Provides opportunities for practice and improvement in reading and writing skills and thus fulfills composition requirement for TESL M.A. degree. Survey of important theoretical and methodological issues related to teaching reading and writing to ESL students and examination of appropriate classroom materials.

109. Literature in the ESL Context. Provides opportunities for practice and improvement in writing skills and thus fulfills composition requirement for TESL M.A. degree. Survey of important theoretical and methodological issues related to teaching literature to ESL students and examination of appropriate classroom materials. Strong emphasis on the cultural basis for literature.

Graduate Courses

All graduate courses are open to qualified graduate students from other departments with consent of department.

209. Current Issues in Experimental Design and Statistical Analysis for Applied Linguistics. Specialized topics of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current theoretical methodological trends in the field.

C216. Structure of Present-Day English. Lecture, six hours. Prerequisite: Linguistics 20 or consent of instructor. Survey of grammatical structures of English. Aims to provide insights from discourse analysis and a variety of approaches to grammatical analysis, including error analysis and remediation techniques. May be concurrently scheduled with course C216.

189. Metaphor and Literal Speech. (Formerly numbered 169). (Same as Philosophy M173). Lecture, and thus fulfills composition requirement for eight hours. Prerequisite: Linguistics 1 or equivalent or consent of instructor. Use of interdisciplinary perspective to examine systematically of form and function particular to human language that underlies dichotomy between (1) neutral or literal capacity of language and (2) metaphorical capacity, P/NP or letter grading.

220. Materials Development for Language Teaching. Prerequisites: courses 370, at least two years of ESL/ELI teaching experience. Planning and preparation of an original set of language teaching materials geared to needs of a specified group of learners. Revision of first drafts and evaluation of one's own work and that of one's peers.

221. Media for Language Teaching. Rational and pedagogical applications for using media equipment and materials in the language classroom. Training in standard classroom media equipment operation and basic materials production techniques, focusing on application in ESL/ELI classes. Ms. Brinton (W)

222. Language Testing for Teachers of English as a Second Language. Prerequisites: course 370, at least two years of ESL/ELI teaching experience. Emphasis on classroom testing and functions of testing within a language program. Basic statistical concepts and hands-on experience with construction of language tests.

225. Program Evaluation in Applied Linguistics. Evaluation of effectiveness of educational programs, including assessment of teacher behavior. Prevalent evaluation theories, writing of evaluation proposals, developing program monitoring procedures, selecting appropriate program evaluation designs, framing the design context, and reporting evaluation results.

227. Experiential Seminar: Second Language Learning. Lecture, one hour; laboratory, four hours. Prerequisite: graduate standing. Students learn an uncommonly taught language with use of authentic language materials (video and audio recordings and print material). Discussion of experience in terms of issues in language learning and language teaching.

229. Current Issues in Language Education. Specialized topics in language education of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current topics of theoretical concern in the field.
Course Types. Ms. Celce-Murcia (F). Lecture, three hours; 251. Advanced Seminar: A variety of English texts representing several linguistic features of oral and written texts that go beyond sentence level and thus signal cohesion. Study of structures to determine their function in a variety of English texts representing several discourse types. Ms. Celce-Murcia (F).

251. Advanced Seminar: Interlanguage Analysis. Prerequisite: course 241. 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 interlanguage is organized. Original research projects.

252. Advanced Seminar: Contextual Analysis of English Structure. Prerequisite: course C122 or consent of instructor. Investigation in depth of selected linguistic features of written texts that go beyond sentence level and thus signal cohesion. Study of structures to determine their function in a variety of English texts representing several discourse types. Ms. Celce-Murcia (F).

257. Advanced Seminar: Interlanguage Analysis. Prerequisite: course 241. 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 interlanguage is organized. Original research projects.

258. Laboratory: Advanced Topics in Language Assessment. Prerequisite: consent of instructor. Collaborative coursework, with focus on specific theoretical and applied issues in development of innovative research assessment procedures for use in English language world settings. Specific projects determined by research being conducted by the working group in language assessment. Activities include designing and developing measurement instruments, gathering and analyzing data, and interpreting and reporting results. May be repeated for credit. S/U or letter grading.

260. Psycholinguistics and Language Teaching. Prerequisites: course 370 and Linguistics 20, or consent of instructor. Exploration of those areas of psycholinguistics covering foreign language acquisition; types and theories of bilingualism; learning theories underlying current methods of teaching foreign languages.

266. Cross-Linguistic Topics in Functional Grammar II: Discourse. Prerequisite: course 263. Cross-linguistic study of discourse functions and devices. Topics include tense/mood/aspect, nominal reference, word order. May be repeated for credit with topic change.

271. Cross-Linguistic Topics in Language Acquisition. Lecture, one hour; discussion, three hours. Prerequisite: Linguistics 20. Advanced seminar on language acquisition in which a particular linguistics topic (e.g., development of grammatical, lexical, referential and social indexicality, relation of syntax to semantics and pragmatics, markedness, universals, cultural and cognitive implications of language structure) is explored in depth. May be repeated for credit.


273. Grammar and Discourse II: Special Topics. Prerequisite: course 272 or consent of instructor. 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. Ms. Agha.

283. Discourse Analysis. Survey course covering language teaching and discourse analysis; discourse analysis and syntax, planned and unplanned discourse, conventional analysis; analysis of speech events; unequal power discourse, and analysis of classroom discourse.

284. English for Specific Purposes. Study of methods for needs analysis, curriculum development, and teaching specific academic, professional, and vocational groups who require English as a foreign or second language.

285. Language Socialization. Prerequisite: course 263. 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 groups. Ways in which verbal interaction between novices and experts is structured linguistically and culturally. Ms. Ochs

288. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate director. Used to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. S/U grading.

296. Directed Individual Study. Prerequisite: graduate standing. Independent study in an area related to English as a second language. May not be repeated for credit.

298. M.A. Research and Thesis Preparation (4 to 8 units). Prerequisite: graduate standing. Survey of research needs and thesis preparation. Includes optional section on experimental design and statistical methods in Fall Quarter. Credit (four units) toward degree is allowed only once, but all M.A. candidates must enroll in course each term they are registered and engaged in thesis preparation. S/U grading.

300. TESL Colloquium. Prerequisite: consent of TESL director. Graduate seminar for TESL candidates but may not be applied toward M.A. degree requirements. Candidates for Ph.D. in Applied Linguistics may also use this course to report on their dissertations. S/U grading.

305. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: appointment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curricular and instructional activities at the University. May be repeated for credit. S/U grading.

308. Supervised Teaching: English as a Second Language or Dialect. Prerequisite: course 370. Team teaching at elementary, secondary, or adult level under supervision of a senior staff member. S/U grading.

310. Teaching English as a Second Language and Applied Linguistics. Prerequisite: course 263, two other discourse analysis courses, and doctoral standing in applied linguistics, or consent of instructor. Advanced procedures in data analysis in the field of discourse analysis, including development of a large scale research project and critical review of current research. S/U or letter grading.

328. English as a Second Language (ESL) Service Courses

3308 Rollfe Hall, (310) 825-4378
sis of the UCLA English as a Second Language Placement Examination (ESLPE), which students whose native language is not English must take in addition to the Subject A Examination (see "Subject A" in Chapter 2).

Depending on the results of this examination, you may either be exempt from any special ESL requirement or may be required to take one or more courses. You are placed into the ESL track at a particular level and must enroll in one ESL course each term, beginning in your first term in residence at UCLA, until the sequence is completed. 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 you do not achieve a minimum score on the placement examination, you 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.

Undergraduates may satisfy the English Composition 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 consent of the department.

Lower Division Courses

32. Oral Communication Skills for ESL Students. Prerequisite: course 33B (C or better) or proficiency demonstrated on English as a Second Language Placement Examination. Course 33C may be taken concurrently. Develops oral skills that prepare nonnative speakers of English to participate in class discussion, make oral presentations before an audience, ask and answer questions, participate appropriately in conversations with members of the academic community, and improve through self-evaluation of speech. P/NP (undergraduates), S/U (graduates), or letter grading.

33A. Low Intermediate English as a Second Language. Recitation, five hours; laboratory, two hours. Prerequisite: Extension course XL332 (C or better) or proficiency demonstrated on English as a Second Language Placement Examination. Displaces eight units on student's Study List but yields only four units of credit toward a degree. Intensive instruction in structure of English, with focus on vocabulary building, listening and speaking skills, and basic composition techniques.

33B. High Intermediate English as a Second Language. Recitation, five hours. Prerequisite: course 33A (C or better) or proficiency demonstrated on English as a Second Language Placement Examination. Emphasis on reading comprehension, vocabulary development, and composition techniques, with additional work on structure and oral skills.

33C. Advanced English as a Second Language. Recitation, five hours. Prerequisite: course 33B (C or better) or proficiency demonstrated on English as a Second Language Placement Examination. Emphasis on academic reading, writing, study skills, and lecture comprehension.

34. Advanced Oral Communication Skills for ESL Students. Prerequisite: course 33C (C or better) or proficiency demonstrated on English as a Second Language Placement Examination. Develops oral skills that prepare nonnative speakers of English to present ideas extemporaneously, lead class discussions, give lectures or speeches before an audience, respond to questions posed by the audience, and improve through self-evaluation of speech. P/NP (undergraduates), S/U (graduates), or letter grading.

35. Developmental Composition for ESL Students. Prerequisite: course 33C (C or better) or proficiency demonstrated on English as a Second Language Placement Examination. Developmental composition skills for ESL students, with focus on the writing process, grammatical structures, mechanics of writing, and practice with major forms of academic writing. Additional emphasis on academic reading skills.

36. Intermediate Composition for ESL Students. Prerequisite: course 35 (C or better, 33C for graduate students) or proficiency demonstrated on English as a Second Language Placement Examination, and an appropriate Composition Placement Test score. Focus on major grammatical techniques found in academic writing. Special attention to individual research, grammatical structures, and style.

37. Structure of Present-Day English for ESL Students. Lecture, four hours; outside study, eight hours. Prerequisite: course 33C (C or better) or equivalent proficiency demonstrated on English as a Second Language Placement Examination. Course 35 may be taken concurrently. Analysis and practice of those grammatical structures of English most important to learners of English as a second or foreign language, with focus on incorporating knowledge of structures studied into communicative and interpretive activities.

Upper Division Courses

102. Pronunciation for ESL Students. Prerequisite: course 33C (C or better) or proficiency demonstrated on English as a Second Language Placement Examination. Detailed and systematic study of the sounds of American English and way in which they are put together in connected speech, applied to improvement of student's own accent. Ms. Brinton, Ms. Goodwin

106. Advanced Composition for ESL Students. Prerequisites: 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. Ms. Holten

107. Advanced Reading and Vocabulary for ESL Students. Prerequisite: course 33C (C or better) 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. Ms. Jensen

109. Introduction to Literature for ESL Students. Prerequisite: course 33C (C or better) 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. Ms. Brinton

Urban Studies (Interdepartmental)

4256 Bunche Hall, (310) 825-3862

Scope and Objectives

Cities are multifaceted and can usefully be explored from more than one disciplinary perspective. The undergraduate specialization in urban studies brings together students and faculty from the Departments of Economics, Geography, History, Political Science, Psychology, and Sociology who share an interest in the modern city. The program gives students a solid grounding in the urban perspectives and methods of at least two departments. The specialization must be taken in conjunction with a major in the social sciences.

Special Undergraduate Program

You may elect to combine this program with a departmental major and may petition to have the area of specialization recognized with the bachelor's degree.

The option of completing an individual major in urban studies is also open to qualified students. For more information on individual majors, see the beginning of Chapter 5.

If you have a departmental major, you should seek advising in your major department. If you are interested in the individual major, consult a Letters and Science counselor.

Courses within the specialization must be taken for a letter grade. The specialization must be taken in conjunction with a major in the division of social sciences.

Preparation for the Specialization

Required: At least five of the following courses appropriate to the courses to be taken in the specialization: Economics 1, 2; Geography 4; Political Science 40; Psychology 10; Sociology 1, 18, 104 or equivalent.

Upper Division

Required: Nine upper division courses, including (1) at least three courses outside your major department selected from Anthropology 167, Economics 120, Geography 150, Psychology 168, Sociology 158; (2) a minimum of three courses selected from one of the following suites within your major department: Economics 121, 130, 133; Geography 150, 151, 156; History 154A through 154D; Political Science 143A, 143B, 167B; Psychology 127, 135; Sociology 132, 156, 160; (3) a minimum of three courses selected from one of the suites in item 2 in a department outside your major department; (4) internship experience in an urban governmental or community service organization.
Scope and Objectives

The Women’s Studies Program, established in 1975, is an interdisciplinary academic program spanning departments, disciplines, and ideologies and offering two options for study: an undergraduate major and a specialization. Students wishing to focus their studies on multidisciplinary perspectives in order to create a coherent and comprehensive analysis of women and gender may elect the major. Those wishing to enhance study in a traditional discipline may elect the women’s studies specialization in addition to a major in their chosen discipline.

The program offers the singular 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, and sexual diversity. Students develop critical reasoning and analytical skills, research and communication skills, a deep appreciation for complexities of power, asymmetries in gender relations across time, class, and cultures, and conceptual tools for social change. Strong emphasis on multidisciplinary and multiethic 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 woman and prepares students for a wide range of career and life choices, as well as for advanced study in traditional disciplines and the professions.

The field of women’s studies has exploded over the past 25 years. It has developed a theoretical base, body of knowledge, and perspective which cannot be attained as a by-product of studying other fields. Where the study of women has been neglected or omitted, the field develops new knowledge through research and fills in gaps in the existing curriculum. Further, women’s studies generates new perspectives on existing knowledge of women and gender, offers a critique of accepted beliefs and ideas, intellectually challenges existing structures of knowledge, and introduces new conceptual paradigms.

The core faculty members who teach women’s studies courses come from various UCLA departments and professional schools. Many professionals within and outside the University contribute their time, expertise, and enthusiasm. A women’s studies committee composed of the director, faculty members, and a student representative sets program policies and curricula.

While no formal graduate program exists at UCLA at this time, graduate students are invited to use the program’s resources, attend lectures and events, and participate in the feminist research seminar sponsored by the center.

Requirements for the Undergraduate Programs

Admission

To be admitted to either the major or specialization, you must have completed Women’s Studies 10, be in good standing, and formally register with the program. You are encouraged to declare your major or specialization as early as possible and to discuss your proposed course of study with the director or undergraduate adviser.

You are encouraged to draw on the University’s diverse resources in creating your major or specialization program. You 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, you may petition to have diverse courses accepted, including courses outside the College of Letters and Science, independent studies, or field study courses.

Bachelor of Arts Degree

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.

All courses applied toward the major must be taken for a letter grade, and you must have a GPA of 2.0 or better in women’s studies courses to receive credit for completing the program. Courses in which you receive a grade below C may not be applied toward the major.

Preparation for the Major

Required: Women’s Studies 10. You must also complete departmental lower division prerequisites, as applicable, for upper division women’s studies courses in the disciplines.

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 you 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 as follows:

(1) Three core courses, including one course from Women’s Studies 110A through 110D, 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 course 197 (departmental 197 courses may not be applied).
(2) At least four distribution courses, each from different departments or disciplines, selected from the approved list of women's studies courses.

(3) Six additional concentration courses from one or two of the disciplines in which your core and distribution courses have been taken. You may petition for interdisciplinary or topical concentrations such as feminist theory, women of color, women's health, or lesbian studies.

For the purpose of the ethnic studies requirement and the distribution requirement, appropriate Council on Educational Development (CED), field studies, and Women's Studies courses may be applied. Four units of Women's Studies 199 may be applied toward either the distribution or concentration requirement for the major (departmental 199 courses are not affected by this limit).

Honors Program

The honors program is open to senior women's studies majors with a 3.0 grade-point average in women's studies courses and a minimum 3.0 overall GPA who have no outstanding incomplete grades. Students participating in this program are required to complete 6.0 units, including an honors seminar and an honors research course.

Women's Studies Specialization

The specialization augments study in a traditional field. Students participating in this program are required to complete both a departmental major and the women's studies specialization. You must take three core courses (Women's Studies 10, one course from 110A through M110D, and 197), plus five upper division elective courses from the approved list of women's studies credit courses issued each term by the program. One course on American ethnic minority women is strongly recommended. At least one of the five courses must be taken in a department other than the major department. Up to two may be experimental courses offered by the Council on Educational Development (CED). No more than four units of course 199 may be applied.

All courses applied toward the specialization must be taken for a letter grade, and you must have a GPA of 2.0 or better in women's studies courses to receive credit for completing the program. Courses in which you receive a grade below C may not be applied toward the specialization.

Lower Division Course

10. Introduction to Women's Studies: Feminist Perspectives on Women and Society. Lecture, two and one-half hours; discussion, one hour. 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 experience; relations between women and men; intersections of ethnicity, class, and gender; violence against women; cultural images of women and men; social roles of women and men and movements for social change. (FW,SP)

Upper Division Core Courses

110A. Feminist Theories: Social and Political. Lecture/discussion, three hours. Prerequisite: course 10. Examination in depth of differing feminist theorists' attempts to describe, explain, critique, and reconstruct social and political institutions from perspectives of women. Emphasis on whether and how feminist theory is related to changes in structure, operation, or understanding of such institutions as law, politics, the state, education, work, family, religion, sexuality.

110C. Feminist Theories: Perspectives on Gender and Science. Lecture/discussion, three hours. Prerequisite: course 10. Examination in depth of differing feminist theorists' interpretations of language, literature, and the arts from a critical perspective. Emphasis on ways in which women and sexuality have been represented in cultural texts.

110D. Philosophical Analysis of Issues in Feminist Theory. (Same as Philosophy M192.) Lecture, three hours. Prerequisite for women's studies majors: course 10; for other students: two philosophy courses; for seniors and juniors: consent of instructor. Treatment of various philosophical problems concerning women's underrepresentation, with emphasis on philosophical and theoretical perspectives on women's rights and liberation. Philosophical approaches to feminist theories. May be repeated for credit with consent of instructor.

120. Women of Color in the U.S. Lecture/discussion, three hours. Prerequisite: course 10. Exploration of experiences of African American, Asian American, Chicana, and Native American women in order to assess intersections of race, ethnicity, class, and gender. Contemporary and/or historical and/or theoretical perspectives on racism and its relation to feminism as defined by women of color.

197. Senior Seminar in Women's Studies. Discussion, three hours. Prerequisite: course 10, one course from 110A through M110D, and two other women's studies courses; for seniors and juniors: consent of instructor. Designed for students completing work in women's studies. Each student pursues an introduction to a specific topic concerning women, explores frameworks for understanding female experience (biological, economic, historical, and psychological), and refines methods for research. (W,SP)

Upper Division Supporting Courses

105. Topics in Women and Medicine. Lecture/discussion, three hours. Examination of medical conditions of women in context of issues that impact women's health, health care providers. Discussion of basic health concepts and self-care; consideration of a woman's health speciality and ways to deliver health care to women. Exploration of roles and lifetimes of female physicians. P/NP or letter grading.

M106. Imaginary Women. (Same as Honors Collegium M106.) Prerequisite: upper division standing. Study of four female cultural archetypes — aborning with the creation of the mother, mother, and warrior woman — as they appear in their classical and modern manifestations in European and American cultures. P/NP or letter grading.

M107A. American Women Writers. (Same as English M107A.) Prerequisite: satisfaction of Subject A requirement. 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.

M107B. British Women Writers. (Same as English M107B.) Prerequisite: satisfaction of Subject A requirement. 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.

M107C. Special Topics in Women and Literature. (Same as English M107C.) Prerequisite: satisfaction of Subject A requirement. Variable specialized studies course in women and literature, with emphasis on a period, genre, particular theme, or nonnational literary power. Consent of instructor.

M110. Women's Health Issues. Lecture, three hours; outside study, nine hours. Prerequisite: course 10. Selected topics related to feminist theories to creation of art by women, with consideration of cultural contexts in which they work. Approach to comparative, cross-cultural, and interdisciplinary. Consideration of artistic practices by women in relation to issues of power, representation, and access. May be repeated for credit, twice, except for credit toward women's studies major. P/NP or letter grading.

120. Internship in Women's Studies. Seminar, three hours. Prerequisites: course 10 and at least one course from courses 110A through M110D. Course combining seminar with field placement. Practical experience in working on women's issues and connecting these experiences to methodological and theoretical themes explored in courses 110A through M110D.

125. Women and Health Care in the U.S. Lecture/discussion, three hours. Prerequisite: course 10. Examination in depth of various ways women provide health care in both paid and unpaid capacities and of political, economic, and social factors affecting women as recipients of health care. P/NP or letter grading.

M132A. Chicana Feminism. (Same as Chicana and Chicano Studies M132A). Lecture, three hours. Prerequisite: upper division standing. Examination of Chicana feminism. Women who do not identify as feminist but whose practices attend to gender inequalities faced by Chicana and Chicano communities and the dominant society. Attention to Anglo-European and Third World women.

M132B. Contemporary Issues among Chicanas. (Same as Chicana and Chicano Studies M132B.) Prerequisite: course 10 or consent of instructor. Overview of conditions facing Chicanas in the U.S., including issues on family, immigration, reproduction, employment conditions. Comparative analysis with other Latinas.
M137E. Work Behavior of Women and Men. (Same as Psychology M137E.) Prerequisite: course 10 or Psychology 10 or equivalent, junior standing. 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. Ms. Goodchilds

M137J. Psychology of Language and Gender. (Same as Communication Studies M124 and Psychology M137J.) Lecture, three hours. Prerequisites: Psychology 10 or equivalent, junior standing. Examination of current topics at intersection of gender and language. Topics include sex differentiation in language cross-culturally; sex bias in lexicology and usage; sex differences in lexicology and syntax, phonology, and nonverbal behavior; development of sex-differentiated language in children; "women's" and "men's" language in varied social and cultural settings. Ms. Henley

139. Women and Art in Contemporary U.S. (Formerly numbered CED 139.) Lecture/discussion, three hours. Prerequisite: course 10. Exploration of some significant cultural issues of contemporary American women's art movement. Representation, resistance, and critical intervention in relation to gender, race, and class. Emphasis on visual and performance arts as these reflect various perspectives of feminism. Ms. Hale

M148. Women in Higher Education. (Same as Education M148.) Limited to juniors/seniors. Education and career development of women in higher education. Specifically, emphasis on undergraduate and graduate women; women faculty and administrators; curricula, programs, and counseling services designed to enhance women's educational and career development, affirmative action, and other recent legislation. Ms. Hale, Ms. Sacks

M154. Women in Culture and Society. (Formerly numbered M163.) (Same as Anthropology M154.) Lecture, three hours. Open to upper division social sciences majors. Comparative study of women's lives globally and locally from an anthropological perspective. Critical review of relevant theoretical and practical issues using ethnography, case studies, and student research and presentation. P/NP or letter grading. Ms. Hale, Ms. Sacks

M158. Women in Italian Culture. (Same as Italian M158.) Lecture, three hours. Designed with intent of examining role that women have played in Italian society. Concentration alternatively on the world of medieval and Renaissance, and "liberated" women of our times. Historical and political documents and social and religious issues presented and discussed, together with other data derived from literature and art. Italian majors required to read texts in Italian and to prepare written work in Italian. Mrs. Cottino-Jones

M160. Women and Social Movements. (Formerly numbered 160.) (Same as Anthropology M115G.) Lecture/discussion, three hours. Recommended (but not prerequisite): prior women's studies or anthropology courses. Comparative study of social movements (e.g., socialist, liberal, 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.

M162. Sociology of Gender. (Same as Sociology M162.) Lecture, three hours; discussion, one hour. Prerequisite: course 10 or Sociology 1 or consent of instructor. Examination of processes by which gender is socially constructed. Topics include distinction between biological sex and sociological gender, causes and consequences of gender inequality, and recent changes in gender relations in modern industrial societies. P/NP or letter grading.

M164. Gender and Work. (Same as Sociology M164.) Lecture, three hours. Prerequisite: course 10 or Sociology 1 or consent of instructor. 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. Ms. Luckman

M165. Psychology of Gender. (Same as Psychology 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 sex differences in intellectual abilities and achievement, and impact of gender on social interaction. Ms. Peplau

170. Jurisprudence of Sexual Equality. Prerequisites: course 10 and one course from 110A through M110D or Political Science 10 or Philosophy 6 or 9 or consent of instructor. Exploration of models of equality described and/or advocated by legal theorists — equality of opportunity, equality of outcome, equality of respect, etc. — using specific problems of women (e.g., sexual harassment or pregnancy leave policy) for purposes of comparison and critique. Ms. Littlton

M172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Psychology M172.) Limited to 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. Ms. Mays

M173. Interracial Work, Friendship, and Love Relationships of African American Men and Women. (Formerly numbered M163.) (Same as Afro-American Studies M173.) Lecture, three hours. Examination of factors that influence development, maintenance, and dissolution of interpersonal relationships of African Americans in three areas: work life, friendships, and intimate love relationships. P/NP or letter grading. Ms. Mays (Sp)

185. Special Topics in Women's Studies. Prerequisites: upper division standing, one prior course in women's studies. Specialized or advanced study in an area within women's studies.

199. Special Studies in Women's Studies. Prerequisites: at least two upper division women's studies courses, minimum 3.0 GPA, consent of instructor and program director. Directed program of independent research and/or research on a specific topic within the field of women's studies. No more than four units may be applied toward women's studies specialization or major. 199HA-199HB. Directed Studies for Honors. Prerequisites: course 197, 3.0 GPA overall, 3.0 GPA in major. Limited to women's studies honors majors. Two-term sequence to research and write honors thesis under direction of faculty sponsor.

Supporting Courses in Other Departments

Check with the program office for additional course listings.

Anthropology 151. Marriage, Family, and Kinship 155. Women's Voices; Their Critique of Anthropology of Japan 283P Gender Systems

Asian American Studies 105. Asian American Women

Comparative 150A. Origins of the Western View of Women: The Female in Greek Thought 150B. Origins of the Western View of Women: The Female in Roman and Early Christian Thought

Communication Studies 153. The Media and Aggression Against Women

World Arts and Cultures (Interdepartmental)

An intercollege, interdepartmental major in world arts and cultures is open to students in both the College of Letters and Science and the School of the Arts. You enroll in the college or school of your choice and fulfill the general education requirements of that college or school. For details on this undergraduate major, see Chapter 6 on the School of the Arts. The Women's Studies Program is located within the School of the Arts. For details on this undergraduate major, see Chapter 6 on the School of the Arts.
The School of the Arts is a stimulating academic center dedicated to the education of socially aware and technically skilled artists. It serves as a vital component of the Los Angeles arts community and a resource for the entertainment industry and related fields. While the school offers a broad intellectual and cultural exchange for students, it also provides a learning environment where they can pursue and develop academic and creative excellence.

In addition to a quality education in the arts and liberal studies, students may contribute to the UCLA/Los Angeles community through direct participation in over 35 dance productions, four art and design exhibitions, and 200 music concerts.

The school has five departments — Art, Dance, Design, Ethnomusicology and Systematic Musicology, and Music — and one intercollege, interdepartmental program — World Arts and Cultures.
1100 Dickson Art Center, (310) 206-3564

The departments of the School of the Arts both borrow from and add to the rich and varied cultural life of the campus. Students in the Departments of Art and Design are taught to understand the broad panorama of the visual arts, while those in the Dance Department have opportunity to study ballet, modern, and ethnic dance forms. Students in the Department of Ethnomusicology and Systematic Musicology study all styles of music in the world from an ethnographic perspective. And the Music Department offers specializations in composition, theory, and performance.

World arts and cultures is an undergraduate major which integrates art history, dance, music, theater, anthropology, and folklore and mythology into one unique program. This interdisciplinary major is offered jointly by the School of the Arts and the College of Letters and Science.

Informative brochures on the school are available from the Office of Recruitment, 1100 Dickson Art Center, UCLA, Los Angeles, CA 90024-1620 (310-825-9708).

If you are interested in obtaining instructional credentials for California elementary and secondary schools, consult the Graduate School of Education and Information Studies, 1009 Moore Hall (310-825-8328).

School of the Arts*

Undergraduate Study

Admission

In addition to the University of California Undergraduate Application, departments in the School of the Arts require auditions, portfolios, or evidence of creativity. Detailed information on departmental requirements is mailed to you on receipt of your application. Deadline date for applications is November 30, 1994, for admission in Fall Quarter 1995.

The Study List

Each term the student Study List must include from 12 to 17 units. The school has no provision for part-time enrollment. After your first term, you may petition to carry more than 17 units (up to 20 units maximum) if you 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 by the end of the fourth week of instruction.

If you have not filed your Study List by the end of the second week of classes, you must obtain the consent of the Student Services Office to continue for that term.

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.

Concurrent Enrollment

Enrollment at another institution or UCLA Extension while enrolled at UCLA is not permitted.

Requirements for Bachelor of Arts Degrees

Each student must meet six kinds of requirements for the B.A. degree: University, school, and unit requirements, as well as residence, major, and scholarship requirements. The requirements are as follows.

University Requirements

For information on the Subject A or English as a Second Language (ESL) and American History and Institutions requirements, see "Undergraduate Degree Requirements" in Chapter 2 of this catalog.

School of the Arts students enrolled in English as a Second Language 33A, 33B, 33C, 35 must take the courses for a letter grade.

School Requirements

The general requirements of the School of the Arts must be completed with a grade-point average of 2.0 or better.

General Education (GE) Course Requirements

Reciprocity with Other UC Campuses — Students who transfer to UCLA from other UC campuses and have met all general education requirements prior to enrolling at UCLA are not required to complete the School of the Arts general education requirements. Written verification from the college dean of the other UC campus is required. Verification letters should be sent to the Student Services Office, School of the Arts, 1100 Dickson Art Center, UCLA, Los Angeles, CA 90024-1620.

Intersegmental General Education Transfer Curriculum (IGETC) — Transfer students from California community colleges have the option to fulfill UCLA's lower division general education requirements by completing the Intersegmental General Education Transfer Curriculum 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. The IGETC significantly eases the transfer process, as all of UCLA's general education requirements are fulfilled when you complete it. If you select the IGETC, you must complete it entirely before enrolling at UCLA. Otherwise, you must fulfill the School of the Arts general education requirements.

English Composition and Rhetoric

English 3 with a minimum grade of C should be completed by the end of your freshman year and may not be taken on a Passed/Not Passed basis.

Majors and Degrees Offered

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<th>Majors and Degrees Offered</th>
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In response to budget constraints, Chancellor Young has proposed a restructuring of several of UCLA's professional schools. The current proposal calls for the Architecture and Urban Design Department to be transferred into a newly formed School of the Arts and Architecture. If adopted, this proposal would be effective as of July 1, 1994. All degrees associated with current programs would continue to be offered.
Critical Reading and Writing

One course from English 4, *Humanities 2A, 2B, or 2C with a minimum grade of C should be completed by the end of your sophomore year and may not be taken on a Passed/Not Passed basis.

Foreign Language

You may meet this requirement by (1) scoring 3, 4, or 5 on the Advanced Placement (AP) foreign language examination in French, German, or Spanish, (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 UCLA's level three or above with an average grade of C or better. 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.

Mathematics

One course (four units) in mathematics or statistics or an introductory course in computers selected from Mathematics 1, 2, 3A, 3B, 5, 31A, 31B, Program in Computing 1, 10A, 10B, 10C, Statistics 50.

Science

Two courses (eight units) from different departments in physical or biological sciences selected from Anthropology 7, 10, 12, 15, Astronomy 2A, 2B, 3, 4, 5, 6, 81, 82, Atmospheric Sciences 2, 3, 4, 5, 6, Biology 2, 5, 5L, 6, 9, 10, 13, 21, 25, 30, 40, 50, 70, 80, Chemistry and Biochemistry 2, 11A, 11B, 15, Earth and Space Sciences 1, 2, 5, 8, 9, 15, 16, 17, Geography 1, 2, 5, Microbiology and Molecular Genetics 6, 7, 8, 9, Physics 3A, 3B, 5C, 6A, 6B, 6C, 8A, 8B, 8C, 10, Physiological Science 3, 5, 6, 13, Psychology 15.

Social Sciences

Three courses (12 units), with at least one from each group:

- Group A — Economics 1, 2, 5, History 1A, 1B, 1C, 3A through 3D, 4, 5A, 5B, 6A, 6B, 6C, 7A, 7B, 8A, 8B, 8C, 9A through 9D, 10A, 10B, 11A, 11B, Political Science 20, 30, 40, 50.


Humanities

Three courses (12 units), with at least one course in three of the four groups:


- Group D — Philosophy/Religion — Ancient Near East 130, Anthropology 156, Chinese 160, 175, Classics 88A, 145A, 145B, 166A, 166B, East Asian Languages and Cultures 60, Indic 175, Iranian 170, Islamics 110, Japanese 160, 161, 175, Jewish Studies 130, Korean 160, 175, Philosophy 1, 2, 4, 5A, 6, 7, 8, 9, 21, 22, 31, 32.

Additional Upper Division Nonfield Requirements

In addition to the general education requirements, you are required to take a minimum of 12 upper division units unrelated to your major department field. Courses that do not apply on this requirement are studio, performance, activity, independent study, debate, children's theater, creative dramatics, internships, production, workshop, and field studies courses. Consult your school counselor prior to enrolling.

Unit Requirements

You must complete for credit, with a passing grade, no less than 180 units and no more than 208 units, of which at least 64 units must be upper division courses (numbered 100 through 199). No more than 16 units of CED courses and eight units of freshman seminars or 300-level courses may be applied toward the degree. Credit for 199 courses is limited to 16 units, eight of which may be applied to the major. All 199 courses must be taken for a letter grade.

UCLA 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.

Credit earned through the College Entrance Examination Board (CEEB) Advanced Placement Tests may be applied toward the general education requirements. Portions of Advanced Placement Test credit may be evaluated by corresponding UCLA course numbers (e.g., History 1C). If you take the equivalent UCLA course, unit credit for such duplication is deducted before graduation.

You may petition to be reviewed for a double major on an individual basis. Contact the Student Services Office for an outline of criteria required.

Residence Requirements

You are "in residence" while enrolled and attending classes at UCLA as a major in the School of the Arts. Of the last 45 units completed for the bachelor's degree, 35 must be earned in residence in the School of the Arts. 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.

Major Requirements

A major is composed of not less than 14 courses (56 units), including at least nine upper division courses (36 units). All majors include 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.

You must complete your major with a scholarship average of at least a 2.0 (C) in all courses in order to remain in the major and must be recommended by the chair of your major department. All courses in your major department must be taken for a letter grade.

As changes in major requirements occur, you are expected to satisfy the new requirements insofar as possible. Hardship cases should be discussed with the departmental 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 may require a general final examination.
Scholarship and Minimum Progress
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 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.

Minimum Progress — You are expected to complete satisfactorily at least 36 units during any three consecutive terms in residence; you are placed on probation if you fail to pass these units. You are subject to dismissal if you fail to pass at least 32 units in three consecutive regular terms in residence.

World Arts and Cultures
The interdepartmental major in world arts and cultures is open to students in both the School of the Arts and the College of Letters and Science. You enroll in the college or school of your choice and fulfill the general education requirements of that college or school. Counseling is available — consult Silvily Kessler Thomas in the World Arts and Cultures Office, 124 Dance Building. For details on the major, see the section later in this chapter.

Honors
To receive Dean's Honors in the School of the Arts, you 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 your transcript for the appropriate term. You are not eligible for Dean's Honors in any given term if you receive an Incomplete or a Not Passed (NP) grade, change a grade, or repeat a course.

Honors at graduation are awarded to students with superior grade-point averages. To be eligible, you must have completed 90 or more units for a letter grade at the University of California. The current levels of honors and the requirements for each level are cum laude, an overall average of 3.604; magna cum laude, 3.693; summa cum laude, 3.809. The minimum GPAs required are subject to change on an annual basis. Required GPAs in effect in your graduating year determine your eligibility.

Counseling and Program Planning
The School of the Arts offers advising, program planning in the major and general education requirements, and individual meetings with departmental counselors, including a yearly degree check sent to each student. 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 the Arts, 1100 Dickson Art Center (310-206-3564).

Graduate Study
The advanced degree programs offered in the School of the Arts provide graduate students with unique research opportunities when combined with special resources, such as the University Research Library, the special collections of the Arts and Music Libraries, and the University's exhibition and performance halls.

The School of the Arts cooperates with the UCLA John E. Anderson Graduate School of Management in offering a Master of Business Administration (M.B.A.) in Entertainment Management. Participating students serve term-long internships with such professional arts organizations as the Los Angeles County Museum of Art, the Mark Taper Forum, and the Los Angeles Philharmonic Orchestra.

A program in teaching is offered by the Graduate School of Education and Information Studies in each of the arts areas. Fellowships, grants, and assistantships are available through the dean of the Graduate Division. The Graduate Affirmative Affairs Office provides counseling, academic support, and financial assistance to ethnic minority students.

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 your work (dance or music audition, art portfolio, etc.) are required. Detailed information can be found in the departmental listings which follow.

For information on the proficiency in English requirements for international graduate students, refer to "Graduate Admission" in Chapter 3.

Other Requirements
Requirements to fulfill each degree objective vary according to the degree and the department. See the departmental listings which follow for specific requirements and procedures.

Art
1300 Dickson Art Center, (310) 825-3281

Professors
Chris Burden, M.F.A.
Henry T. Hopkins, M.A., Chair
Adrian Saxer, B.F.A.
Samuel Amato, B.F.A., Emeritus
William J. Brice, Emeritus
Raymond B. Brown, M.A., Emeritus
Elliot J. Elgart, M.F.A., Emeritus
Robert F. Heinzeckien, M.A., Emeritus
Lee Mullican, Emeritus

Associate Professors
Barbara Drucker, M.F.A.
Roger Herman, M.F.A.
Lan Pittman, M.F.A.
Charles Ray, M.F.A.

Assistant Professors
Paul McCarthy, M.F.A.
Nancy Rubins, M.F.A.
Patricia Wickman, M.F.A.

Lecturers
Mark Durant, M.F.A.
Anne Marie Karlsen, M.F.A.
Don Suggs, M.F.A.

Adjunct Assistant Professor
Luis Bermudez, M.F.A.

Scope and Objectives
Art courses include painting and drawing, sculpture, printmaking, photography, new alternative media (which include performance, installation, video, and other nontraditional media), and ceramics. Students are introduced to diverse media and ideas in lower division courses and have the opportunity to specialize in upper division. Individual expression is encouraged in a general way for those who wish careers requiring art-related knowledge and in a specific sense for those who go on to careers as professional artists.

The Department of Art curricula lead to the Bachelor of Arts, Master of Arts, and Master of Fine Arts degrees. All programs benefit from the rich and varied art resources at UCLA and in the Los Angeles community.

Bachelor of Arts Degree
Preparation for the Major

The Major
Required: A minimum of 13 upper division courses, including Art 100, 150, six courses from at least four of the following: 130, 133, 137, 140, 145, 147, one course from Art History 101A through C119B, and four art electives.
Master of Arts Degree

Admission
Students are admitted for Fall Quarter only. Regular admission requires a B.A. or equivalent and faculty consent following the annual review of creative work. Applicants must submit slides (maximum 20) or videotape (if applying to the video field) to the Counselor, Department of Art, 1300 Dickson, UCLA, Los Angeles, CA 90024-1515.

Provisional admission may be granted for work with faculty sponsors for three terms, pending reconsideration of regular admission.

Major Fields or Subdisciplines
Drawing, painting, sculpture, photography, and alternative media. No limit to the variations, except, or value of these designations is intended.

Course Requirements
A minimum of 36 quarter units of art courses numbered 130 through 280 (or courses from other departments that may be recommended by your advisor or committee chair) is required, with a B average or better.

Within those 36 units, a minimum of 20 quarter units in the 200 series must be taken in your field of specialization, including four units of Art 276. In addition, four units of course 280 are required as part of the 36 units.

A minimum of 36 quarter units of art history, theory, and criticism in undergraduate and/or graduate study is required (including Art 280). Art history courses completed at the undergraduate level may be applied toward the 36-unit art history requirement but may not be applied toward the 36 units required for the degree. Students with few or no art history courses in undergraduate study may take art history upper division or graduate courses at UCLA as electives to be applied toward the 36-unit art history requirement and toward the total units required for the degree. Subjects related to your special interest may be substituted by petition.

A total of eight units of Art 596 may be applied toward the 36 units required for the degree; four units may be applied toward the graduate course requirement.

Comprehensive Examination Plan
Each degree is granted on the basis of the quality of work as demonstrated in the examination which accompanies the final comprehensive examination. The number of units of credit attained is irrelevant to this judgment.

A preconcluding review of work precedes the final comprehensive examination. The examination, usually oral, includes a formal exhibition of work and a document of vita, photo records of works, and a statement of the artist. The document is retained as property of the University.

Master of Fine Arts Degree

Admission
Students are admitted for Fall Quarter only. See "Admission" under the Master of Arts degree above.

The M.A. is not prerequisite to the M.F.A. but may be elected as your stated degree objective. Usually, however, students proceed directly to the M.F.A. as a terminal degree. The unit requirements applied to the M.A. do not apply to the M.F.A., with the exception of the accumulative art history units.

Major Fields or Subdisciplines
Drawing, painting, sculpture, photography, and alternative media. No limit to the variations, except, or value of these designations is intended.

Course Requirements
A minimum of 72 quarter units of art courses numbered 130 through 280 is required, with a B average or better.

Within those 72 units, a minimum of 40 quarter units in the 200 series must be taken in your field of specialization, including four units of Art 276. In addition, eight units of course 280 are required as part of the 72 units.

A minimum of 40 quarter units of art history in undergraduate and/or graduate study is required (including Art 280). Art history courses completed at the undergraduate level may be applied toward the 40-unit art history requirement but may not be applied toward the 72 units required for the degree. Students with fewer or no art history courses in undergraduate study may take art history upper division or graduate courses at UCLA as electives to be applied toward the 40-unit art history requirement and toward the total units required for the degree. Subjects related to your special interest may be substituted by petition.

A total of 12 units of Art 596 may be applied toward the 72 units required for the degree; four units may be applied toward the graduate course requirement.

Comprehensive Examination Plan
Same as the plan offered for the Master of Arts degree, as noted above.

Lower Division Courses
1A. Drawing, Studio, eight hours; five hours arranged. Course in basic drawing skills intended as preparation for work in a variety of media.
1B. Sculpture, 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, Studio, eight hours; five hours arranged. Enforced requisites: courses 1A, 1B, Basics of painting: introduction to technical procedures, tools, and materials. Discussion of fundamental conceptual and formal concerns.
11B. Photography, Studio, eight hours; five hours arranged. Enforced requisites: courses 1A, 1B, Fundamentals in technique, with emphasis on individual projects. Various approaches, processes, and applications of the photographic medium within the context of art, supported by studies in theory, aesthetics, and history of photography.
11C. Printmaking, Studio, eight hours; five hours arranged. Enforced requisites: courses 1A, 1B. 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 levels.
11D. New Genres, Studio, eight hours; five hours arranged. Enforced requisites: courses 1A, 1B. Introduction to projects in installation, performance, video, film, intermedia, and other nontraditional media and processes.
11E. Ceramics, Studio, eight hours; five hours arranged. Enforced requisites: courses 1A, 1B. Introduction to ceramic materials and processes, with emphasis on personal and cultural expression in different media. Discussion of ceramics in contemporary artistic practice and social history of ceramics.

131. Modernism, Discussion, three hours. Survey of 20th-century European/ American art, its antecedents, and its social and political context.

Mr. Hopkins

32. Survey of Critical Thought, Discussion, three hours. Overview of premodern, modern, and postmodern theory as reflected in critical writing and artistic practice, with emphasis on the 1940s to the present.

Upper Division Courses
100. Issues in Contemporary Art, Discussion, three hours. Prerequisites: courses 1A, 1B, 11A through 11D, 31, and 32, or consent of instructor. Selected topics in theoretical, critical, aesthetic, and historical studies and their relevance to practicing artists. May be repeated for a maximum of 16 units.
130. Advanced Drawing, Studio, eight hours; five hours arranged. Prerequisites: courses 1A, 1B, 11A through 11D, and 31, or consent of instructor. Drawing as both an independent expressive medium and as a means of visualizing. May be repeated for a maximum of 16 units. Ms. Drucker, Mr. Herman

133. Advanced Painting, Studio, eight hours; five hours arranged. Prerequisites: courses 1A, 1B, 11A through 11D, and 31, or consent of instructor. Varied media and as a means of visualizing. May be repeated for a maximum of 16 units. Ms. Drucker, Mr. Herman

137. Advanced New Genres, Studio, eight hours; five hours arranged. Prerequisites: courses 1A, 1B, 11A through 11D, and 31, or consent of instructor. Emphasis to be selected by faculty from one or more of the following media: installation, performance, video, film, other nontraditional media and processes. May be repeated for a maximum of 16 units. Ms. Drucker, Mr. Herman

140. Advanced Printmaking, Studio, eight hours; five hours arranged. Prerequisites: courses 1A, 1B, 11A through 11D, and 31, or consent of instructor. Selected studies in fine printmaking, historical and contemporary: woodcut, etching and engraving, lithography, silk screen, mixed media. May be repeated for a maximum of 16 units. Ms. Karlsen

145. Advanced Sculpture, Studio, eight hours; five hours arranged. Prerequisites: courses 1A, 1B, 11A through 11D, and 31, or consent of instructor. Selected studies in sculpture, historical and contemporary technique and process, with emphasis on alternative media. Forms in space, including installations and nonstudio pieces. May be repeated for a maximum of 16 units. Mr. Ray, Ms. Rubins
Graduate Courses

Prerequisite for all courses: consent of instructor. All courses may be repeated for credit (unless otherwise noted) on recommendation of the adviser; they are not open to undergraduate students.

271. Painting (2 to 8 units). Studio, eight hours. Study in painting and associated media.
Ms. Drucker, Mr. Herman

272. Graduate Printmaking (2 to 8 units). Studio, eight hours. Studies in traditional and experimental printmaking. Selected studies in intaglio, lithograph, woodcut, silk screen, photo printmaking, and mixed media.
Ms. Karlson

273. Graduate Sculpture (2 to 8 units). 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.
Mr. Ray, Ms. Rubins

274. Photography (2 to 8 units). Studio, eight hours. Studies concentrating on development of individual student's artwork. Studio emphasis with adjacent studies in theoretical and critical analysis. Specific attention to original, expressive, social, and humanistic values of art.
Mr. Durant

275. New Genre (2 to 8 units). Studio, eight hours. Prerequisite: consent of instructor. Studies in alternative media, including installation, performance, video, film, and other nontraditional media and processes.
Mr. Burden, Mr. McCarthy

276. Graduate Group Critique. 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.

277. Graduate Ceramics (2 to 8 units). Studio, eight hours. Prerequisite: consent of instructor. 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 a significant body of original work reflecting student's expressive and theoretical concerns. May be repeated for credit.
Mr. Saxe

280. Graduate Seminar: Art. Discussion, three hours. Advanced topics in contemporary art, with emphasis on individual projects, issues, and methodologies. Possible areas of study include structuralism, deconstruction, feminist and psychoanalytic theory, commodification, and censorship. May be repeated for credit.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: consent of instructor. Studies in teaching assistant, associate, or fellow. Teaching apprenticeship under the guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. SU grading.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Designed to record enrollment of UCLA students in courses taken under cooperative arrangements with USC. SU grading.

596. Directed Individual Study or Research (2 to 8 units). Prerequisite: consent of instructor. 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.

Dance*

124 Dance Building, (310) 825-3951

Professors

Irma Dosamantes Beaudry, Ph.D.
Else Dunin, M.A.
Judy Mitoma, M.A., Chair
Emma Lewis Thomas, Ph.D.
Pia Gilbert, Emerita
Alma M. Hawkes, Ed.D., Emerita (Distinguished Teaching Award)
Carol Scottorn, M.A., Emerita
Marion Scott, Emerita
Doris Siegel, Emerita
Allega Fuller Snyder, M.A., Emerita

Associate Professor

Angelika Leung, M.A., C.M.A.

Assistant Professors

Pat Catterson
Colin Quigley, Ph.D.

Lecturer

Kevin Ritter, M.F.A.

Visiting Professors

Dan Wagoner
Rebecca Wright

Visiting Associate Professor

Maria-Isabel H. Miranda, M.A.

Adjunct and Visiting Assistant Professors

Stephen Bennett, Visiting
Janis Brenner, Visiting
Ronald Brown, Adjunct
Pamela Fairweather, M.A., Visiting
Judith Gantz-Siegele, M.A., C.M.A., Visiting
David Gere, Visiting
Deidre Sklar, Ph.D., Visiting
Linda Yudin, M.A., Visiting

Scope and Objectives

The UCLA Department of Dance, the oldest public university dance program in the country, has earned an international reputation for its commitment to an integration of theory and practice from a global perspective. Independence, artistic freedom, and intellectual rigor are developed through the body of knowledge in dance.

The exploration of dance in all its manifestations forms the basis of the innovative UCLA dance curriculum. Through this broad-based approach, students can select studio classes from a variety of forms, including modern dance, ballet, tap, jazz, choreography, improvisation, and selected idioms from other cultural traditions such as West African, Spanish/Flamenco, Indian/Bharata Natyam, Indonesian/Javanese and Balinese, and Polynesian/ancient Hawaiian hula, as well as historical forms such as baroque and Renaissance dance. Theoretical courses in dance history, ethnology, movement therapy, aesthetics, and education provide a conceptual framework in which to understand dance in this country and the world. In addition, notation, Laban movement analysis, anatomy, and kinesiology provide tools for the analysis of dance. The disciplinary nature of dance is encouraged through courses in multimedia performance art workshops and collaborative interdisciplinary projects.

Students are encouraged to participate in the design of their programs and draw on the rich resources of the University. There are numerous departmental performance activities, such as the UCLA Dance Company, Repertory Touring Group, Pau Hana, UC Dance Theater, and senior, M.A., and M.F.A. concerts. The department also sponsors symposia, forums, and guest lectures.

Guest artists are a key feature of the department, allowing students to study with practicing professionals. Renowned dancers, choreographers, and companies such as the Alvin Ailey American Dance Theater, Paul Taylor Dance Company, Meredith Monk, David Gordon, and Urban Bush Women frequently offer special workshops, lectures, open rehearsals, and extended artist-in-residencies.

UCLA offers the Bachelor of Arts degree in Dance, with options for technical training and theoretical studies. The graduate program awards a Master of Arts in Dance, a Master of Arts in Dance/Movement Therapy, and a Master of Fine Arts in Dance.
Bachelor of Arts Degree

The dance major offered through the School of the Arts leads to the Bachelor of Arts degree. Students who wish to confer with the departmental counselor regarding program planning and major requirements should contact Wendy Temple, Student Affairs Officer, in the department office.

Preparation for the Major

Required: Twenty-four units of lower division coursework, including Dance 6, 7A-7B-7C, 11A through 11F, 20, 25, 48 (must be taken twice), 70 (or departmentally approved alternative).

The Major

Required: A total of 66 units of upper division coursework, including Dance 100A-100B-100C, C120, 123A, 123B, 123A, 134A-134B, 141, 144, 14B, 149, 196, and 12 units selected from one of the following clusters: (1) choreography/performance (courses 113A, 113B, 142, 145, six units of advanced studio); (2) analysis, documentation, and media (courses 125, 126, C180A, C180B); (3) critical studies (courses C122B, C133, C180A, C180B, 181A through 181D, 182, 183, CM184, C187); (4) applied studies (courses 123C, 151, 152, 153, C160A, C160B, C160C).

Admission to the upper division major is determined by a screening and evaluation conducted during Spring Quarter of your sophomore year. All entering students audition for placement in technique and choreography classes.

Master of Arts in Dance

Admission

A bachelor's degree with an undergraduate major in dance or equivalent experience is required. Some of this experience may have been gained outside the academic setting through intensive workshops, summer sessions, and performance and professional work. In addition to that used by UCLA Graduate Application Processing, the department has its own application process which requires three letters of recommendation, an interview, and an audition.

In the audition faculty members look at your technical proficiency and creative potential. Special attention is given to the creative aspects of dance. Because the department recognizes the importance of diversity and specialization at the graduate level, you are evaluated according to your primary focus (education, therapy, ethnology, or history).

Prospective students may write to the Department of Dance, 124 Dance Building, UCLA, Los Angeles, CA 90024-1608, for departmental brochures which give additional information on the graduate program.

Foreign Language Requirement

There is no foreign language requirement. However, fieldwork in dance ethnology and dance history may require working knowledge of the language of your research area.

Course Requirements

A minimum of 36 units is required, including nine courses (or more depending on your specialty), distributed as follows: (1) Dance 230; (2) four courses (16 units) in the department at the graduate level (200 series); (3) four courses (16 units) in or outside the department at the upper division or graduate level. Studio courses (techniques in modern dance, ballet, or world dance) and courses taken to fulfill prerequisites may not be applied toward degree requirements.

Eight units of 500-series courses (596A, 596R, 596) may be applied toward the total course requirement; four units may be applied toward the minimum graduate course requirement.

Depending on your area of focus, certain sequences of study, developed with the guidance and advice of the graduate adviser, lead to knowledge and depth in that area and produce a viable program to meet your objectives and goals.

While fieldwork is not a requirement for those specializing in the area of dance ethnology, it is strongly suggested as part of that program.

Teaching Experience

Teaching experience is not a requirement for the degree. It is highly recommended, however, for those who intend to teach in their area of specialization. A number of teaching assistantships are available through the department.

Thesis Plan

If you select the thesis plan, you must obtain approval of the subject from a graduate faculty panel by your fifth term. Your written proposal is presented and defended before the faculty panel. After the thesis plan is accepted, a thesis committee is formed. The thesis is the result of your theoretical, clinical, or empirical work.

Comprehensive Examination Plan

If you select this plan, you must obtain approval from a graduate faculty panel by your sixth term. Your written proposal is presented and defended before the faculty panel. After the plan is accepted, a comprehensive examination faculty committee is formed. The examination, administered by this committee, consists of three written questions and an oral section. Each committee member grades all questions. In order to pass, each question must be graded pass or better. If any questions are failed, you may retake the failed portion(s) once only.

Master of Fine Arts in Dance

Admission

In addition to that used by UCLA Graduate Application Processing, the department has its own screening procedure which requires three letters of recommendation, an audition, and a personal interview. M.F.A. applicants must demonstrate exceptional promise in either choreography (modern) or performance (modern, world, or historical). Auditioners in choreography show three original works; auditions in performance present three selections already in their repertory. You are required to prepare a statement (no more than one page) describing the works shown.

Foreign Language Requirement

There is no foreign language requirement. However, if you are a performer, it is recommended that you have working knowledge of the language of the culture in which you are specializing.
Course Requirements
A total of 96 units is required as follows: at least 24 units at the 400 level, including Dance 441 and 490, and at least 32 units at the 200 level, including 221, 230, and 240A through 240D (with approval of your adviser, you may substitute a course from ethnomusicology in the music of your cultural area for course 221). Only four units of 500-level courses may be applied toward the degree. You must enroll in a studio class (performance, technique, repertory) every term except while in an internship or during your final term.

Comprehensive Examination
You prepare a major concert in your third year, or a series of concerts in your second and third years. A series of presentations and evaluations serve as the process for advancement toward degree completion. An oral defense of the concert material is held with the comprehensive exam committee and production staff. A written production book with visual materials and a concept paper are turned in after the performance.

Lower Division Courses
1A-1B - Fundamentals of Modern Dance (2 units each). (Formerly numbered 1A-1F) Laboratory, four hours. Designed for nondance majors. Course should be taken in sequence. Study of dance technique, improvisation, and choreography, and the process of creative thinking, viewing, and discussion of modern dance artists' works. Each course may be repeated once. P/NP or letter grading. (F/W)

6. Fundamentals of Ballet (2 units). Laboratory, four hours. Study of ballet technique and principles, including dance terminology. May be repeated twice; only two units may be applied toward the major. P/NP or letter grading. Ms. Wright (F/W,Sp)

7A-7B-7C. Beginning Ballet (2 units each). Laboratory, four hours. Limited to dance majors. Study of beginning ballet techniques and principles, including dance terminology. Only one of these courses may be applied toward the Critical Thinking requirement. P/NP or letter grading. Ms. Wright (F/W,Sp)

10. Introduction to Dance (2 units). Introduction to the many and varied theoretical aspects of dance as a discipline. 11A-11F. Modern Dance Technique and Choreography (2 units each). Lecture, one hour; studio, three hours. Limited to dance majors. Experiences designed to achieve beginning to intermediate levels of kinesthetic awareness and technical and improvisational skills, as well as understanding of the creative process of structure and form in dance composition. Ms. Catterson, Ms. Leung (F/W,Sp)

20. Music Analysis for Dance (2 units). Lecture, two hours; laboratory, one hour. Study of elements of music, music structures, and their relationship to dance, with emphasis on rhythmic analysis, dance accompaniment, and teacher/performer roles. Ms. Gantz-Siegel (F)

23L. Laboratory in Conditioning for Dancers (2 units). Laboratory, four hours. Specific conditioning principles applied to strengthening, stretching, and endurance training. Personalized attention enables students to increase their ability to dance more efficiently and to prevent dance injuries. P/NP grading. Ms. Gantz-Siegel (F/W,Sp)

25. Introduction to Dance/Movement Notation (2 units). (Formerly numbered 25A) Lecture, two hours; laboratory, one hour. Beginning skills in observing, analyzing, reconstructing, and recording dance/movement based on principles of the laboratory and labananalysis systems.

40. Introduction to Dance on Camera (2 units). Lecture, two hours; laboratory, two hours. Introduction to practical and aesthetic perspectives on theater space, as well as basic aspects of scene, lighting, costume, and sound design technology for dance performance. (W)

48. Laboratory in Dance Production (1 unit). Laboratory. Two hours. Realization of concepts of lighting, sound, costume, scene design, and stage practices in departmental dance productions. Must be repeated once in another year. P/NP grading. Mr. Pressner (Sp)

70. Survey of Dancing in Selected Cultures (2 units). Studio, three hours. Introduction to dances and their movement characteristics in non-Western cultures. Mrs. Dunin, Mr. Quigley (F).

71B. Dance of Indonesia (2 units). Studio, three hours. Dance experience not required. Introduction to technique and repertory of dance traditions (e.g., Java, Bali, Sundan). Ms. Mitoma (W)

71C. Dance of Japan (2 units). Studio, three hours. Dance experience not required. Introduction to technique and repertory of dance traditions (e.g., Gagaku). Ms. Miranda (F)

71D. Dance of India (2 units). Studio, three hours. Dance experience not required. Introduction to dance in India, with emphasis on a particular tradition (e.g., Bharata Natyam). Ms. Mitoma (W)

71E. Dance of Korea (2 units). Studio, three hours. Dance experience not required. Technique and repertoire of a selected dance tradition (e.g., Korean classical and folk)

72B. Dance of West Africa (2 units). Studio, three hours. Dance experience not required. Introduction to technique and forms of the court dance tradition (e.g., Gagaku).

73B. Dance of Mexico (2 units). Studio, three hours. Dance experience not required. Introduction to technique and forms of several Mexican regions. Ms. Miranda (F)

74C. Dance of Spain (2 units). Studio, three hours. Dance experience not required. Technique and repertoire of dances from selected ethnographic regions.

74D. Dance of Anglo-American Tradition (2 units). Laboratory, four hours. Introduction to technique and forms of dances from the British Isles and their derivatives in North America. P/NP or letter grading. Ms. Quigley

76B. Dance of Israel (2 units). Studio, three hours. Dance experience not required. Technique and repertoire from selected ethno-geographic regions. Ms. Mirzabaeva

79A-79B-79C. Advanced Ballet (2 units each). Laboratory, four hours. Study of and repertory of selected ballet techniques from major dance traditions (e.g., Bharata Natyam). (W)

80A-80B. Movement as Cultural Behavior (2 units each). Studio, three hours. Limited to world arts and cultures majors. Studio/lab analysis of individual and cultural factors which affect expressive movement in culture. Examination of styles which influence movement and awareness of self and others through cultural perspective. P/NP or P
during a major. P/NP or letter grading. Ms. Gantz-Siegel (W)

Upper Division Courses
100A-100B. Modern Dance: Intermediate Technique and Choreography. Lecture, three hours; laboratory, four hours. Prerequisite: course 111F. Laboratory, two hours. Intermediate to advanced levels of technical skill emphasizing musicality, spatial awareness, and movement complexity. Choreographic assignments include use of composed music, group forms, and stage space. Emphasis on increasing technical skill. Each course may be repeated once. P/NP or letter grading. Mr. Brown (W,Sp)

101A. Dance in France. Lecture, two hours; laboratory, two hours. Technique levels II and III. Emphasis on increasing technical skill. Each course may be repeated once. P/NP or letter grading. Ms. Catterson (W,Sp)

102A-102B-102C. Advanced Modern Dance Technique (2 units each). Laboratory, four and one-half hours. Prerequisite: course 101C or consent of instructor. Technique levels IV and V. Studies in advanced modern dance techniques, with emphasis on performance and choreography. Each course may be repeated for a maximum of six units. Concurrently scheduled with courses C402A-C402B-C402C. P/NP or letter grading. Ms. Brown, Ms. Catterson (W,Sp)

106A-106B-106C. Intermediate Ballet (2 units each). Laboratory, four hours. Prerequisites: courses 7A-7B-7C or consent of instructor. Study of techniques and principles of ballet, including phrasing, combinations, and repertoire. Each course may be repeated twice. P/NP or letter grading. Ms. Leung (W) Ms. Wright (F,W,Sp)

110A-110B. Ballet of Russia (2 units each). Laboratory, four and one-half hours. Prerequisite: course 106C or consent of instructor. Advanced technique in ballet, with emphasis on performing skills. Each course may be repeated for a maximum of six units. Concurrently scheduled with courses C407A-C407B-C407C. P/NP or letter grading. Ms. Wright (F,W,Sp)

113A-113B-113C. Advanced Modern Dance: Performance and Choreography (2 units each). Studio, two hours; rehearsal, two hours. Prerequisite: course 106C. Improvisational and choreographic study leading to independent work in solo and group forms. Development of performance, direction, and production skills culminating in a presentation. Ms. Leung (F,W,Sp)

114. Form and Structure in Choreography. Lecture, one hour; laboratory, three hours. Prerequisite: dance major or consent of instructor. Study of craft of choreography as applied to performance and choreography. Emphasis on research methods, style, theme, and variations. Rondo: Learning to discipline and shape creative impulse into specific forms, with emphasis on staging. Ms. Gantz-Siegel (W)

120. Music as Dance Accompaniment. Prerequisite: course 20 or consent of instructor. Piano and percussion improvisation for dance. Choreographer/composer relationships. History of music for dance, with emphasis on contemporary trends. Music for dance not required. May be concurrently scheduled with course C220. (W)

122. Movement Theories: Variable Topics (2 units). Lecture, two hours; laboratory, two hours. Study of motor coordination patterns as related to dance technique. Emphasis on breath control, phrasing, ability to perform under pressure. P/NP or letter grading. Ms. Gantz-Siegel (W)

123A. Anatomy for the Dancer. Prerequisite: course 111F or consent of instructor. Study of human musculoskeletal system as related to dance. Ms. Gantz-Siegel (F)

123B. Principles of Conditioning and Correctives for Dance. Prerequisite: course 123A. Study of biological and physical principles of human movement as related to dance. Prevention and care of dance injuries. Ms. Gantz-Siegel (Sp)

123C. Projects in Dance Kinesiology. Prerequisite: course 122B. In-depth study of selected topics introduced in courses 123A and 123B. Ms. Gantz-Siegel (W)

125. Principles of Movement Analysis: Labananalyse. Lecture, two hours; laboratory, two hours. Prerequisite: course 25. Basic principles of laban analysis. Experience on experiential understanding of movement through study of major figures and ele-mentary concepts of spatial dynamics. Focus on qualitative area of movement to further comprehension of dance as a creative art form. Ms. Gantz-Siegel (W)
128. Dance and the Visual Media. (Formerly numbered 249.) Examination of aesthetic differences between dance, film, and video and exploration of the new aesthetic when they are combined. Analysis of the record and documentary dance film, choreo-cinema, and impact of MTV, as well as integration of media with performance. (Ms. Kaplan (F,W) 132A-C125B. Philosophical Bases and Trends in Dance (4 units, 2 units). Course 132A is prerequisite to C125B. Critical analysis of dance as a creative experience and role of professional and educational dance in our society. Study of present-day concepts and their relationships to other art forms and cultures. Course C125B is concurrently scheduled with C231B. (F,W)

C133. Baroque Dance: Analysis and Re-creation. Lecture, two hours; laboratory, two hours. Prerequisites: courses 134A-134B or equivalent. Analysis and re-creation of 17th- and 18th-century dance as recorded in dance notation of the era. Study of cultural context, aesthetic, style, music, and dance forms. Concurrently scheduled with course C233. (F)

134A-134B. History of Dance in Culture and Performance. Lecture, two hours; discussion, one hour; laboratory, one hour. P/NP or letter grading. (W)

134A. 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. (F) 134B. Prerequisite: course 134A or consent of instructor. Development of dance in Western culture as point of departure for study of dance forms. Emphasis on contemporary expression in Europe and the U.S., tracing roots in mystical, religious, courtly, and popular dance. Topics from world dance traditions. (W)

141. Lighting Design for Dance Theater. Lecture, four hours; laboratory, two hours. Prerequisite: course 11F or consent of instructor. Lighting for dance: examination of aesthetics, principles, and technical elements. Application to selected choreographies to be publicly performed. (Mr. Pressner (W,Sp))

142. Advanced Studies in Dance Theater Lighting (2 or 4 units). Lecture, four hours; laboratory, four or more hours. Prerequisite: course 141 or consent of instructor. Development of advanced technical skills in solving lighting problems at advanced level and individual development of creative solutions. May be taken for a maximum of four units. (Mr. Pressner (Sp))

144. Costume and scenic design concepts for dance theater. Lecture, 45 minutes; seminar, 45 minutes. Prerequisite: course 11F or consent of instructor. Study of theory for conceptualizing dance performance environments, communication through visual elements, artistic properties of costume and sets and media, and development of sets and costumes in order to facilitate choreographer/designer communication. (Mr. Ritter (F))

145. Advanced Dance Costuming. Lecture, three hours; laboratory, six hours. Prerequisite: course 144 or consent of instructor. Theory of dance costume construction as it relates to design intent; enhancement, accommodation, and impact on movement. Choice of textiles, construction methodology, fabric modification, and accessories. Laboratories include dance design projects currently in production. (Mr. Ritter (F))

148. Advanced Laboratory in Dance Production (1 unit). Lecture, two hours; laboratory, two hours. Prerequisites or corequisites: courses 141 and 144, or consent of instructor. Further development and application of concepts of lighting, sound, costume, scene design, and stage practices in departmental dance productions. May be concurrently scheduled with course C177A. (F,W)

149. Dance Performance Practicum (1 unit). Laboratory, four hours. Dancing in selected choreographed or repertory in performance. May be repeated for credit. (P/NP grading. (F,W))

151. Foundations of Dance Education. Lecture, two hours; laboratory, three hours. Prerequisite: assignment in dance major or consent of instructor. Introduction to movement concepts, principles, and teaching principles for modern dance instruction. Supervised teaching practicum included. (Ms. Gantz-Siegel, Ms. Leung (F))

152. Dance as Culture in Education. Lecture, two hours; laboratory, two hours. Prerequisite: course 70 or consent of instructor. Theoretical and practical aspects of teaching ethnic dance, especially in higher education. (Ms. Dunin (F,W))

153. Creative Dance for Children. Lecture, three hours; laboratory, one hour. Prerequisite: dance major or consent of instructor. Introduction to movement concepts, skills, and principles for teaching children's dance; emphasis on dance as a creative medium of expression. (Ms. Leung (Sp))

C160A-C160B-C160C. Group Dynamics and Proces (2 units each). (Formerly numbered 160.) Lecture, two hours; laboratory, one hour. P/NP grading. Consent of instructor. Exploration of individual and group dynamics within context of an ongoing dance/ movement therapy group. Courses must be taken in sequence. Concurrently scheduled with courses C260A-C260B-C260C. (P/NP or letter grading. (Ms. Dosamantes Beaudry (F,W))

C171B. Dance of Indonesia (2 units). Studio, three hours. Prerequisite: course 71B or consent of instructor. Techniques, history and selected traditions (e.g., Java, Bali, or Sunda). Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C171C. (Ms. Miloma (F))

C171C. Dance of Japan (2 units). Studio, three hours. Prerequisite: course 71C. Technique and repertoire of a selected tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C171D. (Ms. Leung (Sp))

C171D. Dance of India (2 units). Studio, three hours. Prerequisite: course 71D. Technique and repertoire of a selected tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C171E. (Ms. Leung (Sp))

C171E. Dance of Korea (2 units). Studio, three hours. Prerequisite: course 71E. Technique and repertoire of a selected tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C172B. (Ms. Leung (Sp))

C172B. Dance of West Africa (2 units). Studio, three hours. Prerequisite: course 72B. Technique and repertoire of a selected region (e.g., Ghana, Guinea, Nige- ria). Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C172B. (Ms. Leung (Sp))

C173B. Dance of Mexico (2 units). Studio, three hours. Prerequisite: course 73B. Dance techniques of selected ethnographic regions. May be repeated once. Concurrently scheduled with course C174D. (Ms. Miranda (W))

C174C. Dance of Israel (2 units). Studio, three hours. Prerequisite: course 76B. Technique and repertoire of selected ethnographic regions. May be repeated once. Concurrently scheduled with course C174B. (Ms. Leung (Sp))

C179A-C179Z. Dance of a Selected Culture (2 units each). Laboratory, four hours. Prerequisite: consent of instructor. Dance technique of a selected dance form from a culture area or historical region of a particular dance genre. May be repeated for credit. Concurrently scheduled with courses C479A-C479Z. (P/NP or letter grading. (F))

C180A-C180B. Studies in Dance Ethnography. Development of observational and recording procedures for study of dance events, including both analytical consideration of selected ethnographies and development of skills. Concurrently scheduled with courses C279A-C279B. (Ms. Leung (Sp)). Concurrently scheduled with course C180A or consent of instructor. (F,W)

C181A. Dance in East Asia. Prerequisite: course 181A or consent of instructor. Survey of dances of Japan, China, and Korea and factors which have influenced their social, cultural, and court dances of Indonesia, Cambodia, Thailand, and the Philippines. Social, historical, and aesthetic factors. Lectures illustrated with demonstrations, films, and slides. (F)

C181B. Dance in South Asia. Prerequisite: course 181A or consent of instructor. Survey of dance forms in India and Nepal influencing development of dance, its social function, and relationship to other art forms. Lectures illustrated with demonstrations, films, and slides. (W)

C182. Dance in Africa and the African Diaspora. Prerequisite: course 182A. Survey of dance in sub-Saharan cultures and their new world transformations, with consideration of role of dance in society, its cultural significance, and historical background. Emphasis on various African and African American cultures and genres. (F,B)

C183. Dance in Latin American Cultures. (Formerly numbered 183A.) Survey of dance in Latin America, with consideration of role of dance in society, its cultural significance, and historical background. May be repeated once. Concurrently scheduled with course C183B. (Ms. Leung (Sp))

C184. Dance in European and Euro-American Cultures. (Formerly numbered 184A.) Same as Folklore CM184.) Survey of social, ceremonial, and ritual European-based dance; consideration of role of dance in society, its cultural significance, and historical background. Emphasis on various European and Euro-American regional and national dance traditions. Concurrently scheduled with course CM184. (Ms. Dunin, Mr. Quigley (W))

C187. Dance in Native American Cultures. (Formerly numbered CM187A.) Survey of dance among Native American cultures in society, its cultural significance, and historical background. Concurrently scheduled with course CM187C. (Ms. Leung (W))

C190. Projects in Dance (2 to 4 units). Laboratory, four to six hours (one or two hours may be individualized consultation). Individualized major projects in choreography, performance, production, media. May be repeated for credit. (P/NP or letter grading. (F,W))

C191. Repertory Dance Tour (2 or 4 units). Lecture, two hours; laboratory, six hours. Prerequisite: course 14B or consent of instructor. Creation and performance of dance concerts in the community, with special emphasis on problems of touring dance company with a variable repertoire. (Ms. Leung (Sp))
Graduate Courses

211A-211F. Advanced Choreography. Lecture, two hours; laboratory, two hours. Prerequisite: course 113C or equivalent. Theoretical aspects of advanced choreography, movement analysis as means for analyzing and describing human movement. Use of Laban movement analysis to increase movement observation skills and choreographic composition. Concurrently scheduled with course C217A-C217Z. S/U or letter grading. (F,W,Sp)

220. Music as Dance Accompaniment. Prerequisite: course 20 or consent of instructor. Piano and percussion improvisation for dance. Choreographer/composer relationships. History of music for dance, with emphasis on solo and ensemble scores. Musical elements of dance performance. May be concurrently scheduled with course C120. Graduate students must complete two additional assignments. May not be applied toward M.A. degree requirements. (W)

221. Music for Dance. Prerequisite: course C120. Theory of aesthetic and functional relationship of music to dance. (Sp)


225A-225B. Theories of Movement: Labananalytical, Lecture, two hours; laboratory, two hours. Theories of Laban's 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, choreography, and relational dance performance. Focus on complex movement patterns and timing. Ms. Gantz-Siegel (W, 225A, Sp, 225B)


227. Production Techniques for Dance/Video. (Formerly numbered 248.) Lecture, one hour; laboratory, three hours. Experiential dance/video workshop concentrating on effective techniques of shooting, as well as choreographing movement especially for the camera. Choreographers/dancers and camereopersons with dance experience collaborate to establish a common vocabulary, set of values, and sensitivity to each other's concerns. Concurrently scheduled with course C127. Graduate students expected to complete written papers related to reading and viewing assignments and final video project. Ms. Kaplan (W,Sp)


231A. Basic Issues in Dance and Dance Theory. Prerequisite: course 100C. Issues common to specialization areas in the field of dance: movement, presentation and transformation, composition, contexts (social, historical, cultural, therapeutic), documentation (notation, film, video), production, etc. Ms. Kaplan (W,Sp)

231B. Philosophical Bases and Trends in Dance (2 units). Prerequisite: course 231A. Study of present-day concepts and their relationship to other art forms and cultures. Concurrently scheduled with courses C251A-C251B. Graduate students based on extended reading list and term papers.


233. Baroque Dance Analysis: Dance and Re-creation. Lecture, two hours; laboratory, two hours. Prerequisites: course 113A-113B or equivalent experience. Students must be familiar with the Baroque period and its cultural and aesthetic context. Focus on the Baroque period as a distinct dance era. Instructor: Ms. Leung. (W)

234. Renaissance Dance: Analysis and Re-creation. Lecture, two hours; studio, two hours. Prerequisites: courses 134A-134B or consent of instructor. Analysis and re-creation of 17th- and 18th-century dance styles and dance from Domenico da Piacenza through Cesare Negri. Ms. Thomas

235. History of Ballet. Prerequisites: courses 134A-134B or consent of instructor. Development of ballet from the 17th century to the present. Emphasis on stylistic differences in Italy, France, England, Denmark, and Russia. Ms. Thomas

236. Dance in the 20th Century. Prerequisites: courses 134A-134B or consent of instructor. Seminar in historical development of 20th-century dance. Ms. Thomas

240A. Production Arts Seminar. Lecture, two hours; discussion, two hours; laboratory, two hours. Prerequisite: consent of instructor. Examination and research of dance performance and dance relationships in various historic periods and cultural settings. Impact of different aesthetic/directorial approaches to theatrical production of dance. Exploration of selection of locale, style, aural and visual and film/video. Ms. Pressner, Mr. Ritter (W)

240B. Production Arts Seminar. Lecture, four hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of elements of design. Development of a vocabulary for analysis of dance movement and choreography. Communication among collaborating artists. Conceptualizing and producing the design and sound score for a dance production. Ms. Pressner, Mr. Ritter (W)

246C. Production Arts Seminar. Lecture, four hours; laboratory, to be arranged. Prerequisite: consent of instructor. Examination of contemporary art world, including arts organizations, funding sources, legal aspects of arts production, support groups, public relations, and development of film/video to choreographer and dancer. Choreography for film/video. Adapting stage works to film/video. Ms. Leung (Sp)

240D. Production Arts Seminar (2 units). Lecture, three hours. Prerequisite: consent of instructor. Corequisites: courses 441, 490. Topics from current problems of students preparing M.F.A. concert productions. Ms. Leung (F)

251A-251D. Advanced Studies in Dance Education. Lecture, two hours; discussion, two hours. Prerequisite: course 151 or consent of instructor. Ms. Leung (F)

251A. Historical and Theoretical Framework for Dance Education. Development of a framework for teaching/learning process in dance and application to various dance settings. Ms. Leung (F)

251B. Theories and Methods. Examination of current theories of artistic intelligence, body education systems, motor learning, and creativity and how they are related to teaching dance, including analysis of traditional models for developing alternative methodologies. Ms. Leung (F)

251C. Curriculum Development in Varied Dance Settings. Issues include course/program/materials planning, development, implementation, and evaluation, with emphasis on sound educational values affecting decision-making process. Ms. Leung (F)

251D. Dance Administration. Relation of theories and practice to dance settings, clarifying issues of hierarchical structures, chains of command, staffing, facilities, and budget and why and how dance courses/programs succeed or fail. Ms. Leung (F)


261A-261B-261C. Dance/Movement Therapy: Theory and Practice. Lecture, two hours; laboratory, two hours. Prerequisite: consent of instructor. Year-long sequence encompassing basic theoretical and practical concepts of field of dance/movement therapy. Ms. Dosamantes Beaudry (F,W)

262A-262B-262C. Seminars: Dance/Movement Therapy. Lecture, two hours. Minimum laboratory, two hours. Prerequisites: courses 261A-261B-261C. Year-long sequence of dance/movement therapy seminars adopting a psychodynamic life-span developmental approach to clinical community work with ethnically diverse populations. Ms. Fairweather (W,F,Sp)

279A-C279B-C279B. Studies in Dance Ethnography. Development of choreographic skills for study of dance events, including both analytical consideration of selected ethnographies and development of skills. Concurrently scheduled with courses C130A-C130B. C279B. Laboratory, and Lab-analyses. Lecture, two hours; discussion, two hours; laboratory, two hours. C279B. Notation. Prerequisite: course C279A. Ms. Munir, Mr. Quigley (F,W)

280A-280B. Advanced Studies in Dance Ethnology. (Formerly numbered 280A-280B.) Corequisites: courses C279A-C279B or consent of instructor. Dance viewed as an aspect of culture and human behavior. Ms. Munir, Mr. Quigley (F,W)

280C. Dance in European and Euro-American Cultures. (Formerly numbered CM284D). (Same as Folklore CM284.) Survey of social, ceremonial, and ritual European-based dance; consideration of role of dance in society, its cultural signals and significance in background of the European and Euro-American regional and national dance traditions. Concurrently scheduled with course CM184. Mr. Pressner, Mr. Ritter (W)

287. Dance in Native American Cultures. (Formerly numbered C267A) Survey of Native American dance; role of dance in society, its cultural significance, and historical background. Concurrently scheduled with course C181. Ms. Munir, Mr. Quigley (W)

287A. Contemporary Studies in Dance. Lecture, four hours; discussion. Selected topics in Dance. Lecture, discussion, and analysis of a selected dance style, specific time period, or dance of a particular culture group. Concurrently scheduled with courses C197A-C197Z. S/U or letter grading. Ms. Munir, Mr. Quigley (F,W)

375. Teaching Apprenticeship Practicum (1 to 4 units). Prerequisite: successful performance during an apprenticeship training program in the clinic. Ms. Catterson, Ms. Leung (F,W,Sp)

400. Directed Professional Activities (2 to 8 units). (Formerly numbered 400A-400B.) Prerequisites: consent of graduate adviser. Directed projects in professional editing, bibliography, filmography, videography, conference and festival direction, and other professional activities. May not be applied toward M.A. degree requirements. May be repeated with approval of S/U grading. Ms. Leung (F,W,Sp)
C470A-C470B-C470C. Advanced Modern Dance Technique (2 units each). Laboratory, four and one-half hours. Technique levels IV and V. Studies in advanced modern dance technique, with emphasis on performing skills. May be repeated for credit. Concurrently scheduled with courses C102A-C102B-C102C. S/U or letter grading.

Mr. Brown, Ms. Carterson (F,W,Sp)

C470C. Advanced Ballet Technique (2 units). Laboratory, four and one-half hours. Prerequisite: course 106C or consent of instructor. Advanced technique in ballet with emphasis on performing skills. May be repeated for credit. Concurrently scheduled with courses C107A-C107B-C107C. S/U or letter grading.

Ms. Wright, Ms. Vasey, Ms. Thomas (F,W,Sp)

441. Dance Practice: Practicum (2 to 4 units). Laboratory, four to eight hours (one or two hours may be individualized consultation). Prerequisite: consent of instructor. Skills and understanding of production components in roles of stage manager, production assistant, and producer. May be repeated for a maximum of eight units. S/U grading.

Ms. Leung, Mr. Pressner, Mr. Ritter

451. Teaching Assistant Seminar (2 units). Lecture, one hour, laboratory, three hours. Required of all Dance Department teaching assistants. Lectures, discussion, readings, and practice teaching. May be repeated once for credit. S/U grading.

Ms. Gantz-Siegel (F,W)

452. Directed Field Study in Dance Education (2 to 8 units). Seminar, one hour; field study, two hours minimum. Prerequisite: consent of instructor. Direct ed field study to provide teaching experience in the community school or other approved site. No more than four units may be applied toward M.A. degree requirements. S/U grading.

Ms. Gantz-Siegel (F,W)


Ms. Fairweather (F,W,Sp)

C471B. Dance of Indonesia (2 units). Studio, three hours. Prerequisite: course 71B or consent of instructor. Technique and repertoire of a selected dance tradition (e.g., Java, Bali, or Sundan). Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C171B. S/U grading.

Ms. Mitraka (Sp)

C471C. Dance of Japan (2 units). Studio, three hours. Prerequisite: course 71C. Technique and repertoire of a selected tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C171C. S/U grading.

C471D. Dance of India (2 units). Studio, three hours. Prerequisite: course 71D. Technique and repertoire of a selected tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C171D. S/U grading.

C471E. Dance of Korea (2 units). Studio, three hours. Prerequisite: course 71E. Technique and repertoire of a selected tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C171E. S/U grading.

C472B. Dance of West Africa (2 units). Studio, three hours. Prerequisite: course 72B. Technique and repertoire of a selected region (e.g., Ghana, Guinea, Nigeria). Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C172B. S/U grading.

C473B. Dance of Mexico (2 units). Studio, three hours. Prerequisite: course 73B. Dance techniques of selected ethnographic regions. May be repeated once. Concurrently scheduled with course C173B. S/U grading.

Ms. Miranda (W,Sp)

C474C. Dance of Spain (2 units). Studio, three hours. Prerequisite: course 74C. Techniques and repertoire of a selected tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Concurrently scheduled with course C174C. S/U grading.

C476B. Dance of Israel (2 units). Studio, three hours. Prerequisite: course 76B. Technique and repertoire from selected ethnographic regions. May be repeated once. Concurrently scheduled with course C176B. S/U grading.

479A-C479Z. Dance of a Selected Culture (2 units each). Laboratory, four hours. Prerequisite: consent of instructor. Dance technique of a selected dance form from a culture area or historical period or of a particular dance genre. May be repeated for credit. Concurrently scheduled with courses C179A-C179Z. S/U or letter grading.

480. Seminar: Research Topics (2 units). 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 eight units. S/U grading.

490. Projects in Choreography and Performance (2 to 8 units). Tutorial, one-three-hour rehearsal per unit per week minimum. Prerequisite: course 240C or consent of instructor. Creation, casting, and rehearsing of culminating concert, reflecting professional achievement 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.

498. Professional Internship in Dance (4, 6, or 12 units). Full- or part-time supervised fieldwork. Prerequisites: advanced standing in M.F.A. program, consent of instructor. Internship in dance, theater, film, or television organization. Participation in creative, administrative, or technical work of professionals in their specialties. S/U grading.

56A. Directed Individual Study or Research (2 to 8 units). S/U grading. 56R. Directed Study or Research in a Hospital or Clinic (2 to 8 units). S/U grading.


Design

1200 Dickson Art Center, (310) 825-9007

Professors

James W. Bassler, M.A.
Charles M. Eastman, M.Arch.
Lionel March, Sc.D.
Vasa Mihich
George Stiny, Ph.D.

Professors Emeriti

Laura F. Anderson, M.A.
William C. Brown, M.A.
Jack B. Carter, M.A.
Thomas Jennings, M.A.
J. Bernard Kesler, M.A.
Nathan Shapira, Dottore in Architettura

Associate Professor

Misuru Kataoka, M.A.

Assistant Professors

Terry Knight, Ph.D.
Alice E. McCloskey, M.A., Emente
Madeleine Sunkees, B.Ed., Emente

Visiting Assistant Professor

Thomas M. Hartman, M.A.

Scope and Objectives

Note: The Department of Design is examining the undergraduate and graduate curricula with a view to their revision. Admission to the department is closed for 1994-95. For further details, contact the Counselor, Department of Design, 1300 Dickson, UCLA, Los Angeles, CA 90024-1456.

The department offers a foundation of core courses, including color theory, perceptual drawing, three-dimensional design, computer, photography, and history, followed by a comprehensive group of integrated upper division courses in ceramics, fiber/textile, graphics, video, computer imagery, and environmental design which includes interior space planning and industrial design.

Design students are encouraged to work in experimental modes where materials and processes give new information and in the best of circumstances allow familiar visual and spatial relationships to be seen in new and diverse ways. The tools of design students range from highly technical electronic video and computer to the loom, potters wheel, camera, drafting table, pen, brush, and sometimes solely the hand and word. Through a balance of courses in theory, criticism, and practice, students develop in both vision and competence to realize new methods and new forms, both functional and expressive.

The Department of Design curricula lead to the Bachelor of Arts, Master of Arts, and Master of Fine Arts degrees. All programs benefit from the rich and varied art resources at UCLA and in the Los Angeles community.

Bachelor of Arts Degree

Preparation for the Major


The Major


It is recommended that you have each term's program approved by the departmental advisor.

Note: Consult the Schedule of Courses for courses restricted to majors only.

Master of Arts Degree

Admission

Students are admitted for Fall Quarter only. An acceptable portfolio is required, in the form of slides (maximum 20) or videotape (if applying to the electronic imagery field). Acceptance is by a majority vote of the design faculty.
Applicants are expected to have a bachelor's degree from an accredited institution; it need not be in art or design. A minimum grade-point average of 3.0 overall in undergraduate upper division work is required. Your initial advisory committee is formed immediately after you are accepted.

Prospective students may contact the Counselor, Department of Design, 1306 Dickson, UCLA, Los Angeles, CA 90024-1458, for brochures and information.

Fields of Concentration
Communication imagery, image transfer, electronic imagery, computer imagery, ceramics, fiber structures, textiles, industrial design, exhibition design.

Course Requirements
A minimum of 36 quarter units in the department (or nondepartmental courses with the graduate adviser's consent) selected from courses numbered 161A through 295 (and possibly 596) is required, with a B average or better. These must include a minimum of 20 quarter units of design courses numbered above 200, of which at least four units must be from Design 290 and of which at least eight units must be devoted to a comprehensive project in your area of study. In addition, eight quarter units of art history are required (if you have a B.A. or B.F.A. in Art which includes a background in the history of art, you may substitute eight units in other courses that are germane to your graduate pursuit).

A total of eight units of course 596 may be applied toward the 36 units required for the degree; four units may be applied toward the graduate course requirement.

Comprehensive Examination Plan
The M.A. program focuses on a scholarly project associated with a field of study and mastery of the technology. You meet with your committee to assess your progress on the comprehensive examination project throughout your two years in the program. Objectives of the design program are presented to students via faculty interaction, committee process, the graduate design curriculum, design practice, oral examination, and a thesis exhibition of work accomplished.

Master of Fine Arts Degree
Admission
Admission requirements and procedures are essentially the same as for the M.A., except that the M.F.A. degree is the highest academic degree awarded in the studio disciplines of art and is conferred on the basis of outstanding achievement and consistent demonstration of quality throughout an original body of creative work. A higher standard of demonstrated ability and preparation in the area of intended study is usually applied in the portfolio review.

Fields of Concentration
Communication imagery, image transfer, electronic imagery, computer imagery, ceramics, fiber structures, textiles, industrial design, exhibition design.

Course Requirements
A minimum of 72 quarter units of upper division and graduate design courses is required, of which at least four units must be from Design 290 and of which at least 12 units must be devoted to a comprehensive project in your area of study.

Within those 72 units, a minimum of 52 quarter units in the 200 and 500 series must be taken in the field of specialization.

A minimum of 40 quarter units of art history in undergraduate or graduate study is required. Art history courses completed at the undergraduate level can be applied toward the 40-unit art history requirement but cannot be applied toward the 72 units required for the degree. Students with few or no art history courses in undergraduate study may take art history upper division or graduate courses at UCLA as electives to be applied toward the 40-unit art history requirement and toward the total units required for the degree. You may substitute a maximum of 12 units in other courses that are germane to your graduate pursuit, with the faculty adviser's consent.

A total of 12 units of course 596 may be applied toward the graduate and elective course requirements for the degree.

Comprehensive Examination Plan
The M.F.A. program focuses on the fostering of mature, professional-quality work with emphasis on experimentation and mastery of the technology associated with the field of study.

You meet with your committee to assess your progress on the comprehensive examination project throughout your three years in the program. Objectives of the design program are presented to students via faculty interaction, committee process, the graduate design curriculum, design practice, oral examination, and a thesis exhibition of work accomplished.

Lower Division Courses
30A. Nature of Design. Lecture, three hours; discussion, one hour. Open to nonmajors. Understanding the design process, with emphasis on development of a visual language; study of historic, scientific, technological, economic, and cultural factors influencing design in our physical environment.


31B. Fundamentals of Design: Form. Lecture, two hours; laboratory, four hours. Course 32B may be taken concurrently. Interrelation of three-dimensional form concepts as foundation for creativity; origination and solution of problems.

32A. Perceptual Drawing. Demonstration/discussion/laboratory, eight hours. Course 31A may be taken concurrently. Translation of perception through delineation, drawing, and other descriptive media.

32B. Visual Presentation. Studio, six hours. Enforced prerequisites: course 32A. Course 31A or 31B may be taken concurrently. Translation of idea through delineation, drawing, and other descriptive media.

32C. Drawing Methodologies. Studio, eight hours. Fundamentals of graphic representation, including orthogonal and isometric projection methods, mechanical drawing and drafting, layout techniques, and introductory computer-aided drafting.

35A. Introduction to Photography. Lecture, two hours; studio, four hours. Introduction to camera operation, photo processing, laboratory and lighting procedures.

35B. Introduction to Tools and Processes. Lecture, two hours; studio, four hours. Introductory design shop course to develop necessary skills with traditional tools and power equipment, including fundamentals of joining, fastening, and finishing both natural and industrial materials, and their appropriate application in fabrication of design prototypes.

35C. Introduction to Computer. Lecture, two hours; studio, four hours. Introduction to the computer as a design tool and system: overview of hardware and software, including microcomputers, disk operating systems (DOS), image processing systems, desktop publishing, computer loom, three-dimensional modeling, and word processing systems.

35D. Experimental Imaging. Laboratory, six hours. Laboratory course to develop necessary skills with traditional tools and power equipment, including fundamentals of joining, fastening, and finishing both natural and industrial materials, and their appropriate application in fabrication of design prototypes.

Upper Division Courses
(I) Historical and Comparative Studies in Design
161A. Ceramics. Lecture, three hours. Prerequisite: upper division standing. Open to nonmajors. Evolution of ceramic form through geographic, social, and technological influences.

161C. Communication Design. Lecture, three hours. Prerequisite: upper division standing. Open to nonmajors. Historical survey of development of Western industrial culture. Studies of major factors influencing transition from industrial societies to postindustrial information societies.

161G. Shelter. Lecture, three hours. Prerequisite: upper division standing. Open to nonmajors. Survey of physical determinants of shelter forms within social, cultural, and historical contexts. Analysis of impact of environment, sociocultural factors, and technology on contemporary private and public buildings.

161H. Textiles. Lecture, three hours. Development of textile forms through geographic, cultural, stylistic, and technological influences. Mr. Basler.

161J. Video Imagery. Lecture, three hours; laboratory, to be arranged. Analysis of videographic form.

Mr. Kataoka

(II) Concept and Form in Design
162A. Ceramics. Studio, six hours. Prerequisites: courses 31A through 35B. Introduction to ceramic materials and processes as a medium of cultural and individual expression. Investigation of handforming methods.

162B. Ceramics. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Introduction to use of potter's wheel. May be repeated after completion of courses 162B through 162F.

Mr. Saxe

162C. Ceramics. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Creative development of ceramic materials and processes, with emphasis on indirect methods of forming, such as use of molds and mechanically produced ceramic elements. May be repeated after completion of courses 162B through 162F.
162D. Ceramics. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Investigation of ceramic surface treatments and their relation to ceramic form. Study of experimental materials and processes to achieve appropriate fired surfaces required for function and as means of creating decorative and expressive imagery. May be repeated after completion of courses 162B through 162F.

162E. Prismatic Ceramics. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Investigation of materials and methods of Neolithic and other early ceramic traditions. Emphasis on creative use of primitive ceramic technology to better understand the nature of clay and effects of firing. Firing in the lid without a kiln. May be repeated after completion of courses 162B through 162F.

162F. Advanced Ceramics. Studio, six hours. Prerequisites: courses 162A, 162B, 165A, 167A, 171A. Introduction of advanced techniques in use of potter's wheel. Emphasis on individual creative experimentation with materials and methods introduced in courses 162A through 162E, in conjunction with advanced projects incorporating wheelformed elements. May be repeated after completion of courses 162B through 162F.

165A. Fundamentals of Communication Design. Studio, six hours. Prerequisites: courses 165A through 35B. Introduction to basic elements of graphic design and development of visual communication concepts. Exploration of letterforms, typography, symbols, and imagery through graphic and graphic-mixed media.

Mr. Brown, Mr. Kataoka

165B. Communication Design: Printed Image. Studio, six hours. Prerequisite: course 165A. Development of concepts exploring visual potential of the graphic image. Technologies include screen printing, xerography, laser printing, ink jet, thermo dye—sublimated printing, offset lithography, video printing, and other reproduction processes. May be repeated after completion of courses 165B through 165E.

Mr. Brown, Mr. Kataoka

165C. Communication Design: Video Image. Studio, six hours. Prerequisite: course 165A. Use of video technology (video systems, cameras, displays, editing, storage, and reproduction devices) to integrate image, sound, time, and motion. Emphasis on expression, continuity, and sequential patterns for video communication. May be repeated after completion of courses 165B through 165E.

Mr. Brown, Mr. Kataoka

165D. Communication Design: Computer Image. Studio, six hours. Prerequisite: course 165A. Exploration of the computer as an image-generating tool. Development of visual ideas for print, television, and computer applications. Emphasis on typography, photography, and photography. May be repeated after completion of courses 165B through 165E.

Mr. Brown, Mr. Kataoka

165F. Advanced Communication Design: Special Studies I. Studio, six hours. Prerequisites: three courses from 165A through 165E. Synthesis of study and media presented in courses 165A through 165D. Student initiative encouraged, with emphasis on use of two or more media. May be repeated after completion of courses 165B through 165E.

Mr. Brown, Mr. Kataoka

167B. Fundamentals of Industrial Design, Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Introduction of function, form, materials, and technology as fundamentals of industrial design. Studies of creative problem solving and methodology in design. Systems development of mass-produced products from concept to model. Introduction to computer-aided design. May be repeated after completion of courses 167B through 167F.

Mr. Hartman

167C. Human Factors in Product and Space Planning. Studio, six hours. Prerequisites: courses 167A, 167B. Studies in psychological and physical requirements for designing products and spaces. Interpretation of anthropometric and ergonomic factors in the development of design concepts related to needs and use of objects and spaces. Computer applications included.

May be repeated after completion of courses 167B through 167F.

167D. Industrial Design: Product Development I. Studio, six hours. Prerequisites: courses 167A, 167B. Intermediate-level product planning, research, and development as a design tool. Studies in relation of design methodology to social and economic constraints. Development of design concepts and their realization at model and prototype stage. May be repeated after completion of courses 167B through 167F.

Mr. Hartman

167E. Industrial Design: Product Development II. Studio, six hours. Prerequisites: courses 167A, 167B. Product planning, research, and development of design concepts and information systems of higher complexity. Application of computer-aided design. Exploration of relation of design-concepts to social, economic, and environmental impacts. May be repeated after completion of courses 167B through 167F.

167F. Advanced Industrial Design: Product Design, Research, and Innovation. Studio, six hours. Prerequisites: courses 167A, 167B. Further studies in computer applications in industrial design, from ideation, conceptualization, and programming to model building and manufacturing.

170A-170B. Space Planning. Lecture, two hours; studio, four hours. Prerequisites: courses 31A through 35B. Human factors and functional requirements in determining spatial configurations and relationships. May be repeated after completion of courses 167B through 167E.

171A. Textiles: Fundamentals of Fiber, Form, and Structure. Studio, six hours. Prerequisites: courses 31A through 35B. Introduction to terminology and scoping of the field; orientation to materials and equipment; exploration of fiber concepts and theories toward making of fabrics; fundamental experiments in fabric making, dyeing, and patterning.

Mr. Bassier

171B. Fabric Surface. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Patterning through use of linenprint and silk screen processes, including experiments in traditional and random patterning systems; experiments utilizing single and multiple line and screen printings. May be repeated after completion of courses 171B through 171F.

Mr. Bassier

171C. Fabric Dye Processes. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Experimentation with essential dye systems and processes, including immersion, direct application, and resist. May be repeated after completion of courses 171B through 171F.

Mr. Bassier

171D. On-Loom Textile Construction. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Experimentation utilizing loom for structural patterning, including two- to eight-harness weaves; float and supplementary elements; introduction to computer-generated experiments on buttonhole and tabby structures. May be repeated after completion of courses 171B through 171F.

Mr. Bassier


171F. Textile Construction. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Development of two- and three-dimensional structures utilizing the loom, including experiments in construction of multiple-layer weaves, experiments in manipulation of woven surface and experimental structural and sculptural fabrics. May be repeated after completion of courses 171B through 171F.

Mr. Bassier

(III) Proseminars in Design

189. Topics in Design. Lecture/discussion, three hours; laboratory, to be arranged. Prerequisite: consent of adviser. Examination by faculty members of specific problems relevant to design theory and methodology. May be repeated for a maximum of 16 units.

193. Proseminar: Design—Senior Studies. Proseminar, three hours. Prerequisite: consent of adviser. Open to senior and advanced students through design faculty's preference. Examination by faculty members of specific problems relevant to design theory and performance. Topics announced in advance. May be repeated twice.

197. Honors Course. Hours to be arranged. Prerequisite: 3.0 GPA overall, 3.5 GPA in major, consent of instructor, junior or senior standing. Individual studies for majors. May be repeated once for credit.

199. Special Studies in Art (2 to 8 units). Hours to be arranged. Prerequisites: 3.0 GPA in major, consent of instructor, senior standing. Individual studies for majors. May be taken for a maximum of eight units.

Graduate Courses

Prerequisite for all courses: consent of instructor. All courses may be repeated for credit (unless otherwise noted) on recommendation of the adviser; they are not open to undergraduates.


Mr. Brown, Mr. Kataoka

284. Ceramics (2 to 8 units). Studio or studio/seminar, to be arranged. Prerequisite: consent of instructor. Advanced creative research utilizing ceramic media. Emphasis on development of original, expressive, individually produced work.

287. Form and Structure (2 to 8 units). Studio or studio/seminar, to be arranged. Prerequisite: consent of instructor. Exploration of form, with emphasis on expressive experimentation in materials and processes.

288. Fiber Structures (2 to 8 units). Laboratory, two to four hours. Advancedformative work in traditional and experimental processes of fabric construction utilizing fiber media.

Mr. Bassier

290. Design Seminar: Collaborative View. Seminar, three hours. Critical and theoretical examination of concepts underlying the creative process, including initiation of an idea, its development, and its social and historical context.

292. Shelter (2 to 8 units). Development of individual projects to investigate concepts of shelter. Exploration of traditional and contemporary forms, methods, and materials.
Visiting Assistant Professors
Kobia Ladzekpo, M.A.
Danny Lee
Roger Savage, Ph.D.
Ernest Siva, M.M.

Scope and Objectives
Ethnomusicology is a research field that combines the various techniques of musical analysis with the methods of the social sciences and humanities (i.e., the study of cultural systems including music). Although originally focused on folk, tribal, and Asian classical music traditions, ethnomusicology at UCLA includes the study of all styles of music in the world, including popular music, jazz, and even Western classical music when approached from a cultural analysis perspective. The undergraduate and graduate programs in ethnomusicology provide students with broad knowledge of world musics and methods currently used in their study.

The object of systematic musicology, a multidisciplinary field, is to answer fundamental questions on the nature and properties of music, not only as art but as empirical phenomena. At UCLA, this research orientation integrates the perspectives of aesthetics and philosophy, music theory, acoustics, sociology, psychology, organology, and semiotics, any of which can be cross-cultural, focusing on the systems or models discernible through these disciplines.

Bachelor of Arts in Ethnomusicology
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

The Major

Master of Arts in Ethnomusicology
Admission
Applicants for the M.A. must have completed a bachelor’s degree in music or related fields of study. If your degree is not in music, you must provide evidence of your musical ability. You are required to submit (1) official transcripts of record, (2) a clear statement of purpose, (3) three letters of recommendation, (4) a research or term paper, and (5) proof of musical background or performance ability interpreted on a worldwide scale. For students with a bachelor’s degree in music, the degree itself satisfies the musical background requirement. For students in other fields, the requirement is satisfied by official transcripts showing at least two years of music coursework, including music history and theory, or by an audition or monitored recording of any musical tradition. Applications must be submitted to Mary Crawford, Graduate Adviser, 1642B Schoenberg Hall Annex, UCLA, Los Angeles, CA 90024-1616.

Foreign Language Requirement
Reading knowledge of English and one other language relevant to your research and approved by the faculty is required. The requirement may be fulfilled by (1) passing the Graduate School Foreign Language Test (GSFLT) with a score of 500 or better, (2) passing an examination administered by the department or another University department if no GSFLT is available in your selected language, or (3) completing the fifth term in the language with a grade of B or better, or (4) demonstrating literacy through submission of transcripts or other documents.

Course Requirements
A minimum of nine upper division and graduate courses is required, at least five of which must be at the graduate level. No more than four units of 500-series courses may be applied toward the M.A. requirements.

Students in ethnomusicology (without a specialization) must take Ethnomusicology and Systematic Musicology 200A, 200B, 201A-C201B, 281A, 282, two courses in one or more music culture areas (i.e., music of Japan, China, etc.), one anthropology course, and two electives from departmental graduate or upper division offerings, selected courses in Western music, a related discipline, or a particular area outside the department approved by your mentor. If you have not taken courses 20A-20B-20C or the equivalent before entering, you must audit them. Course 290 may be taken but may not be applied toward M.A. course requirements. You may apply one term of course 292F toward your elective requirements and must enroll in a minimum of two terms of ethnomusicology performance organizations (courses 91A-91Z), which may not be applied toward your degree.

If you are in the systematic musicology specialization, you must take Ethnomusicology and Systematic Musicology 200, C201A, C203, one course from 271, 273, 275, 283, or Musicology 269, two terms of course 279, one course in a music culture area, and two electives from departmental graduate or upper division offerings, selected courses in Western music.
music, a related discipline, or a particular area outside the department approved by your mentor.

Thesis Plan
The thesis is an extended essay or other equivalent presentation involving the original investigation of a problem or subject of limited scope. The thesis topic and your thesis committee must be approved by the program committee in your area before the thesis committee can be appointed. Your presentation must demonstrate significant style, organization, creativity, and depth of understanding of the subject. You must complete the thesis within three years after you begin your M.A. coursework. If you do not, you must take the comprehensive examination (not applicable to the systematic musicology specialization) at the end of your third year in order to be considered for the Ph.D. program.

Comprehensive Examination Plan
This plan is not available to students in the systematic musicology specialization.

Students in ethnomusicology must first submit a research paper written during their master's studies to demonstrate their writing and scholarly abilities. You must then take two written examinations, one in theory and method in ethnomusicology and one in a world music culture area or other approved topic reflecting your course of study. Failed examinations may be retaken only once during the next two terms. You must complete the comprehensive examination plan within three years after you begin your M.A. coursework.

Final Examination
The final examination is oral and includes discussion of both the thesis and related matters.

A final oral examination is required under both plans, providing opportunity for you to defend your thesis or research paper and written examination responses, and for your committee to explore further your suitability for admission to the doctoral program.

Ph.D. in Ethnomusicology
Admission
Applicants for the Ph.D. program in either area must normally have completed an M.A. or equivalent degree in one of the following: ethnomusicology, Western music, a non-Western music tradition, a related discipline, or area studies with a music specialization. If your qualifications do not meet the requirements for the department's M.A. degree, you must complete remedial coursework, as recommended by the department, before beginning the Ph.D. program.

Foreign Language Requirement
Reading knowledge of English and two other languages relevant to your research and approved by the faculty is required. Normally one of the two other languages should be either French or German. See "Foreign Language Requirement" under the Master of Arts degree for testing procedures.

Course Requirements
You may petition, on the advice of your faculty advisor, for exemption from specific requirements on the basis of equivalent work done at the M.A. level. If you have an M.A. in Ethnomusicology from UCLA, you may have already fulfilled some of these requirements.

All students are required to take Ethnomusicology and Systematic Musicology 200, C201A, and one music culture seminar.

Students in ethnomusicology (without a specialization) must also take courses C201B, 281A, 282, and 10 additional courses, at least six of which must be at the 200 level, including one course from 271, 273, 275, or 283, three terms of course 290, and three terms of ethnomusicology performance organizations (courses 91A-91Z), which may not be applied toward your degree. You may apply one term of course 292F toward your elective requirements.

If you are in the systematic musicology specialization, you must also take course C203, five terms of course 279, one course from 271, 273, 275, 283, or Musicology 269, and five additional electives, at least three of which must be at the 200 level.

You may select your electives from all other graduate courses in the department, as well as from selected courses in Western music, a related discipline, or a particular area outside the department approved by your mentor.

If you do not have an M.A. in Ethnomusicology from UCLA, you may be required, in consultation with your mentor, to take other relevant and necessary courses beyond those specified.

No more than two 500-series courses and two courses outside the department may be applied toward the Ph.D. degree requirements.

Qualifying Examinations
When you and your guidance committee believe you are ready to take the qualifying examinations, you should take a schedule to the Student Services Office listing the order in which the examinations are to be taken. The Student Services Office staff acts as proctor for the tests. The written examinations should be completed within a three-week period. Repeat examinations, if necessary, must be scheduled in consultation with your guidance committee. A departmental oral examination may be scheduled at the discretion of your guidance committee.

After passing the departmental examinations, you may submit your dissertation proposal and request for a doctoral committee. This committee administers the University Oral Qualifying Examination.

Candidate In Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination
The dissertation is an extended monograph; a final oral examination is required by the department.

Lower Division Courses
1A-1B. Fundamentals of Sound and Music of the World (2 units, 4 units). Lecture, two hours; laboratory, one hour. Acoustical makeup of sound (pitch, tone quality); tuning systems; modes and scales; harmony and polyphony; rhythm and meter; notational systems; relationships of music to culture. Laboratory includes ear training and instrumental techniques.

10A-10B. World Music Theory and Musician- ship. Lecture, two hours; discussion, four hours; laboratory, two hours. Limited to ethnomusicology and world arts and cultures majors. Course 10A is enforced requisite to 10B, which is enforced requisite to 10C. 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.

20A-20B-20C. Musical Cultures of the World. Survey of musical cultures of the world (excluding Western art music), role of music in society and its relationship to other arts; consideration also to scale structure, instruments, musical forms, and performance standards.


Mr. Racy, Mr. Rice (F,W,Sp)

91A-91Z. World Music Performance Organizations (2 units each). Activity, three hours. Group performance of traditional vocal and instrumental music of world cultures. May be repeated for credit without limitation. P/NP or letter grading.

91A. Music and Dance of the American Indians;
91B. Music of Bali;
91C. Music and Dance of the Balkans;
91D. Music of China;
91E. Music and Dance of Ghana;
91F. Music of India;
91G. Music of Japan;
91H. Music of Java;
91J. Music of Korea;
91K. Music of Mexico;
91L. Music of Persia;
91M. Music of Thailand;
91N. Music of the Near East;
91P. Music of Afro-Americans;
91Q. Open Ensemble.

Upper Division Courses
105A-105B-105C. Music of the American Indians. American Indian music studied within broader context of styles, cultural values, and sources, including films, recordings, lectures, and limited group singing and dancing.


104A-104B. Music of Latin America. Prerequisite: consent of instructor. Course 104A is not prerequisite to 104B. Survey of traditional and contemporary musical culture.

104A. Mexico, Central America, and the Caribbean Islands;
104B. Latin South America.

Mr. Loza

M110A-M110B. The Afro-American Musical Heritage. (Same as Folklore M154A-M154B.) Lecture, three hours. Prerequisite: consent of instructor. Study of African music and its impact on the Americas; survey of development of various Afro-American musical genres from slave era to the present, including traditions in the West Indies and Central and South America.

Ms. DjeDje

M111. Ellingtonia. (Same as Afro-American Studies M145.) Music of Duke Ellington, his life, and far-reaching influence of his efforts. 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. Mr. Burrell (W)

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113. Music of Brazil. Lecture, three hours. Prerequisite: consent of instructor. History of ethnic and art music in Brazil, with some reference to Portuguese antecedents. Mr. Loza

115. Musical Aesthetics in Los Angeles. Lecture, three hours. Co-requisite: consent of instructor. Exploration of historical, social, cultural, and aesthetic context of their occurrence. Mr. Jairazbhoy

147. Survey of Classical Music in India. Examination of melodic, metric, and formal structures of Indian classical music in context of religious, sociocultural, and historical background of the country. Mr. Jairazbhoy

155A-155B. Music of China. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. 155A. History and theory of music of China, including survey of various provinces and their instrumental traditions. 155B. Prerequisite: consent of instructor. Introduction to various notational systems. Analysis of representative styles. Mr. Jairazbhoy


158A-158B. Studies in Chinese Instrumental Music. Lecture, three hours; laboratory, one hour. Prerequisite: consent of instructor. 158A. Study of literature, major sources, paleography, theory, and philosophy of the Ch'in, including transcription and analysis. 158B. Study of literature, major sources, paleography, theory, and philosophy of the Pi Pa, including transcription and analysis. 158C. Comprehensive study of Chinese musical instruments, classification system, specific musical notation, and use in context of Chinese society. Prerequisite: 158A.

160A. Studies in Japanese Court Music. Lecture, two hours; laboratory, one hour. Prerequisite: minimal musical ability. In-depth study of Japanese court music, including historical background, with emphasis on understanding the instrumental techniques and notation of various instruments of the court orchestra. Mr. Togi, Ms. Yuge

170. Acoustics. Lecture, three hours. Prerequisite: consent of instructor. Interrelationships of acoustical and musical phenomena. Tuning systems, consonance and dissonance, sound source, audience, hall acoustics, demonstration, and discussion; tours of instrumental collections and acoustic research facilities. Mr. Kendall

172A-172B. Psychology of Music. 172A. Designed for nonmajors. Introduction to the psychology of music. Three hours. 172B. Prerequisite: 172A or consent of instructor. Study of the psychological basis and effects of music from points of view of listener, performer, and composer. Mr. Kendall

173. Experimental Research in Music. Prerequisite: consent of instructor. Application of research methods in all specialties. Techniques and processes in various modes of musical experimentation: physical, perceptual, psychological, pedagogical, quantification, statistical procedures. Mr. Kendall

181. Anthropology of Music. Prerequisite: consent of instructor. Cross-cultural examination of music in context of social behavior and how musical patterns reflect patterns exhibited in other cultural systems, including African, economic, political, religious, and social structure. Mr. Rice

C190A-C190B. Proseminars: Ethnomusicology. Lecture, three hours. Prerequisites: courses 10A-10B-10C and 20A-20B-20C, or consent of instructor. May be concurrently scheduled with courses C201A-C201B. Mr. Loza, Mr. Racy

199E. Special Studies in Ethnomusicology (2 to 4 units). Hours to be arranged. Prerequisite: senior standing, 3.0 GPA, consent of instructor and department chair. Individual studies in ethnomusicology resulting in research project. May be repeated for a maximum of eight units. Mr. Kendall and the Staff

Graduate Courses

200. Research Methods and Bibliography (6 units). (Formerly numbered Music 200B.) Lecture, three hours. Prerequisite: consent of instructor. Not open to students with credit for former Music 200B. Guided writing, utilizing specific bibliography, in ethnomusicology and systematic musicology. Mr. Kendall, Mr. Loza (W)

C201A-C201B. Proseminars: Ethnomusicology. (Formerly numbered Music C290A-C290B.) Lecture. Three hours. Prerequisite: graduate standing, consent of instructor. Not open to students with credit for former Music C290A-C290B. May be concurrently scheduled with courses C290A-C290B. Additional assignments, as well as evidence of greater depth of study, required of graduate students. Mr. Loza, Mr. Racy

202. Seminar: North American Indian Music. (Formerly numbered Music 288.) Seminar, three hours. Prerequisite: consent of instructor. Not open to students with credit for former Music 288. Survey of representative musical styles of Native North American Indians, including problems of transcription, methods of analysis, and perceptual implications of song texts. Emphasis on interrelationship between language and musical context. Influences of Western music in acculturative contexts. Mr. Loza (Sp)

207. Seminar: Latin American Music. Seminar, three hours. Prerequisite: consent of instructor. Not open to students with credit for former Music 289. Introduction to systematic musicology, including basic readings in aesthetics/philosophy, anthropology, sociology, and ethnomusicology; psychology and acoustics. May be concurrently scheduled with course C190B. Mr. Kendall

211. Seminar: Afro-American Music. (Formerly numbered Music 289.) Seminar, three hours. Prerequisite: courses M110A-M110B or consent of instructor. Not open to students with credit for former Music 289. Seminar on specific musical cultures and distinct genres of Afro-American music. Ms. DjeDe

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278. Seminar: Aesthetics of Music (6 units). (Formerly numbered Music 279.) Seminar, three hours. Prerequisite: course 136A or 136B or consent of instructor. Not open to students with credit for former Music 274. Analyzes music as an expression of philosophical, aesthetic, and cultural values, in contemporary contexts. May be repeated once for credit.

279. Seminar: Aesthetics of Music (6 units). (Formerly numbered Music 278.) Seminar, three hours. Prerequisite: course 136A or 136B or consent of instructor. Not open to students with credit for former Music 274. Analyzes music as an expression of philosophical, aesthetic, and cultural values, in contemporary contexts. May be repeated once for credit.

280. Seminar: Psychology of Music (6 units). (Formerly numbered Music 276.) Seminar, three hours. Prerequisite: course 173 or consent of instructor. Selected topics in psychology of music, including recent findings on perception, cognition, memory, therapy, affect, meaning, and measurement. May be repeated once for credit.

281A-281B. Seminars: Field and Laboratory Methods in Ethnomusicology (6 units each). (Formerly numbered Music 254A-254B.) Seminar, three hours. Prerequisites: courses C201A-C201B. Fieldwork concepts and methods using technical equipment, conducting interviews, dealing with ethical issues, and designing research projects. Concurrent participation in Near East performance ensemble (course 91N) required. Mr. Jairazbhoy

282. Seminar: Analysis (6 units). (Formerly numbered Music 253.) Seminar, three hours. Prerequisites: graduate standing in ethnomusicology, or course M180 and consent of instructor. Intensive discussion of techniques used in ethnomusicological analysis, including transcription and notation, with emphasis on analysis of musical performance and music events. Mr. Porter

283. Seminar: Study of Musical Instruments (Organology) (6 units). (Formerly numbered Music 255.) Seminar, three hours. Prerequisites: courses C201A-C201B or consent of instructor. Musical instruments studied in terms of their structures, performance contexts, cultural significance, and patterns of change.

284. Seminar: Anthropology of Music. (Formerly numbered Music 277.) Prerequisites: courses C201A-C201B. Analysis of current anthropological paradigms and issues that have major impact on ethnomusicology. Mr. Rice

285. Seminar: Comparative Music Theory (6 units). (Formerly numbered Music 248B.) Seminar, three hours. Prerequisite: consent of instructor. Not open to students with credit for former Music 248B. Comparative study of music in and related areas, including Turkey, with particular reference to their historical and cultural backgrounds, sources on music theory and aesthetics, instruments, style, technique of improvisation, and contemporary practice. Concurrent participation in Near East performance ensemble (course 91N) required. Mr. Kendall

286A-286B. Study of Improvisatory Systems. (Formerly numbered Music 286A-286B.) Lecture, three hours. Prerequisite: course 146 or 147 or consent of instructor. Not open to students with credit for former Music 260. Study of improvisation in all styles and historical periods, media, and periods. Mr. Rice

287. Seminar: Psychology of Music (6 units). (Formerly numbered Music 276.) Seminar, three hours. Prerequisite: course 173 or consent of instructor. Selected topics in psychology of music, including recent findings on perception, cognition, memory, therapy, affect, meaning, and measurement. May be repeated once for credit.

288. Seminar: Aesthetics of Music (6 units). (Formerly numbered Music 278.) Seminar, three hours. Prerequisite: course 136A or 136B or consent of instructor. Not open to students with credit for former Music 274. Analyzes music as an expression of philosophical, aesthetic, and cultural values, in contemporary contexts. May be repeated once for credit.

289. Seminar: Ethnomusicology (6 units). (Formerly numbered Music 280.) Seminar, three hours. Prerequisites: courses M20A-M20B, and consent of instructor. May be repeated for credit. Mr. Rice, Mr. McCall

290A-290B. Seminar: Music and Psychoacoustics. (Formerly numbered Music 290.) Seminar, two hours. Prerequisites: courses M20A-M20B, and consent of instructor. May be repeated for credit.
Adjunct and Visiting Professors
Alexander Treger, Visiting
Dorothy Warenjskold, B.A., Adjunct

Adjunct and Visiting Associate Professors
Heinz Blankenburg, Adjunct
Don Green, M.M., Visiting
Malcolm McNab, Visiting
Timothy Mussard, D.M.A., Adjunct

Adjunct and Visiting Assistant Professors
Mark Baranow, D.M.A., Visiting
William Booth, M.M., Adjunct
Ruth DeSarno, M.M., Visiting
Barry Gold, M.M., Visiting
David Goodman, Ph.D., Visiting
John T. Johnson, B.M., Adjunct
Jeffrey Kaatz, D.M.A., Visiting
Iok-Choo Moon, D.M.A., Visiting
Antonette Perry, D.D., Adjunct
Richard Todd, B.M., Adjunct
Evan Wilson, Adjunct
Karl Windingsdahl, B.A., Adjunct
Peter Yates, M.F.A., Adjunct

Scope and Objectives

Students interested in a concentration in music history and literature should consider the major in 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.

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 academic 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 degree of Master of Fine Arts (performance practices) are offered in all classical solo instruments, voice, opera, and conducting.

Bachelor of Arts Degree

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: Music 20A, 20B, 20C; 12 units from 60A through 65; two years (12 units) of performance organizations (courses 90A through 90N) for a letter grade; and Musicology 26A-26B-26C. Students taking string, woodwind, brass, or percussion lessons must select from Music 90B, 90C, 90G, 90M (Fall Quarter only), or 90N; students taking vocal lessons must select from 90A, 90D, 90J, 90K, or 90L; students taking keyboard or guitar lessons may choose from 90A through 90N.

Theory — Music 120C and six courses selected in consultation with a faculty adviser.

Graduate Study

Graduate study in historical musicology is offered by the Musicology Department (see Chapter 5); study in ethnomusicology and/or systematic musicology is offered by the Department of Ethnomusicology and Systematic Musicology (see the listing earlier in this chapter).

Admission

Application for admission/fellowship due ........................................ December 30
Supplementary application materials due ........................................ January 15
Assessment examination/audition .................................................. end of January
Notice of acceptance or denial sent .................................................. by March 15
Late applicants, accepted only in composition, must meet the following deadlines:
Late applications for admission only (from addresses in the U.S. only) accepted until ..................... March 1
Supplementary application materials due ........................................ April 1
Assessment examination/audition .................................................. early April
Notice of acceptance or denial sent .................................................. by May 15

Failure to meet any deadline may result in a delay in action on an application for admission, as well as that for a fellowship or assistantship.

The application form must be filed according to instructions in the application booklet and the accompanying departmental information; all supplementary materials described below must be submitted to Mary Crawford, Department of Music, 1642B Schoenberg Hall Annex, UCLA, Los Angeles, CA 90024-1616.

Applicants for the M.A. and M.F.A. must have completed a Bachelor of Arts degree, or the equivalent, in Music or other fields of study, provided they have the musical training and musicianship necessary to pursue graduate work. Transcripts should show at least 52 quarter units of work outside music, including one college year (or its high school equivalent) of French, German, Italian, or Spanish and an average grade of at least B in the basic areas that normally constitute the undergraduate core curriculum in music (harmony, counterpoint, music history, analysis, and musicianship).

Applicants for the Ph.D. must have completed a Master of Arts degree in Music (or an equivalent degree). The degree normally will have been taken in the same field as the proposed doctorate. If you wish to obtain a doctorate in a
field other than that of the M.A., additional coursework, as prescribed by the department, must be completed.

Applicants for all degrees (M.A., M.F.A., and Ph.D.) are also required to (1) take a departmental assessment examination (details are automatically sent after the application has been received), (2) submit a letter describing their background of study and stating their reasons for wishing to pursue graduate studies in music, (3) submit three letters of recommendation from former instructors and/or professionals with whom they have worked, and (4) submit written examples of their work — for composition, musical scores; for M.F.A. applicants, a repertoire list and sample concert or recital programs; for Ph.D. applicants, the M.A. thesis or composition, if possible. In addition, applicants for the Ph.D. in composition with a cognate in ethnomusicology should submit a written sample of their work, as well as musical scores. M.F.A. applicants also are required to demonstrate by audition their proficiency in their major instrument, voice, or conducting medium. No application can be considered until the examination has been taken and all of the above materials have been received.

Major Fields
The Music Department offers the degrees of Master of Arts and Doctor of Philosophy in the field of composition and Master of Fine Arts (performance practices) in all classical solo instruments, voice, opera, and conducting.

Instructional Credential in Music
You may earn credentials for teaching music and other subjects in California elementary and secondary schools through the Graduate School of Education and Information Studies; completion of the instructional credential program in the Teacher Education Laboratory is required. Interested applicants should consult the Graduate School of Education and Information Studies, 1009 Moore Hall (310-825-6328), and the faculty adviser in music for information.

Master of Arts Degree

Foreign Language Requirement
Reading knowledge of French, German, or Italian is required. International students may petition to substitute English. Candidates in the opera specialty must also be fluent in speaking one of these languages. The language requirement should be satisfied by the end of your first year in residence.

Course Requirements
You are required to complete a minimum of 18 courses, including at least six at the 200 level and six or more in the 400 series. Only four units of Music 596A, 596C, or 596D and eight units of course 598 may be applied toward the total course requirement. No more than four units of all types of 500-series courses may be applied toward the minimum graduate course requirement. The minimum residence requirement for the M.F.A. is two years.

Thesis Plan
The thesis is a work proposed by the student and approved by the composition and theory faculty. The topic and composition of the master’s committee are approved by the faculty before submission to the Graduate Division.

Final Examination
The final examination is oral and includes discussion of both the thesis and related matters.

Master of Fine Arts Degree

Foreign Language Requirement
Reading knowledge of French, German, or Italian is required. International students may petition to substitute English. Candidates in the opera specialty must also be fluent in speaking one of these languages. The language requirement should be satisfied by the end of your first year in residence.

Course Requirements
You are required to complete a minimum of 18 courses, including at least six at the 200 level and six or more in the 400 series. Only four units of Music 596A, 596C, or 596D and eight units of course 598 may be applied toward the total course requirement. No more than four units of all types of 500-series courses may be applied toward the minimum graduate course requirement. The minimum residence requirement for the M.F.A. is two years.

Course requirements are as follows: two terms of Music 261A through 261F, six terms of 400-level performance instruction, two terms (eight units) of 598, seven elective courses, and Musicology 200A. Conducting students declare either a choral or instrumental specialization. Six terms of course 275 are required in the area of specialization (i.e., choral or instrumental) and at least two terms in the other area. (On a two-year program, the ratio would be four to one.) Recommended electives include courses 175, 596A, 596C, 596D, Ethnomusicology and Systematic Musicology 170, 176, and additional courses from the 200 and 400 series. A maximum of four units of chamber ensembles (course 175) may be applied toward the minimum 18 courses. Course 598 serves to guide the preparation of the final thesis and should normally be taken during your last two terms in residence.

Each year you must complete a solo recital on campus (preferably a noon concert) with a faculty committee in attendance to evaluate the performance. Conducting students present a program, or a substantial portion thereof, approved by the conducting faculty, either on or off campus.

The final project is to be completed during your last year in residence. A solo recital and appropriate scholarly paper are required in all areas. In addition, a major operatic performance is required in the area of opera. Conducting students submit an on-campus program, or a substantial portion thereof, with one of the department’s performance organizations. The scholarly paper should be equivalent to a graduate seminar paper (15 to 25 pages in length) and should be concerned with performance problems which can be elucidated through research and analysis. The final version of the scholarly paper, with the accompanying recital program, must be submitted to the department in the format of a thesis.

The language requirement and a majority of the coursework must be completed before you submit the final project proposal and request for an M.F.A. committee. The proposal, which is to include the complete recital program and an abstract of the scholarly paper, should be submitted by Fall Quarter of your last year in residence.

Ph.D. Degree

Admission
See “Admission” under Graduate Study above.

Foreign Language Requirement
Reading knowledge of two languages selected from German, French, Latin, Italian, Russian, Spanish, or English (for students whose native language is not English; you may not use both English and the native language) is required.

Course Requirements
You may petition, on the advice of your faculty adviser, for exemption from specific requirements on the basis of equivalent work done at the M.A. level. You may complete the residence requirement by electing courses (with consent of your faculty adviser) from the 200 series or the list of 100-level courses under “Course Requirements” for the M.A.

You must complete Music 251 A, 266A-266B, one course from 251B or 251C or 251D, six terms of 252A, 252B, 252C in sequence (with the option of substituting course 596A for 252C), and two electives on the recommendation of your graduate adviser. In addition to the thesis, you are expected to produce other works involving both instrumental and vocal music for both solo and ensemble forces. You are also responsible for the campus presentation of one original work during each year of residency.

Thesis Plan
The thesis is a work proposed by the student and approved by the composition and theory faculty. The topic and composition of the master’s committee are approved by the faculty before submission to the Graduate Division.

Final Examination
The final examination is oral and includes discussion of both the thesis and related matters.

Thesis Plan
The thesis is a work proposed by the student and approved by the composition and theory faculty. The topic and composition of the master’s committee are approved by the faculty before submission to the Graduate Division.

Final Examination
The final examination is oral and includes discussion of both the thesis and related matters.
ther or both 252Cs. In addition to the dissertation, you are expected to produce other works involving both instrumental and vocal music for both solo and ensemble forces. You are also responsible for the campus presentation of one original work during each year of residency.

You may elect to complete the optional cognate in ethnomusicology, in which you may substitute Ethnomusicology and Systematic Musicology C201A for Musicology 200A and Ethnomusicology and Systematic Musicology 282 or 283 for Music 251B or 251C or 251D. You are required to take two courses from Ethnomusicology and Systematic Musicology 207, 211, 237, 240, 241, 248A, 248B, 250A, 250B.

**Qualifying Examinations**

When you and your guidance committee believe you are ready to take the qualifying examinations, you should take a schedule the Student Services Office listing the order in which the examinations are to be taken. The Student Services Office staff acts as proctor for the tests. Normally the written examinations are spread over a two-week period but should be completed within three weeks. Repeat examinations may be scheduled in consultation with your guidance committee and after a stipulated period of time. Contact the Student Services Office for details on the written examinations.

When you successfully complete the written examinations, the departmental oral qualifying examination can be scheduled. After passing this oral examination, you may submit your dissertation proposal and request for a doctoral committee; this committee administers the University Oral Qualifying Examination.

**Candidate in Philosophy Degree**

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

**Dissertation/Final Oral Examination**

The dissertation consists of (1) an extended composition accompanied by a short description of the style and techniques of the work and (2) an analytical monograph dealing with some aspect of 20th-century music.

A final oral examination is required by the department.

**Lower Division Courses**

1A-1B. Fundamentals of Music. Lecture, three hours; discussion, two hours. Designed for nonmusic majors. 1A. Introduction to elements of music: pitch and rhythm symbols, meter and time signatures, notation, scales, intervals, and chord structure. 1B. Enforced requisite: course 1A. Diatonic harmony; four-part writing, including inversions, seventh, secondary dominants, and modulation; organization of melody and accompanying; simple analysis; sight-singing and ear training.

3A-3B. Preparatory Theory for Music Majors (2 units each). Lecture, two hours; discussion, one hour. Limited to music majors. Course 3A is not open for credit to students with credit for course 1A; course 3B is not open for credit to students with credit for course 1B. Course for music majors in music fundamentals, including musicianship, theory, and terminology.

4A-4B-4C. Basic Musicianship (2 units each). Laboratory, three hours. Class instruction in elementary ear training and keyboard skills.

8G. Graduate Piano Sight-Reading (2 units). Limited to graduate students. Designed to help entering graduate students remedy entrance deficiencies, to be evaluated by examination. May be repeated. S/U grading.

10. Computer-Assisted Sight-Singing Laboratory (2 units). Lecture, two hours; laboratory, one hour. Enforced 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.

11A-12B. Counterpoint (2 units each). Lecture, four hours. 12A. Preparation; music theory placement examination. 15th-century modal counterpoint in two parts, including writing of motets. 12B. Enforced requisites: courses 20A, 20B, 20C. 18th-century tonal counterpoint in two parts, including writing of inventions for two and four parts.

15. Art of Listening. Lecture, three hours; laboratory, one hour. Acquisition of listening skills through direct interaction with live performance, performers, and composers. Relationship of listening to theoretical, analytical, historical, and cultural frameworks. Music as aesthetic experience and cultural practice.

16. Music After 1700. Lecture, three hours; laboratory, one hour. Historical and chronological survey of music after 1700. May be repeated for credit without limitation. P/NP or letter grading. Mr. Neuen

18. Musical Analysis. Lecture, three hours; laboratory, one hour. Enforced requisite: course 20A. Theory and analysis of music from the Baroque through the Romantic periods. P/NP or letter grading. Mr. Winter

20A. Music Theory I. Lecture, two hours; discussion, six hours. Preparation: passing score on departmental music theory examination. Species counterpoint through fifth species; description of triads and inversions. Musicianship: interval recognition; fixed-do solfège of diatonic melodies; one-part dictation of diatonic melodies; two-part dictation of small-compositional model; note-against-note melodies; simple harmonic dictation; use of treble, alto, and bass clefs.

20B. Music Theory II. Lecture, four hours; discussion, four hours. Enforced requisite: course 20A (C or better). Theory: diatonic harmony through secondary dominants and diminished seventh modulations; modal counterpoint and 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 seventh 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. Lecture, four hours; discussion, four hours. Enforced requisite: course 20B (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.

23. Composition Workshop (2 units). Enforced requisites: courses 20A, 20B, 20C. Introductory composition course which provides compositional experience at a basic level. May be repeated once for credit.

60A-65. Undergraduate Instruction in Performance (2 units each). Limited to music majors (all lower division majors, and upper division majors not in performance specialization). Individual instruction of one hour per week. Students must perform in a practice once 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.

60A. Violin. Ms. Kamei, Mr. Treger

60B. Viola. Mr. Wilson

60C. Cello. Mr. Leonard

60D. String Bass. Mr. Zibits

60E. Harp. Ms. Neill

60F. Classical Guitar. Mr. Norman, Mr. Yates

60G. Viola da gamba.

60K. Lute.

61A. Flute. Mr. Stokes

61B. Oboe. Ms. Northcutt

61C. Clarinet. Mr. Gray

61D. Bassoon. Mr. Steinmetz

61E. Saxophone. Mr. Gray

62A. Trumpet. Mr. Guarnieri

62B. French Horn. Mr. Todd

62C. Trombone. Mr. Booth

62D. Tuba. Mr. Johnson

63. Percussion. Mr. Peters

64A. Piano. Ms. Harris-Heggie, Mr. Tzerko, and the Staff.

64B. Organ. Mr. Harmon

64C. Harpsichord. Ms. Karp

65. Voice. Mr. Mussard and the Staff

90A. Concert Choir (2 units). Activity, four hours. Preparation: audition. Select mixed ensemble of 50 to 60 voices performing choral music appropriate for a concert-choral ensemble, with emphasis on music after 1700. May be repeated for credit without limitation. P/NP or letter grading. Mr. Neuen

90B. Collegiate Chorus (2 units). Nonaudition mixed chorus of 50 to 150 voices performing medium- and concert-length repertoire. Choral music of all periods, with emphasis on Renaissance and baroque music. May be repeated for credit without limitation. P/NP or letter grading.

90C. Chamber Singers (2 units). Activity, three hours. Preparation: audition. Select mixed ensemble of 16 to 20 voices performing chamber choral music of all periods, with emphasis on music after 1700. May be repeated for credit without limitation. P/NP or letter grading.

90D. Opera Workshop (2 units). Activity, six hours. Preparation: audition. Rehearsal and performance of scenes and complete operas, as well as repertoire, stage management, and orchestral coaching. May be repeated for credit without limitation. P/NP or letter grading.

90E. Symphony Orchestra (2 units). Activity, four hours. Preparation: audition. Group performance of symphonic literature as well as orchestral accompaniment for operatic and major choral works. May be repeated for credit without limitation. P/NP or letter grading.


90J. Men's Glee Club (2 units). Activity, three hours. Preparation: audition. Select male chorus of 40 to 45 voices, performing with emphasis on popular and folk arrangements. May be repeated for credit without limitation. P/NP or letter grading.

90K. Women's Chorus (2 units). Activity, three hours. Preparation: audition. Select female chorus of 45 to 55 voices performing treble choral music of all periods, with emphasis on music after 1750. May be repeated for credit without limitation. P/NP or letter grading.
100A. 100B-100C. Music in American Education. Lecture, four hours; laboratory, one hour. Prerequisites: courses 20A, 20B, 20C, 116, 120A, 120B, 120C, MusicoLOGY 26A-26B-26C. Critical study and analysis of philosophy, history, organization, curricu-

100B. General Music. 100B. Choral Music. 100C. Instrumental Music. Mr. Anderson and the Staff.

101. Advanced Keyboard Harmony and Score Reading. Prerequisite: course 120B. Emphasis on reading techniques.

102. Instrumentation. Lecture, three hours. Prerequisite: course 20B or 120B. May be taken concurrently with course 120A, 120B, 120C. Ranges and characteristics of instruments, with exercises in scoring.

105. Introduction to Composition. Lecture, three hours. Prerequisites: courses 20A, 20B, 20C, 120A, 120B, 120C. Intended for music majors in specializations other than composition. Nature of compositional process, with selected exercises in specific techniques and styles.

106A. Orchestration I. Discussion, three hours. Prerequisites: courses 20A, 20B, 20C. May be taken concurrently with courses 120A, 120B, 120C. Ranges and characteristics of instruments, with exercises in scoring.

106B. Orchestration II. (Formerly numbered 106B-06C.) Discussion, three hours. Prerequisite: course 106A. Scoring and analysis for ensembles and full orchestra.

109A-109B-109C. Composition for Motion Pictures and Television (2 units each). Prerequisites: courses 20A, 20B, 20C, 120A, 120B, 120C, or consent of instructor. Course 109A is prerequisite to 109B, which is prerequisite to 109C. Composition of music for dramatic and documentary film in cinema and television. Techniques used in recording and editing.

112A-112B. Practical Scoring. Lecture, two hours; laboratory, two hours. Prerequisites: courses 20A, 20B, 20C, 120A, 120B, 120C, and MusicoLOGY 26A-26B-26C, or consent of instructor. Emphasis on practical problems in scoring for small and large ensembles at concerts, film, television, and recording levels. 112A. Band Scoring; 112B. Choral Scoring. Mr. Henderson.

113A-113B. Music Literature for Children. Lecture, three hours; laboratory, one hour. Prerequisites: course 1A and MusicoLOGY 2A, or consent of instructor. Course 113A is not prerequisite to 113B. Designed for those interested in music in the elementary schools. Emphasis on class performance, music reading, singing, and folk instruments.

115A-115F. Study of Instrumental and Vocal Techniques (1 unit each). (Formerly numbered 115A-115F.) Laboratory, three hours; lecture and composition, three hours. Prerequisites: 120A and 120B, or consent of instructor. In-depth study of performance techniques and materials. Each of courses 115A-115D may be repeated once for credit. 115A. Strings; 115B. Woodwinds; 115C. Brass; 115D. Percussion; 115E. Voice. Mr. Anderson and the Staff.

116. Introduction to Conducting (2 units). Lecture, three hours. Prerequisites: courses 20A, 20B, 20C, 120A. Fundamentals of conducting, including basic skills, techniques, analysis, and rehearsal methods. Each course may be repeated once for credit.

117. Study and Conducting of Instrumental and Choral Literature (2 units). (Formerly numbered 117A-117B.) Lecture, three hours. Prerequisite: course 116 or consent of instructor. Study and practice of conducting both instrumental and choral repertoire. In addition to further development of conducting gestures, focus on score study techniques, rehearsal techniques, style, and interpretation as applied to choral and instrumental repertoire.

118A-118B. Advanced Study and Conducting of Choral and Instrumental Literature (2 units each). Lecture, one hour; laboratory, two hours. Prerequisites: courses 116 and 117, or consent of instructor. Development of advanced performances, techniques, and practices, and rehearsal techniques. Each course may be repeated once for credit. 118A. Choral; 118B. Instrumental. Mr. Lee, Mr. Neuen, Mr. Robertson.

119. Creative Process: Developing Imagination and Hard Craft. Lecture, four hours; discussion, one hour. Prerequisites: courses 106A and 106B, or consent of instructor. In-depth philosophical and technical discussions as to nature of creativity, as well as compositional exercises intended to develop technique and imagination and to enrich musical vocabulary of students. Mrs. Barkin.

120A. Music Theory IV. Lecture, four hours; discussion, four hours. Prerequisites: course 20C with a grade of C (2.0) or better, passing score on departmental first-year examination. Theory: baroque counterpoint including chorale prelude; two-part invention; exposition and first modulation of a three-part invention; canonic principles; analysis of inventions, canons, and fugues. Musicianship: sight-singing of extended chromatic melodies; advanced harmonic dictation (diatonic and chromatic); keyboard harmonization of modulating melodies; elementary score reading.

120B. Music Theory V. Lecture, four hours; discussion, four hours. Prerequisites: course 120A with a grade of C (2.0) or better, consent of instructor. Theory: advanced chromatic harmony including development of harmony from 1600 analytical projects; early choral composition. Musicianship: advanced score reading; advanced harmonic dictation; preparation for departmental examination.

120C. Music Theory VI. Lecture, four hours; discussion, two hours; listening, two hours. Prerequisites: course 120B with a grade of C (2.0) or better, consent of instructor. 20th-century harmonic language, including nonfunctional harmony, polytonality, free atonality, serialism, and minimalism.

121. Special Topics in 20th-Century Music. Lecture, three hours. Prerequisites: courses 20A, 20B, 20C, 120A, 120B, 120C, or consent of instructor. 20th-century music, including composition, analysis, and performance techniques. May be repeated once for credit.

122. Speculative Music Theory. (Formerly numbered 103A-103B.) Discussion, three hours. Prerequisites: courses 20A, 20B, 20C, 120A, 120B, 120C, or consent of instructor. 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 222.

123A-123B-123C. Composition. (Formerly numbered 107A-107B-107C.) Lecture, three hours. Prerequisites: courses 20A, 20B, 20C, 120A, 120B, 120C. Course 123A prerequisite to 123B, which is prerequisite to 123C. Designed for students specializing in composition. 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 sequence. Mr. Reale and the Staff.

136A-136B-136C. Historical Survey of Music Theater. Lecture, four hours; discussion, one hour. Historical and technical major works from music theater, tracing development of the art form from its European beginning to the American music theater of today. P/NP or letter grading. 136A. Music Theater, Early Forms to 1900; 136B. Music Theater, 1900 to 1945; 136C. Music Theater, 1945-1975. Mr. Hall.

150. Introduction to Music Criticism. Lecture, three hours. Prerequisites: music major or consent of instructor. Readings and discussion of music criticism past and present, and exercise in the writing of criticism of five concert events and recordings. Designed to aid students (performers, critics, or listeners) in verbalizing the experience of listening to music.


158. New Orleans Jazz. Lecture, three hours; discussion, two hours. Major black and Creole figures in origin and development of jazz in New Orleans from turn of the 20th century through the 1960s, with emphasis on cultural roots, local municipal tradi-

161A. Flute. Mr. Stokes.

161B. Oboe. Ms. Northcutt.

161C. Clarinet. Mr. Gray.

161D. Bassoon. Mr. Steinmetz.

162A. French Horn. Mr. Todd.

162B. Tuba. Mr. Moore.

162C. Trombone. Mr. Booth.

163. Percussion. Mr. Peters.

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C225. Historical and Philosophical Foundations of Music Education. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Survey of the historical and philosophical foundations of music education, with an emphasis on educational theories and principles. May be repeated for credit. 460A-46S. Graduate Instruction in Performance (6 units each). Limited to M.F.A. students. Individual instruction of one hour per week, with performance laboratory at discretion of instructor. Intensive study and preparation of musical literature in area of specialization. May be repeated for credit. 460A. Violin; 460C. Cello; 460D. String Bass; 460F. Harp; 460G. Classical Guitar; 460G. Viola da gamba; 460K. Lute; 461A. Flute; 461B. Oboe; 461C. Clarinet; 461D. Bassoon; 461E. Saxophone; 462A. Trumpet; 462B. French Horn; 462C. Trombone; 462D. Tuba; 463. Percussion; 464A. Piano; 464B. Organ; 464C. Harpsichord; 465. Voice.

470. Opera Studio for Graduate Students. Laboratory, four hours. Prerequisites: graduate standing, consent of instructor. Performance techniques and repertoire for graduate students in opera.

472. Master Class in Opera (6 units). Laboratory, three hours. Limited to M.F.A. students. Intensive study and preparation of opera literature. May be repeated for credit.

475. Master Class in Conducting (6 units). Laboratory, three hours. Limited to M.F.A. students. Intensive study and preparation of musical literature in specialization of conducting. May be repeated for credit.

495. Introductory Practicum for Teaching Apprentices in Music. (2 units). Eight weekly two-hour sessions, plus intensive training session during Fall Quarter registration week. Prerequisite: 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.

506A. Directed Individual Studies in Orchestration and Composition (2, 4, or 6 units). Only four units may be applied toward M.A. or M.F.A. degree requirements. May be repeated for credit.

506D. Directed Individual Studies in Performance Practices (2 to 12 units). Prerequisite: graduate standing. Only four units may be applied toward M.A. or M.F.A. degree requirements. May be repeated for credit.

507. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examinations (2 or 4 units). May be repeated for credit.

598. Guidance of M.A. Thesis or M.F.A. Final Project (4, 8, or 12 units). M.A. candidates may apply four units toward degree requirements; M.F.A. candidates may apply eight units toward degree requirements. May be repeated for credit.

599. Guidance of Ph.D. Dissertation (4, 8, or 12 units). May be repeated for credit. S/U grading.

Related Courses in Other Departments

Dance C120. Music as Dance Accompaniment 221. Music for Dance

Folklore and Mythology CM106. Anglo-American Folk Song

M243A. The Ballad

M243B. Problems in Ballad Scholarship
World Arts and Cultures* (Interdepartmental)

124 Dance Building, (310) 206-3696, 206-1342

Professors
Elise Dunin, M.A. (Dance)
Alessandro Duranti, Ph.D. (Anthropology), Concentration Adviser
Michael O. Jones, Ph.D. (History, Folklore and Mythology), Concentration Adviser
Judy Mitoma, M.A. (Dance), Chair and Concentration Adviser
James W. Porter, M.A. (Ethnomusicology and Systematic Musicology, Folklore and Mythology), Emeritus
A. Jihad Racy, Ph.D. (Ethnomusicology and Systematic Musicology)
Robert A. Georges, Ph.D., Emeritus (English, Folklore and Mythology)
William R. Hutchinson, Ph.D., Emeritus (Ethnomusicology and Systematic Musicology)
Jacques Mequiel, Ph.D., Emeritus (Anthropology)
Philip L. Newman, Ph.D., Emeritus (Anthropology)
Allegra Fuller Snyder, M.A., Emerita (Dance)

Associate Professors
Robert L. Brown, Ph.D. (Art History), Concentration Adviser
Donald J. Cosentino, Ph.D. (English, Folklore and Mythology)
Patricia M. Harter, Ph.D. (Theater), Concentration Adviser
Steven J. Loza, Ph.D. (Ethnomusicology and Systematic Musicology), Concentration Adviser
Joseph F. Nagy, Ph.D. (English, Folklore and Mythology)
Beverly J. Robinson, Ph.D. (Theater)
Carol J. Sorgenfrei, Ph.D. (Theater)

Assistant Professors
Colin Quigley, Ph.D. (Dance)
Edit Villarreal, M.F.A. (Theater)

Visiting Professor
Peter Sellars, B.A. (World Arts and Cultures)

Visiting Associate Professor
Florian Messner, Ph.D. (World Arts and Cultures)

Visiting Assistant Professors
Paul Apodaca (World Arts and Culture)
John Maipede (World Arts and Culture)
Dedre Sklar, Ph.D. (Dance)

Scope and Objectives
The interdisciplinary major in world arts and cultures is available to students in both the School of the Arts and the College of Letters and Science. The course of study is designed to provide students with the conceptual tools with which to examine and extract meaning from the arts—regardless of language, culture, or geographical location. Students view the arts not as isolated phenomena, but as dynamic aesthetic forms which embody culture, history, and belief systems. The program is unique in that it places emphasis on cross-cultural study rather than the conventional focus on Western “high art” traditions. Techniques of inquiry and analysis are taken from both the arts and letters and science frameworks and therefore require investigative research as well as aesthetic sensibility. The program encourages that both approaches be given equal consideration. In addition, the program offers opportunities for participation in dance, music, and theater performance classes. Integrated activities with the Dance Department also allow for a range of new opportunities in performance.

Students are encouraged to consider the Education Abroad Program during their junior year. Individuals interested in careers in elementary and secondary education should consult the program’s student affairs officer.

Bachelor of Arts Degree

Admission
New students are admitted to the major only for Fall Quarter. Procedures and guidelines for the selection of freshmen and transfer students are approximately the same. Applicants are reviewed individually, based on a questionnaire, grade-point average, two letters of recommendation, and a personal essay. For freshman applicants, college placement test scores are also considered.

Current UCLA students who petition to change their major are required to meet with the student affairs officer prior to application. An interview with the program chair may also be required. You are advised to take world arts and culture courses during the term in which you apply to the program. You must have a minimum 3.0 overall grade-point average and no more than 120 quarter units. Change of major petitions are accepted in October for Winter Quarter and in April for Fall Quarter.

Concentrations

The anthropology concentration stresses both the empirical and theoretical foundations of cultural anthropology. The art history concentration has particularly strong offerings for students interested in Asia, Africa, and the Americas. The dance concentration includes studio opportunities, theory and research techniques, and history courses in both Western and non-Western dance. The folklore and mythology concentration exposes students to a wide range of folklore forms derived from a diversity of cultures. (UCLA offers no undergraduate degree in folklore.)

The music concentration focuses on basic theory and skill in both Western and non-Western music. The theory option requires skill levels equivalent to lower division music majors, while the world music theory option emphasizes ethnomusicology.

The theater concentration explores three fundamental aspects of Western and non-Western theater: (1) history and literature, (2) visual design, and (3) production and performance techniques.

Majors should be aware that the upper division course requirements in the major and in their college or school may not meet the upper division requirement for graduation (72 units for Letters and Science, 64 for the Arts). Additional upper division units may need to be taken to reach the unit total.

General College/School Requirements

You must satisfy the general education requirements of your school or college (Arts or Letters and Science). You may select either regardless of your concentration.

If you wish to confer with the student affairs officer regarding planning and major requirements, contact Silvily Kessler Thomas in the program office (310-206-3968).

The Major

The major includes a core of 32 units from anthropology, art history, dance, folklore and mythology, music, and theater; a concentration consisting of 36 units in one of these six disciplines; an eight-unit senior colloquium; and 12 units of upper division elective coursework.

The following courses are required:

(1) A core of 10 interdepartmental courses (32 units): Anthropology 9, Art History 55A or 55B or 56A or 56B. Dance 70, 80A-80B, Ethnomusicology and Systematic Musicology 1A-1B, Folklore and Mythology 101, Theater 102E, World Arts and Cultures 100.

(2) A concentration of nine courses (36 units) in one of the following areas:


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Folklore and Mythology — Group A: five courses from CM106, M111, 118, M122, 124, M140, M154A, M154B, 163, C165, C175, M180, M181, CM184, 190, Classics 161, 168; group B: four courses from C105, C107, 108, M112, 113, M121, M126, M127, M128, M129, 130, 131, M142, M149, M150, M155, M170, 172, M182, 183, 190, German 134.  


Theater — Courses 50 and/or 150 (four units minimum), 101A-101B-101C; group A: one course (four units) from 11, 12, 13, 15, 130A, 138, 174A; group B: four courses (16 units) from 102A, 102B, 102C, M103A through 103P, 104A, 104B, 104C, 106, 107, 111A, 111B, 111C, Film and Television 106C, 128.  

(3) World Arts and Cultures 190A-190B. These courses are the culmination of the major and focus on the culturally diverse communities of Los Angeles for field research. You select research topics on individual artists, community arts groups, or a genre of the arts.  

(4) Three elective courses (12 units) which may be considered from the list below (or which may be petitioned in from a wide range of departments). In order to meet degree requirements, all electives must be related to the major and approved by the concentration advisor. The three courses selected to meet this requirement must be upper division courses from three different areas outside the area of concentration.  

Honors Program  
Majors enrolled in the College of Letters and Science who have a cumulative GPA of 3.0 overall and a cumulative GPA in major coursework of 3.5 or better are eligible to participate in the College Honors Program. Interested students should consult the student affairs officer and the Honors Programs Office.  

Upper Division Courses  
100. Introduction to World Arts and Cultures. Lecture, three hours. Limited to world arts and cultures majors. Introduction to concepts and theories which integrate and underlie the multidisciplinary world arts and cultures major.  

Mr. Messner (F, W)  

M112. Special Topics in Women and the Arts. (Same as Women's Studies M112.) Lecture, three hours; outside study, nine hours. Selected topics relating feminist theories to creation of art by women, with consideration of how women's work is work. Approach to be comparative, cross-cultural, and interdisciplinary. Consideration of artistic practice by women in relation to issues of power, representation, and ideology. May be repeated twice, except for credit toward women's studies major. P/NP or letter grading.  

Ms. Sklar (W)  

120. Field Studies in World Arts and Cultures. Seminar, two to four hours; fieldwork in community settings, eight to 12 hours. Field studies in the arts. Seminars, guest speakers, and field trips provide theory and methodology related to ethnographic research and/or internship placements. Projects emphasize ethnic communities or international arts organizations. May be repeated once for credit.  

Ms. Mitoma (F, W, Sp)  

130. Selected Topics in World Arts and Cultures. Lecture, three hours. Prerequisite: junior standing. Selected topics dealing with arts and cultures through disciplines of anthropology, art history, dance, folklore and mythology, music, and theater, and additional multidisciplinary cross-cultural areas. Consult Schedule of Classes for topics to be offered in a specific term. May be repeated twice for credit. P/NP or letter grading.  

140A. Art and Social Responsibility. Prerequisite: junior standing. Discussion of what constitutes an artist's social responsibility and in what ways art is qualified to engage in direct political action. Study of tension between the powers of this world and the powers of art. P/NP or letter grading.  

Mr. Sellars (W)  

140B. Art as Moral Action. Prerequisite: junior standing. 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.  

Mr. Sellars (Sp)  

140C. Seminar: Intercultural and Interdisciplinary Performance. Prerequisite: junior standing. Recent discussions of multiculturalism have demanded a broader base of cultural literacy for society in general and from artists in particular. Moving beyond stereotypical and formalism, focus on areas of overlap and exchange, collective creation, hybridization, and evolving possibilities of video and extended media. P/NP or letter grading.  

Mr. Sellars  

150. Viewing Native American Culture. Lecture, three hours; outside study, nine hours. Exploration of artistic, political, folk, and religious images of American Indians as demonstrated in literature, art, anthropology, film, and folklore and contrasted with historic and contemporary views held by Native Americans and others. P/NP or letter grading.  

Mr. Apodaca (F)  

M152. Asian American Aesthetics. (Same as Asian American Studies M119.) Lecture, four hours; outside study, eight hours. Limited to juniors/seniors. Exploration of shared and distinctive aspects of aesthetics found among groups of Asian Americans through literature, readings, and field study. Formal and informal expressions of the culture, with focus on origins, art, literature, and contemporary views held by Native Americans and others. P/NP or letter grading.  

Mr. Apodaca (F)  

162P. Destruction and Survival of Indigenous Societies. (Same as Anthropology M162P) Lecture, three hours. Prerequisite: Anthropology 9 or upper division standing or consent of instructor. Consideration of concepts and forms of destruction and survival; analysis directed to different processes threatening the institutions of a group and its survival. Exploration of current theories of ecosistence and genocide for their relevance and validity. P/NP or letter grading.  

190A-190B. World Arts and Cultures Senior Colloquium. Limited to senior world arts and cultures majors. Comparative and integrative studies in world arts and cultures, with application of concepts and contents from the six disciplines of the major. Lecture/seminar format with World Arts and Cultures faculty during first term; topics include arts in a societal context, ethnicity and the individual, and problems and approaches to fieldwork. Faculty-directed individual projects during second term. Fieldwork on some aspect of various arts/expressive behaviors found in ethnic communities of Los Angeles. In Progress grading.  

199. Special Studies in World Arts and Cultures (2 to 8 units). Prerequisites: junior standing, 3.0 GPA in major, consent of instructor. Individual studies for world arts and cultures majors. May be taken twice for a maximum of eight units.  

(F, W, Sp)  

Upper Division Electives  
This is a sample list only; while all electives must be petitioned, many other options exist besides those listed.  

Anthropology 110. World Archaeology  
113P. Archaeology of North America  
113Q. Prehistory and Ethnography of California  
113R. Southwestern Archaeology  
114P. Ancient Civilizations of Western Middle America (Nahua Sphere)  
114Q. Ancient Civilizations of Eastern Middle America (Maya Sphere)  
114R. Ancient Civilizations of Andean South America  
116A. 116B. Museum Studies  
130. Study of Culture  
133P. Aesthetic Systems  
135C. Semiotic Ethnographic Studies  
M135Q. Laboratory for Naturalistic Observations: Developing Skills and Techniques  
139, 139L. Field Methods in Cultural Anthropology  
M140. Language in Culture  
144. American Indian Ethnolinguistics and Sociolinguistics  
M145. Afro-American Sociolinguistics: Black English  
146. Language and Culture in Polynesia: Past, Present, and Future  
150. Study of Social Systems  
153. Evolution of Human Societies  
M154. Women in Culture and Society  
156. Comparative Religion  
162. Contemporary American Indian Problems  
M164. The Afro-American Experience in the U.S.  
M168. Health in Culture and Society  
171. Sub-Saharan Africa  
172R. Cultures of the Pueblo Southwest  
M172T. Ethnohistory of Hispanic Cultures in the U.S. Southwest  
174P. Ethnicity of South American Indians  
174Q. Ethnicity of South American Indians  
175R. Societies of Central Asia  
177. Cultures of the Pacific  
Art History 101A. Egyptian Art and Archaeology  
101B. Egyptian Art and Archaeology of the Middle and New Kingdoms  
M102A. Minoan Art and Archaeology  
M102B. Mycenaean Art and Architecture  
104A. Western Islamic Art  
104B. Eastern Islamic Art  
C104C. Problems in Islamic Art  
114A. Early Art of India  
114C. Japanese Art  
114D. Later Art of India
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>C110A-M110B</td>
<td>The Afro-American Musical Heritage</td>
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<tr>
<td>113</td>
<td>Music of Brazil</td>
</tr>
<tr>
<td>117</td>
<td>American Popular Music</td>
</tr>
<tr>
<td>120A-120B</td>
<td>Development of Jazz</td>
</tr>
<tr>
<td>M126</td>
<td>Folk Music of Western Europe</td>
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<td>128</td>
<td>Folk Music of Eastern Europe</td>
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<td>130</td>
<td>Folk Music of the Mediterranean</td>
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<tr>
<td>136A-136B</td>
<td>Music of Africa</td>
</tr>
<tr>
<td>146</td>
<td>Folk Music of South Asia</td>
</tr>
<tr>
<td>147</td>
<td>Survey of Classical Music in India</td>
</tr>
<tr>
<td>156A-156B</td>
<td>Music of China</td>
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<tr>
<td>157</td>
<td>History of Chinese Opera</td>
</tr>
<tr>
<td>158A-158B-158C</td>
<td>Studies in Chinese Instrumental Music</td>
</tr>
<tr>
<td>160A</td>
<td>Survey of Music in Japan</td>
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<td>160B</td>
<td>Studies in Japanese Court Music</td>
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<td>170</td>
<td>Acoustics</td>
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<td>172A-172B</td>
<td>Psychology of Music</td>
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<td>Aesthetics of Music</td>
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<td>175</td>
<td>Problems in Musical Aesthetics</td>
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<td>M180</td>
<td>Analysis of Traditional Music</td>
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<td>181</td>
<td>Anthropology of Music</td>
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<td>CM106</td>
<td>Anglo-American Folk Song</td>
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<td>108</td>
<td>Afro-American Folklore and Culture</td>
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<td>British Folklore and Mythology</td>
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<td>M122</td>
<td>Celtic Mythology</td>
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<td>124</td>
<td>Finnish Folk Art and Technology</td>
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<td>Baltic and Slavic Folklore and Mythology</td>
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<td>M128</td>
<td>Hungarian Folklore and Mythology</td>
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<td>M129</td>
<td>Folklore and Mythology of the Ugric Peoples</td>
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<tr>
<td>130</td>
<td>North American Indian Folklore and Mythology Studies</td>
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<tr>
<td>M149</td>
<td>Folk Literature of the Hispanic World</td>
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<tr>
<td>M150</td>
<td>Russian Folk Literature</td>
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<td>M181</td>
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<tr>
<td>190</td>
<td>Selected Topics in Folklore and Mythology Studies</td>
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<tr>
<td>199</td>
<td>Special Studies in Folklore</td>
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**German (Germanic Languages)**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>134</td>
<td>German Folklore</td>
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**Japanese (East Asian Languages)**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>150</td>
<td>Japanese Literature in Translation: Classical</td>
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**Musicology**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>158</td>
<td>New Orleans Jazz</td>
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**Ethnomusicology and Systematic Musicology**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>106A-106B-106C</td>
<td>Music of the American Indians</td>
</tr>
<tr>
<td>108A-108B</td>
<td>Music of Latin America</td>
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**English**

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>M104A</td>
<td>Early Afro-American Literature</td>
</tr>
<tr>
<td>M104B</td>
<td>Afro-American Literature from the Harlem Renaissance to the 1960s</td>
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**Field Studies in World Arts and Cultures**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>M112</td>
<td>Special Topics in Women and the Arts</td>
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**Film and Television**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>C171B</td>
<td>Dance of Indonesia (courses 71B through 79Z are prerequisites for C171B through C179Z)</td>
</tr>
<tr>
<td>C171D</td>
<td>Dance of India</td>
</tr>
<tr>
<td>C172B</td>
<td>Dance of West Africa</td>
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<tr>
<td>C172C</td>
<td>Dance of Mexico</td>
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<tr>
<td>C174C</td>
<td>Dance of Spain</td>
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<td>C176B</td>
<td>Dance of Israel</td>
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<tr>
<td>181A</td>
<td>Dance Cultures of Asia</td>
</tr>
<tr>
<td>181B</td>
<td>Dance in Southeast Asia</td>
</tr>
<tr>
<td>181C</td>
<td>Dance in East Asia</td>
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<tr>
<td>181D</td>
<td>Dance in South Asia</td>
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<tr>
<td>182</td>
<td>Dance in Africa and the African Diaspora</td>
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<tr>
<td>183</td>
<td>Dance in Latino American Cultures</td>
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<td>C187</td>
<td>Dance in Native American Cultures</td>
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<tr>
<td>C150</td>
<td>Studies in Japanese Court Music</td>
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**History of Broadcasting**

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<td>106A-106B-106C</td>
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<td>History of Broadcasting</td>
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<tr>
<td>128</td>
<td>Media and Ethnicity</td>
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<tbody>
<tr>
<td>CM106</td>
<td>Anglo-American Folk Song</td>
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The School of Theater, Film, and Television consists of the Department of Theater and the Department of Film and Television, 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, or writing scripts and scholarly articles, all students study and practice both the aesthetic forms and cultural significance of theater, film, and television. Offering an intensive, discipline-based curriculum, the school recognizes the inherent differences of theater, film, and television, affirms their similarities, and encourages their interaction. As art forms and cultural interventions, theater, film, and television 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 the UCLA Center for the Performing Arts, Westwood Playhouse, and UCLA Film and Television Archive, the school provides the ideal setting for students to engage in the study and practice of these art forms so integral to a healthy and dynamic society.
School of Theater, Film, and Television

103 East Melnitz Building, (310) 825-5761

The Department of Theater and the Department of Film and Television 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 various specializations of the Master of Fine Arts degree are professional programs geared to preparing talented and highly motivated students for careers in the worlds of theater, film, and television. The M.A. and Ph.D. programs engage students in the critical study and research of each medium, including its 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 275 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 three theaters of the Macgowan Hall complex. Specializations in the Master of Fine Arts program include acting, directing, playwriting, design, technology, and production management, and the producers program. Most specializations include an internship.

The Department of Film and Television 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 critical 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, and a complete animation laboratory for both traditional and computer-generated animation. 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 class use.

Additionally the school participates in the undergraduate interdisciplinary world arts and cultures major which integrates art, dance, music, theater, anthropology, and folklore and mythology within one unique program. M.A. and Ph.D. faculty members and students also participate in various campus organized research units.

Informative brochures on the school are available from the Student Services Office, 103 East Melnitz Building, UCLA, Los Angeles, CA 90024-1622.

If you are interested in obtaining instructional credentials for California elementary and secondary schools, consult the Graduate School of Education and Information Studies, 1009 Moore Hall (310-825-8328).

The Study List
Each term the student Study List must include from 12 to 17 units. The school has no provision for part-time enrollment. After your first term, you may petition to carry more than 17 units (up to 20 units maximum) if you 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 by the end of the fourth week of instruction.

If you have not filed your Study List by the end of the second week of classes, you must obtain the consent of the dean of the school to continue for that term.

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.

Concurrent Enrollment
Enrollment at another institution or UCLA Extension while enrolled at UCLA is not permitted.

Requirements for Bachelor of Arts Degrees
Each student must meet six kinds of requirements for the B.A. degree: University, school, and unit requirements, as well as residence, major, and scholarship requirements. The requirements are as follows.

University Requirements
For information on the Subject A or English as a Second Language (ESL) and American History and Institutions requirements, see "Undergraduate Degree Requirements" in Chapter 2 of this catalog.

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 general requirements of the School of Theater, Film, and Television must be completed with a grade-point average of 2.0 or better.

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<tr>
<th>Majors and Degrees Offered</th>
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<tbody>
<tr>
<td>Film and Television</td>
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<tr>
<td>Motion Picture/Television</td>
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<tr>
<td>Theater</td>
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</table>
Literature

*Three courses (12 units) 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.

Foreign Language

You may meet this requirement by (1) scoring 3, 4, or 5 on the Advanced Placement (AP) foreign language examination in French, German, or Spanish, (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 UCLA's level three or above with an average grade of C or better. International students whose entire secondary education has been completed in a language other than English may petition to be exempt from the foreign language requirement.

General Education (GE) Course Requirements

Listed below is the set of general education (GE) requirements that were effective Fall Quarter 1992. Students admitted prior to Fall Quarter 1992 are required to fulfill the previous GE requirements as listed in the catalog of their entrance year. For assistance in determining the set of requirements for which you will be held responsible, contact a school counselor.

For specific courses that fulfill the general education requirements, consult the Student Services Office before enrolling. Courses listed below are used only as a guideline. Note: Courses that include the review of film or television may not be applied toward any general education requirements.

Intersegmental General Education Transfer Curriculum (IGETC) — Transfer students from California community colleges have the option to fulfill UCLA's lower division general education requirements by completing the Intersegmental General Education Transfer Curriculum 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. The IGETC significantly eases the transfer process, as all of UCLA's general education requirements are fulfilled when you complete it. If you select the IGETC, you must complete it entirely before enrolling at UCLA. Otherwise, you must fulfill the School of Theater, Film, and Television general education requirements.

English Composition and Rhetoric

English 3 with a minimum grade of C or an AP score of 4 should be completed by the end of your freshman year and may not be taken on a Passed/Not Passed basis.

Critical Reading and Writing

One course from English 4, *Humanities 2A, 2B, or 2C with a minimum grade of C or an AP score of 5 should be completed by the end of your sophomore year and may not be taken on a Passed/Not Passed basis.

Art and Philosophy

Five courses (20 units), with no more than two courses from any single group:

**Group A** — Art History 50, 51, 54, 55A, 55B, 55A, 56B, 57, Classics 51, Design 30A.


**Group D** — Philosophy 1, 2, 4, 5A, 6, 7, 8, 21, 22.

Social Sciences

Three courses (12 units), with no more than two courses from any single group. Whenever possible, two courses from a single sequence are recommended:


**Group C** — Anthropology 8, 9, 33, Psychology 10, 11, Sociology 1, 2, 3, 4, 31.

Science

One course (four units) in physical sciences and one course (four units) in biological sciences:

**Group A** — Physical Sciences — Astronomy 2A, 2B, 3, 4, 5, 6, Atmospheric Sciences 2, 3, 4, 5, 6, Chemistry and Biochemistry 2, 11A, 11B, 15, Earth and Space Sciences 1, 2, 5, 8, 9, 15, Geography 1, Mathematics 2, 3A, 3B, 5, 31A, 31B, 31E, Physics 3A, 3B, 3C, 6A, 6B, 6C, 8A, 8B, 8C, 10.

**Group B** — Biological Sciences — Anthropology 7, 10, 12, 15, Biology 2, 5, 6, 10, 13, 21, 25, 40, 70, Earth and Space Sciences 16, Geography 2, 5, Microbiology and Molecular Genetics 6, 7, Psychology 15.

Unit Requirements

Double majors in the school, or between the school and other academic units, are not permitted.

You must complete for credit, with a passing grade, no less than 180 units and no more than 208 units, of which at least 64 units must be upper division courses (numbered 100 through 199). No more than 16 units of CED courses and eight units of freshman seminars or 300-level courses may be applied toward the degree. Credit for 199 courses is limited to 16 units, eight of which may be applied to the major. All 199 courses must be taken for a letter grade.

UCLA 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.

Credit earned through the College Entrance Examination Board (CEEB) Advanced Placement Tests may be applied toward the general education requirements. Portions of Advanced Placement Test credit may be evaluated by corresponding UCLA course numbers (e.g., History 1C). If you take the equivalent UCLA course, unit credit for such duplication is deducted before graduation.

Residence Requirements

You 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.

Major Requirements

A major is composed of not less than 14 courses (56 units), including at least nine upper division courses (36 units). 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 motion picture/television major requires upper division work only.

You must complete your major with a scholarship average of at least a 2.0 (C) in all courses in order to remain in the major and must be recommended by the chair of your major department. All courses in the school must be taken for a letter grade.
As changes in major requirements occur, you are expected to satisfy the new requirements insofar as possible. Hardship cases should be discussed with the departmental 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.

Scholarship and Minimum Progress
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 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.

Minimum Progress — You are expected to complete satisfactorily at least 36 units during any three consecutive terms in residence; you are placed on probation if you fail to pass these units. You are subject to dismissal if you fail to pass at least 32 units in three consecutive regular terms in residence.

Honors
To receive Dean’s Honors in the School of Theater, Film, and Television, you 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 your transcript for the appropriate term. You are not eligible for Dean’s Honors in any given term if you receive an Incomplete or a Not Passed (NP) grade, change a grade, or repeat a course.

Honors at graduation are awarded to students with superior grade-point averages. To be eligible, you must have completed 90 or more units for a letter grade at the University of California. The levels of honors and the requirements for each level are cum laude, an overall average of 3.658; magna cum laude, 3.749; summa cum laude, 3.824.

Counseling and Program Planning
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 sent to each student. 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 (310-825-5761).

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 University Research Library, UCLA Film and Television Archive, special collections of the Arts Library, and the University’s exhibition and performance halls.

The School of Theater, Film, and Television cooperates with the UCLA John E. Anderson Graduate School of Management in offering a Master of Business Administration (M.B.A.) in Entertainment Management. Participating students serve term-long internships with such professional arts organizations as the Los Angeles County Museum of Art, the Mark Taper Forum, and the Los Angeles Philharmonic Orchestra.

The producers program is an M.F.A. management program in the Departments of Theater and Film and Television, with options in either theater or film and television.

A program in teaching is offered by the Graduate School of Education and Information Studies in each of these areas. Fellowships, grants, and assistantships are available through the dean of the Graduate Division. The Graduate Affirmative Affairs Office provides counseling, academic support, and financial assistance to ethnic minority students.

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 the departmental listings which follow.

For information on the proficiency in English requirements for international graduate students, refer to “Graduate Admission” in Chapter 3.

Other Requirements
Requirements to fulfill each degree objective vary according to the degree and the department. See the departmental listings which follow for specific requirements and procedures.

Film and Television
103 East Melnitz Building, (310) 825-5761

Professors
Jerry Antczak, M.A.
Nicholas K. Browne, Ed.D.
Gilbert Bates, M.A., Dean
Guylala Gudaz, M.F.A.
Lewie R. Hunter, M.A.
Dan F. McLaughlin, B.A.
Robert Rosen, M.A., Chair
Delia N. Salvi, Ph.D.
Vivian Sobach, Ph.D., Associate Dean
Peter Wollen, B.A.

Professors Emeriti
William B. Adams, M.A.
John D. Boehm, M.A.
Edgar L. Brokaw, B.A.
Shirley M. Clarke, A.A.
Arthur B. Friedman, Ph.D.
William Froug, B.J.
Hugh M. Grauel, M.A.
Richard C. Hawkins, M.A.
Walter K. Kingson, Ed.D.
Mark McCarthy, M.A.
William H. Menger, M.A.
Jorge R. Prellor, B.A.
Darrell E. Ross, M.F.A.
Ruth E. Schwartz, Ph.D.
Howard Suber, Ph.D. (Distinguished Teaching Award)
John W. Young, M.A.

Associate Professors
Janet Bergstrom, Ph.D.
Teahome H. Gabriel, Ph.D.
Stephen D. Mamber, Ph.D.
Robert A. Nakamura, M.F.A.
Richard Walter, M.A.

Assistant Professors
A.P. Gonzalez, M.A.
Chon A. Noriega, Ph.D.
C. Fabian Wegmister, M.F.A.

Lecturers
Scott Brownlee, C.A.P.
John Cones, J.D.
Robert Friedman
Sid Ganis
Robert Jennings, M.A.
Stacey Lassally, J.D.
Richard Marks, B.A.
Robert Norton
Pierce O'Donnell, J.D.
Nigel Pearson, J.D.
Cathy Rabin, Ph.D.
Arnold Rifkin
Joe Roth
Jay Sandrich, B.A.
Tom Sherk, A.A.
Nigel Sinclair, LL.M.
Kenneth Suddleson, J.D.

Adjunct and Visiting Professors
Burt Brinnerhoff, Visiting
Patrick Drummond, Visiting
Peter Gutierrez, LL.M., Visiting
Robert M. Silberling, M.F.A., Visiting
John Simmons, M.F.A., Visiting
Robert Trachinger, Adjunct
Visiting Associate Professors
Max Almy, M.F.A.
John T. Caldwell, Ph.D.
Mehra Golovinskaya, Ph.D.
Jonathan Kurtz, Ph.D.

Adjunct and Visiting Assistant Professors
Herold Ackerman, M.A., Adjunct
Dee Caruso, M.A., Adjunct
Thomas F. Devine, Visiting
Vera Dika, Ph.D., Adjunct
Weina Houston, Ph.D., Visiting
Wes Kenney, B.A., Visiting
Valerie Lettera, M.F.A., Visiting
J.D. Lobue, B.S., Visiting
Dense Mann, M.F.A., Visiting
Barbara Marks, Adjunct
Daniel Pyne, M.F.A., Visiting
Nancy Seckett, M.F.A., Adjunct
Myt Schreibman, M.F.A., Adjunct
Herb Stein, B.A., Visiting

Scope and Objectives
The purpose of the Film and Television Department is to develop in its students a scholarly, creative, and professional approach to the film and television arts. The aim of the department is to train graduates who will eventually make original contributions in their chosen field.

The department offers graduate programs leading to the Master of Arts, Master of Fine Arts, and Ph.D. degrees in Film and Television.

Bachelor of Arts in Motion Picture/Television

Preparation for the Major
Students are admitted for Fall Quarter only. Admission is competitive, and only a limited number of students can be accepted each year. Prior to entry, you must complete at least 84 quarter units (56 semester units) with a 3.0 GPA or better and the general education requirements of the School of Theater, Film, and Television. You are also required to submit a portfolio of original written work consisting of (1) a personal essay, (2) a critical essay on a film, and (3) a creative writing sample. For further information on admission, contact the Student Services Office, School of Theater, Film, and Television, 103 East Melnitz Building, UCLA, Los Angeles, CA 90024-1622.

The Major
Required: Film and Television 130A, 130B, 175A-175B, 185, two film/television history courses from 106A, 106B, 106C, 108, 110A, two film/television theory and criticism courses from 107, 110B, 110C, 112, 113, 114, 116, and 18 to 24 units of film and television elective courses for a minimum total of 68 upper division units in the major. It is recommended that the majority of the required courses be completed during the junior year.

You 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
The department offers the Master of Arts (M.A.), Master of Fine Arts (M.F.A.), and Doctor of Philosophy (Ph.D.) degrees in Film and Television.

Admission
Students are admitted for Fall Quarter only. Admission is competitive, and only a limited number of students are accepted each year in each program. The department does not have an application in addition to the one used by UCLA Graduate Application Processing, and no screening examination prior to admission is required. For further information, contact the Student Services Office, School of Theater, Film, and Television, 103 East Melnitz Building, UCLA, Los Angeles, CA 90024-1622.

Additional admission requirements are noted under each specific program.

Master of Arts Degree

Admission
For the critical studies specialization, in addition to the UCLA graduate application, you must submit a sample of scholarly or critical writing, a statement of purpose, three letters of recommendation, Graduate Record Examination (GRE) scores, and proof of competence in English for international students whose native language is not English (e.g., TOEFL scores). Consult the Student Services Office, School of Theater, Film, and Television, 103 East Melnitz Building, UCLA, Los Angeles, CA 90024-1622, for further information.

Major Fields or Subdisciplines
The program requires that you be conversant in both film and television, as you are tested on each in the comprehensive examination.

Research Tool Requirement
You may be required to demonstrate competence in a foreign language if necessary to support the research in your area of study. The language requirement may be met by (1) passing the Graduate School Foreign Language Test (GSFLT) in French, Spanish, German, or Russian with a score of 500 or better, (2) completing a level five foreign language course or equivalent with a grade of C or better, or (3) passing a UCLA language examination given in any foreign language department.

In certain cases, with committee approval, courses in statistics or computer science may fulfill the research tool requirement.

Course Requirements
A minimum of nine courses is required, five of which must be 200-level courses in film and/or television history, theory, or criticism. Of the five courses, Film and Television 200, 206C, 208B, and 217 are required core courses. The remaining courses must be selected from courses 203, 205A, 208A, 208C, 209A, 209B, 209D, 210, 211A, 211B, 219, 220, 221, 222, 223, 270, 271, 276, 277, or 298A-298B (only as approved by the chair). All five graduate-level courses must be completed with a grade of B or better. You select electives to complete the minimum requirement of nine courses with the advice and approval of the film and television studies committee.

Eight units of courses 596A, 596B, 596C, and 598 may be applied toward the total course requirement for the degree; however, none of these courses may be applied toward the minimum graduate course requirement.

Comprehensive Examination Plan
The written examination consists of two days of testing, four hours each day, and examines a broad range of knowledge in film and television. After completion, your committee grades you either pass or fail. You may be reexamined on any failed portions of the examination when it is next regularly scheduled, or within the year following the term in which it was first taken. The examination is required of all M.A. students applying to the Ph.D. program.

Thesis Plan
Under special circumstances and with the approval of the critical studies committee, you may propose a thesis in lieu of taking the comprehensive examination. Guidelines may be obtained from the chair of the critical studies program.

Master of Fine Arts Degree

Admission
Applicants with diverse backgrounds and undergraduate majors in areas other than theater, film, or television arts are encouraged. You must state clearly your degree objective (M.F.A.) and the area of specialization desired within the program: animation, film/television production, screenwriting, or producers program. All areas of specialization require three letters of recommendation.

If you intend to concentrate in film/television production, you must submit a description of the film or television project you may possibly undertake in graduate study. The description should be in proposal or treatment form, two to three pages in length.

If you intend to concentrate in writing, you must submit samples of creative writing such as screenplays, short stories, plays, poems, etc.

If you intend to concentrate in animation, you must submit a description of an animation
Ph.D. Degree
Admission
Completion of an M.A. or M.F.A. degree equivalent to that offered by the UCLA Department of Film and Television is required. In exceptional cases, students with an M.A. outside the field are considered for direct admission to the program. The dossier submitted for admission must contain a letter describing your reasons for wishing to earn the Ph.D., the master’s thesis or writing samples that demonstrate a high level of ability to write criticism or historical narrative, three letters of recommendation, GRE scores, and proof of competence in English for international students whose native language is not English (e.g., TOEFL scores).

Further information is available from the Student Services Office, School of Theater, Film, and Television, 103 East Melnitz Building, UCLA, Los Angeles, CA 90024-1622, for further information.

Foreign Language Requirement
There is no foreign language requirement for the M.F.A. degree.

Course Requirements
A total of 18 courses (72 units) is required, five of which must be at the graduate level. At least three courses must be in the 200 series in film history, aesthetics, or structure. Course requirements for each specialization are available from the Student Services Office.

Only 16 units of Film and Television 596 may be applied toward the total course requirement, and only eight of these units may be applied toward the minimum graduate course requirement. Only four units of course 596A and four units of course 596B may be taken prior to advancement to candidacy. Courses 596C through 596F may be taken only after advancement to candidacy.

Fieldwork and internships are not required but may be taken as courses which may be applied toward the degree.

Comprehensive Examination Plan
The comprehensive plan is satisfied by fulfilling projects appropriate to your specialization. No later than the beginning of your final term in residence, you must submit for approval to the M.F.A. committee the appropriate documents for advancement to candidacy and a list of at least three faculty members who will serve on your committee. Consult the Student Services Office for further information.

M.A.-African Area Studies/M.F.A.-Film and Television
The Department of Film and Television and the African Area Studies Program have an articulated degree program which allows students to combine study for the M.A. in African Area Studies and the M.F.A. in Film and Television. You must be accepted by both areas to pursue this degree program. Articulated programs do not allow course credit to be applied toward more than one degree. Interested students should write to the Graduate Adviser, Student Services Office, UCLA School of Theater, Film, and Television.

M.A.-Film and Television
The Department of Film and Television offers concentrations for the M.A. in Film and Television. The M.A. is designed to allow concentration and degree completion in six areas: *theory, and criticism*. This includes courses in history, history and criticism, theory, production, criticism, and research. The M.A. is designed to prepare students for graduate study, teaching, and television. The M.A. is a two-year program.

Teaching Experience
Every student must complete Film and Television 496.

Qualifying Examinations
At the end of your second term in residence, you must take a preliminary oral examination conducted by the critical studies committee. The committee tests your progress to date and determines your general fitness to continue in the doctoral program. You present a plan of study at this time; guidelines are available from the Student Services Office.

After completion of all language and course requirements, you are eligible to take and required to pass the Ph.D. written qualifying examination, which is given in Spring Quarter only and is administered in two four-hour segments on alternate days in the same week. You may be reexamined on any failed portions of the examination or the entire examination once only, when it is next regularly scheduled, or within the year following the term in which it was first taken. Information regarding the examination is available from the Student Services Office.

Following successful completion of the Ph.D. written qualifying examination, approval of a dissertation prospectus, and formation of a doctoral committee, you may take the University Oral Qualifying Examination which is devoted to the merits and feasibility of your dissertation prospectus. You are advanced to candidacy on successful completion of this examination.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Dissertation/Final Oral Examination
A dissertation demonstrating your ability to carry out independent and significant inquiry in a historical, theoretical, or critical field of film and/or television is required. Final award of the Ph.D. depends on successful completion of the dissertation.

A final oral examination, held after completion of the dissertation, may be required at the option of the dissertation committee.

Upper Division Courses
106A. History of the American Motion Picture (6 units). Lecture/screenings, eight hours; discussion, one hour. Historical and critical survey, with examples, of the 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.

106B. History of the European Motion Picture (6 units). Lecture/screenings, eight hours; discussion, one hour. Historical and critical survey, with examples, of the 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.
106C. History of African, Asian, and Latin American Film (6 units). Lecture/screenings, eight hours; discussion, one hour. Critical, historical, aesthetic, and social study — together with exploration of the ethnic significance — of African, Asian, Latin American, and Mexican films.

107. Experimental Film (6 units). Lecture/screenings, eight hours; discussion, one hour. Study and analysis of unconventional developments in the motion picture.

108. History of Documentary Film (6 units). Lecture/screenings, eight hours; discussion, one hour. Philosophy of documentary approach in the motion picture. Development of documentary technique, with emphasis on the search for documentary style.

110A. History of Broadcasting. Lecture/viewing, six hours; discussion, one hour. Critical survey of broadcasting here and abroad. Consideration of social responsibilities and educational implications of broadcasting.

110B. Problems and Issues in Broadcast Media. Lecture, four hours; discussion, two hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of current issues and problems related to public and commercial broadcast programming and management, including analysis of contemporary criticism of broadcast media.

110C. World Media Systems. Lecture/viewing, four hours; discussion, one hour. Prerequisites: course 10A or equivalent, upper division standing, consent of instructor. Global analysis of internal and external broadcasting services, with emphasis on their motives, aims, technologies, and programming. Special attention to political, economic, and regulatory constraints and common world media issues.

112. Film and Social Change (6 units). Lecture/screenings, eight hours; discussion, one hour. Development of documentary and dramatic films in relation to and as a force in social development.

113. Film Authors (6 units). 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.

114. Film Genres (6 units). Lecture/screenings, eight hours; discussion, one hour. Study of a specific genre (e.g., Western, dramedy, cycle, musical, silent epic, comedy, social drama). May be repeated once for credit with consent of department and topic change.

115. Stylistic Studies for the Moving Image: Theories and Practice (6 units). Lecture, four hours; screening, one hour. Film of the moving image. Theories and practical knowledge of today's film and television industries.

116. Film Editing. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Emphasis on film and television majors. Techniques of image manipulation, design, and art direction. May be repeated twice for credit (if repeated, students required to design and complete a short film).

117. Film and Television Sound Recording. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. History and theory of sound recording for film and television majors.

118. Film and Television Sound Recording. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of problems faced by a film director and various approaches to their solution. May be repeated twice for credit.

119. Film Directing. Laboratory, six hours. Prerequisites: courses 10B, 185, consent of instructor. Introduction to and supervised exercises in television multicamera direction, with emphasis on the creation of nonsynch sound tracks.) for short film begun in course 175A.

120. Producing and Directing Field Television Programming (6 units). Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of problems faced by a film director and various approaches to their solution. May be repeated twice for credit.

121. Producing and Directing Field Television Programming (6 units). Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of problems faced by a film director and various approaches to their solution. May be repeated twice for credit.

122. Animation Workshop (4 or 8 units). Laboratory, to be arranged. Prerequisite: consent of instructor. Course in film and television animation. May be repeated for a maximum of 16 units.

123. Animation Design in Film and Television. Lecture, three hours; laboratory, three hours. Prerequisite: consent of instructor. Study of principles and techniques of film and television sound recording, including supervised exercises.

124. Animation Design in Film and Television. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of problems faced by a film director and various approaches to their solution. May be repeated twice for credit.

125. Color Cinematography. Lecture, three hours. Laboratory, three hours. Prerequisites: courses 185, 193A, consent of instructor. Research and practice in color photography, with emphasis on present-day methods in film and television production. Comparative study of additive and subtractive systems as employed by Technicolor, Ansco, Kodak, and others. Laboratory on various aspects of film and television sound recording, including supervised exercises.

126. Film Criticism. Lecture, four hours; laboratory, to be arranged. Study and practice in film criticism.

127. Acting for Film and Television. Laboratory, six hours. Prerequisite: consent of instructor. Project in acting for film and television. May be repeated twice for credit.

128. Media and Ethnicity. Prerequisite: consent of instructor. Utilizing the American experience, exploration of impact and uses of media on contemporary American ethnic communities. Role and techniques of media influence besides community utilization and production.

129. Contemporary Topics in Theater, Film, and Television (2 units). (Same as Theater CM129.) Lecture, two hours; laboratory, to be arranged. Prerequisite: upper division or graduate standing in theater, film and television. Examination of creative process in theater, film, and television, with consideration of writing, direction, production, and performance. Over-view 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 for a maximum of six units. Concurrently scheduled with course CM229.

130A. Screenwriting Fundamentals (2 units). Lecture, one hour. Corequisite for graduate students enrolled in course 431. Examination of screenwriting fundamentals: structure, scene development, conflict, locale, theme, history of drama. Review of authors such as Aristotle, Egi.

130B. Screenwriting Fundamentals Workshop. Discussion, three hours. Prerequisite: consent of instructor. Time-limited work in film and television writing. May be repeated for a maximum of 12 units.

131. Nontheatrical Screenwriting for Film and Television (4 or 8 units). Discussion, three hours. Prerequisite: consent of instructor. Research and writing of documentary, technical, educational, industrial, and proprietary scripts. May be repeated for a maximum of 12 units.

135. Advanced Screenwriting Workshop (8 units). Workshop, three hours. Prerequisite: course 130B and/or consent of instructor. Course in film and television screenplays to be developed. May be repeated twice for credit.

136. Basic Cinematography: Film and Electronic. Lecture, three hours; laboratory, three hours. Prerequisite: consent of instructor. Limited to film and television majors. Study of basic cinematography photography through exposure, lighting, and selection of film, camera, and lens. Supervised projects in photography to complement material covered in lectures.

151. Film and Television Image Laboratory. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Limited to film and television majors. Introduction to principles and practices of film and television sound recording, including supervised exercises.

152. Film and Television Sound Recording. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of problems faced by a film director and various approaches to their solution. May be repeated twice for credit.

153. Color Cinematography. Lecture, three hours. Laboratory, three hours. Prerequisites: courses 185, 193A, consent of instructor. Study of color photography, with emphasis on present-day methods in film and television production. Comparative study of additive and subtractive systems as employed by Technicolor, Ansco, Kodak, and others. Laboratory on various aspects of film and television sound recording, including supervised exercises.

154. Film Editing. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Limited to film and television majors. Introduction to artistic and technical problems of film editing, with practical experience gained from editing on the set. Laboratory on various aspects of film and television sound recording, including supervised exercises.

155. Film Directing. Laboratory, to be arranged. Prerequisite: consent of instructor. Study of problems faced by a film director and various approaches to their solution. May be repeated twice for credit.

156. Television Directing. Laboratory, six hours. Prerequisites: courses 10B, 185, consent of instructor. Introduction to and supervised exercises in television multicamera direction, with emphasis on the creation of nonsynch sound tracks for short film begun in course 175A.

175A-175B. Undergraduate Film Production (8 units). Lecture, four hours; laboratory, eight hours. Prerequisite: consent of instructor. Limited to film and television majors. Not open to students who have completed courses 166, 167. 175A. Lecture, four hours; laboratory, eight hours. Writing, preproduction, and production for a short 16mm nonsynch film. 175B. Lecture, three hours; laboratory, eight hours. 175A-175B. Overview of Motion Picture Industry. Discussion, three hours. Prerequisite: consent of instructor. Evolution of economic and business structure of motion pictures from early beginnings to present, stressing methods of operation and influence of social and economic pressures that contributed to changing financial, distribution, and exhibition practices.

176A. Undergraduate Television and Video Production (4 units). Lecture, six hours; laboratory, to be arranged. Prerequisites: course 181A, consent of instructor. Research and practice in creative writing and planning for animated film. May be repeated for a maximum of 16 units.

181A. Animation Design in Film and Television. Lecture, three hours; laboratory, three hours. Prerequisite: consent of instructor. Study of principles and techniques of film and television sound recording, including supervised exercises.

181C. Animation Workshop (4 or 8 units). Lecture, six hours; laboratory, to be arranged. Prerequisite: course 181A, consent of instructor, storyboard at first class meeting. Organization and integration of various creative activities in animation to form a complete study of a selected topic. May be repeated for a maximum of 16 units.

185. Undergraduate Television and Video Production (6 units). Lecture, six hours (additional hours to be arranged). Prerequisites: course 185, consent of instructor. Introduction to field or remote broadcasting utilizing multiple- and single-camera video. Educational goals in student productions to be clarity of concept, simplicity in production, and meeting deadlines. 187B-187C. Instruction and supervised productions of the remote experience, with focus on development and execution of concept. Experience closely patterned after professional experiences in working with talent, production venues, and production logistics of remote on-location video programs.

188. Field Experience, to be arranged. Prerequisite: consent of instructor. Limited to senior film and television majors. Internship at film and television industry organizations. May be taken for a maximum of eight units.

193A. Field Internship. Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisites: courses 175A-175B, consent of instructor. Study of principles and techniques of film curriculum and research, including but not limited to acquisitions, cataloging, storage, and retrieval systems. Special attention to application of new technology, equipment, and program materials to film archival/library design for research and teaching.
Graduate Courses

Certain graduate courses concerned with individual student projects may be repeated for credit on recommendation of the departmental graduate adviser. Graduate courses are not open to undergraduate students.

200. Bibliography and Methods of Research in Film and Television (6 units). Discussion, three hours; laboratory, six hours (additional screenings and/or video laboratory work as required). Prerequisites: graduate standing, consent of instructor. Examination of study methods, techniques, and resources relevant to film and television research. May be repeated twice for credit.

205. Seminar in Film and Television (2 to 8 units). Prerequisites: senior standing. 3.0 GPA in major, consent of instructor. May be taken for a maximum of eight units.

209B. Seminar: Fictional Film (6 units). Discussion, three hours; film screenings, four to six hours. Prerequisites: graduate standing, consent of instructor. Study of films relevant to contemporary culture. May be repeated once for credit.

209D. Seminar: Animated Film. Discussion, three hours; laboratory, four hours. Prerequisites: graduate standing, consent of instructor. Critical study of animated films, historical, cultural, and social aspects of animation films. May be repeated once for credit.

210. Seminar: Contemporary Broadcast Media. Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Examination of function and methods of writing film and television history as seen in works of key historians in the U.S. and Europe. May be repeated twice for credit.

211B. Seminar: History of Film. Discussion, three hours; film screenings, four to six hours. Prerequisites: graduate standing, consent of instructor. Studies in interrelationships between film and fine arts, or performing arts, or literature, with emphasis on ways in which other art forms have influenced film. May be repeated twice for credit.

215A. Seminar: European Film History (6 units). Discussion, three hours; film screenings, four to six hours. Prerequisites: course 100B, graduate standing, consent of instructor. Studies in selected historical movements such as expressionism, surrealism, realism, psychoanalysis, New Wave, etc. May be repeated twice for credit.

216C. Seminar: American Film History (6 units). Discussion, three hours; film screenings, four to six hours. Prerequisites: course 106A, graduate standing, consent of instructor. Study of central topics in American film history. May be repeated twice for credit.

220. Seminar: Experimental Film (6 units). Discussion, three hours; film screenings, four to six hours. Prerequisites: graduate standing, consent of instructor. Study of major aesthetic and critical movements in film and television. May be repeated once for credit.

223. Seminar: Visual Perception. Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Aesthetic, psychological, and physiological principles of vision as they relate to ways in which man "sees" film and television, with emphasis on ways in which these are different from other visual experiences.

224. Computer Applications for Film Study. Survey of computer applications relevant to film study, principally computer-aided film editing and computer capture technology.

229. Seminar: Television Curatorship. Lecture, two hours; laboratory, two hours. Prerequisites: upper division or graduate standing in television or film. Examination of creative and technical aspects of television production and construction. May be repeated for a maximum of six units. Concurrently scheduled with course CM123.

230. Production Planning in Film and Television. Discussion, three hours. Prerequisite: consent of instructor. Analysis of procedures and problems in preparing a script for film or television production, with emphasis on role of production manager in breaking down script into shooting schedule, planning postproduction, and preparing budgets.

273. Seminar: Film and Television. Lecture, two hours; discussion, two hours. Prerequisites: graduate standing, consent of instructor. Study of key aesthetic questions of analysis and evaluation in film and television. Examination of creative process in relation to central works of motion picture criticism. May be repeated once for credit.

279. Seminar: Television Criticism. Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Study of key aesthetic questions of analysis and evaluation in film and television. Examination of creative process in relation to central works of motion picture criticism. May be repeated once for credit.

279. Seminar: Film and Television. Discussion, three hours; film screenings, four to six hours. Prerequisites: graduate standing, consent of instructor. Study of key aesthetic questions of analysis and evaluation in film and television. Examination of creative process in relation to central works of motion picture criticism. May be repeated once for credit.

289. Seminar: Television and Society. Discussion, two hours; laboratory, three hours. Prerequisites: graduate standing, consent of instructor. Study of television history as seen in works of key historians in the U.S. and Europe. May be repeated once for credit.

291. Seminar: Film and Television. Discussion, three hours; film screenings, four to six hours. Prerequisites: graduate standing, consent of instructor. Study of television history as seen in works of key historians in the U.S. and Europe. May be repeated once for credit.

293. Seminar: Television and Society. Discussion, three hours; film screenings, four to six hours. Prerequisites: graduate standing, consent of instructor. Study of television history as seen in works of key historians in the U.S. and Europe. May be repeated once for credit.

293. Seminar: Television and Society. Discussion, three hours; film screenings, four to six hours. Prerequisites: graduate standing, consent of instructor. Study of television history as seen in works of key historians in the U.S. and Europe. May be repeated once for credit.
407. Video Documentary Workshop (8 units). Laboratory, 12 hours. Prerequisite: consent of instructor. Limited to film and television graduate students. Exploration of documentary video, including screening a variety of international and national documentary films. Production of short documentary project using single-camera field production techniques.

408A-408B. Video Editing. Discussion, four hours; laboratory, to be arranged. Prerequisite: consent of instructor. Limited to film and television graduate students. Individual instruction in electronic editing.

409. Directing the Actor for the Camera Workshop. Workshop, six hours; discussion, to be arranged. Prerequisite: consent of instructor. Limited to film and television graduate students. Individual instruction in electronic editing.

410A-410B-410C. Film Production Workshops (8 units each). Laboratory, 12 units, 8 units. Prerequisite: 405, 409, 410A-410B-410C, 433, 408A-408B, consent of instructor. Limited to 12 film and television graduate students per section. Production of a 10-minute fictional film or video project. Students budget, preplan, and complete photography on location and/or in studio by end of first term. In second term students must complete postproduction of their projects.

411. Lighting for Film and Television (6 units). Lecture, three hours; discussion, one hour; laboratory, six hours. Prerequisite: consent of instructor. Limited to film and television graduate students. Lectures, supervisions on a stage or in an exterior, screenings of scenes, and discussions aimed at learning to master the lighting to create an appropriate mood or atmosphere of a premeditated scene recorded on a film or through an electronic system.

418. Cinematography and Directing (12 units). Lecture, six hours; discussion, two hours; laboratory, 16 hours. Prerequisites: course 417, consent of instructor. Limited to film and television graduate students. Supervised filming of short dramatic projects on the sound stage and at exterior locations that explore the complexities of the process, emphasizing balance and collaboration essential to both directing and photography. Emphasis was technical, production, and creative aspects.

419. Advanced Cinematography. Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: courses 417, 418, consent of instructor. Limited to film and television graduate students. Advanced study of principles of cinematography, with emphasis on exposure, lighting, and selection of film, camera, and lenses.

423A. Direction of Actors for Film and Television. Lecture, four hours; workshop, to be arranged. Prerequisite: consent of instructor. Limited to film and television graduate students. Required of all production majors shooting a fiction thesis. Exercises in analysis of character and environment in order to maintain continuity from shot to shot.

423B. Advanced Direction of Actors for Film and Television. Studio workshop, six hours. Prerequisites: course 423A, consent of instructor. Limited to film and television graduate students. Advanced study and practice of directing actors before a camera. Emphasis on developing techniques to enhance and communicate between director and actor on the set in order to maintain continuity from shot to shot.

433. Writing the Short Screenplay. Lecture, three hours. Prerequisite: consent of instructor. Limited to film and television graduate students. Conception, development, and writing of a 20-minute film or video screenplay, with focus on story, character, and dramatic, or experimental, medium, to be produced in one of the advanced workshops.

434. Advanced Screenwriting (8 units). Discussion, three hours. Prerequisite: course 135, consent of instructor. Limited to film and television graduate students. Required of students planning fiction projects. Final screenwriting course in which students write their thesis project (no longer than 30 minutes in length).

437. Nontheatrical Writing for Film and Television. Discussion, three hours. Prerequisite: consent of instructor. Limited to film and television graduate students. Principles and practices of film and television screenwriting. May be repeated twice for credit.

442A. Film and Television Sound Recording. Lecture, three hours; laboratory, four hours. Prerequisite: consent of instructor. Limited to film and television graduate students. Principles and practices of sound recording and editing, including supervised exercises.

452B. Music Recording Workshop. Lecture, four hours; laboratory, eight hours. Prerequisite: consent of instructor. Supervised exercises in studio music recording techniques, with emphasis on special requirements for motion pictures and television.

452C. Film and Television Sound Recording. Lecture, three hours; laboratory, three hours. Prerequisites: consent of instructor. Limited to film and television graduate students. Principles and practices of motion picture and television sound production, including supervised exercises.

454A-454B. Advanced Film Editing. Discussion, three hours; laboratory, to be arranged. Prerequisite: consent of instructor based on submission of a rough cut and/or copy of screenplay. Limited to film and television thesis and advanced project students in postproduction phase of thesis or advanced project. Organization and operations of postproduction process.

459B. Directing for Film and Television. Lecture, three hours. Prerequisite: consent of instructor. Limited to film and television graduate students. Analysis and exploration, with specific scenes, of differences and many similarities in directorial approach to same literary material in theater, film, and television.
Theater

103 East Melnitz Building, (310) 825-5761

Professors
Gilbert Bates, M.A., Dean
Michael J. Hackett, Ph.D.
Robert Isreal, M.F.A., Cochair
Neal Jampolis, B.F.A.
Dunya Ramicova, M.F.A.
Mel Shapiro, M.F.A.
William D. Ward, M.F.A.

Professors Emeriti
Walden P. Doyle, Ph.D.
John R. Caulk, M.A.
Donald B. crate, M.A.
Burdette Fitzgerald
Henry Goodman, Ph.D.
Robert H. Heitman, Ph.D.
John H. Jones, M.A.
Joanne T. McMaster, M.F.A.
Sylvia E. Moss, B.A.
Carl R. Mueller, Ph.D.
George L. Schaefler, B.A.
Norman F. Welsh, B.A.
William T. Wheatley, Ph.D.

Associate Professors
Alan M. Armstrong, M.F.A.
Gary A. Gardner, Ph.D.
Pattina M. Harter, Ph.D.
Michael S. McLain, Ph.D.
Thomas J. Orth, M.F.A.
Beverly J. Robinson, Ph.D.
Rich Rose, M.F.A., Cochair
Carol J. Sorgenfre, Ph.D.
Margaret L. Wilbur, M.F.A.

Assistant Professor
Edit Villarreal, M.F.A.

Lecturers
John Brandt, A.A.
Ed DeShae
Jacques Heim
Gordon Hunt, B.A.
Daniel A. Iaconetti, M.B.A.

Visiting Professors
Michael Bloom, Ph.D.
David Craig
Gordon Davidson, M.A.
Katherine Heimink
Leon Katz, Ph.D.
David Schweizer, B.A.
Peter Sellars, B.A.

Visiting Associate Professors
Ellen Geer
Hanly Gologamah, B.F.A.
Salomone Jeni
Jose Luis Valencuela

Adjunct Assistant Professors
Oskar Eustis
Madeline Kozlowski, M.F.A.
Anna Krajewska-Wieszek, Ph.D.
Roberta Levitow, B.A.
Corey Beth Madden, B.A.
Tim Millor
Bill Reichlum, M.F.A.

Scope and Objectives
UCLA's theater program offers comprehensive training for the profession, as well as serious study of theater's 2,000-year 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, design, or the comprehensive study of theater, all within the rigorous liberal arts framework of the B.A. degree. At the graduate level, students in the M.F.A. program develop as artists and are given professionally training in the skills of theater, while Ph.D. students engage in critical investiga-
Bachelor of Arts Degree

The Bachelor of Arts degree provides a liberal education and preprofessional training in a program that combines the study of the arts, humanities, and sciences with exploration of the principal areas of theater practice — performance, playwriting, directing, design, technical theater, and the history and criticism of theater and drama. The program is designed to ensure that students will graduate with a sound humanistic and experiential base for further pursuits in education and in life beyond the University.

The comprehensive program provides a liberal education by combining critical study of theater with experiential practice in one or more of its component parts. Students explore each of the principal areas of theater practice — acting, directing, design, 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 courses in playwriting, directing, and theater history and drama, leading to a culminating research or creative experience in the senior project.

The acting program includes specialized and advanced courses that prepare students for careers in performance. Lower division courses introduce improvisation, sense memory, actors, objectives, and character work. There is some performance in projects, but emphasis is on class and studio work. Upper division advanced courses explore verse, scene study, comedy, cabaret, and performance for film and video. Performance is accentuated in the senior year which culminates in a senior production project combining research of character and play with performance.

The design and production program introduces design principles and investigates the design of scenery, lighting, costumes, and sound for theater, film, and television in lower division courses. Three design concentrations are available at the upper division level — scenic and lighting design, scenic and costume design, and lighting and sound design. Students select from an array of design skills courses to develop proficiency in essential areas of rendering, drafting, painting, and technology. Courses in art, history, and philosophy build an understanding of the social history of visual ideas. A sequence of courses in each concentration examines design principles and practice specific to each field, leading to assignment as a member of a production design team and the preparation and realization of designs for a production. The senior project includes a design portfolio project which culminates in the preparation of complete designs and drawings for a production and the assembly of a design portfolio and résumé.

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. On receipt of your application the department notifies you of the screening process, which includes submission of a written personal essay, letters of recommendation, and an interview and/or audition. Information on the scheduling of the audition/interview is sent to each applicant with the departmental request for supplemental materials. Every applicant must complete the interview portion of the application process. The audition is optional for all students except those wishing to qualify for admission on the basis of their ability in performance. Applicants may submit materials for consideration in one or more of the following areas: acting, directing, design and technical theater, playwriting, and history and criticism.

Students admitted to the theater major for Fall Quarter 1993 and thereafter are expected to fulfill the requirements listed below. Continuing students admitted prior to Fall Quarter 1993 should consult the 1992-93 UCLA General Catalog.

Preparation for the Major

Required: Theater 11, 13, 14A-14B-14C, 15, 50. Students in the comprehensive and design programs must also take course 12; those in the acting program must also take 21A-21B.

The Major

Required: A total of 58 upper division units, including Theater 101A-101B-101C and 150, and a specialization (42 units) from one of the following: (1) acting program — courses 115, 116A-116B, 116C, 124A, 124B, 125A, 125B, 126A-126B-126C, 127A-127B-127C, 180; (2) comprehensive program — courses 106, 180, and 34 elective units; (3) design and production program — course 159, six units of design skills courses, and one of the following emphasis sequences: (a) 151A-151B, 152A-152B, 152C, (b) 151A-151B, 151C, 153A-153B, 153C, (c) 152A-152B, 152C, 154A-154B, 154C.

Through certain of these required courses, you are responsible for completing specific production assignments related to production activity of the theater curriculum.

Graduate Study

The department offers three-year professional training programs leading to the Master of Fine Arts (M.F.A.) in Theater, with specializations in acting, directing, and design and production (scenic design, costume design, lighting design, sound design, or production management/technology). The producers program and playwriting are two-year specializations that also lead to the M.F.A. in Theater. The department also offers the Doctor of Philosophy (Ph.D.) in Theater, with a history/criticism emphasis, and the Master of Arts (M.A.) degree which may be obtained only en route to the Ph.D.

Admission

Students are admitted for Fall Quarter only. Admission is competitive, and only a limited number of students are accepted in each program. The department does not have an application in addition to the one used by UCLA Graduate Application Processing. No screening examination prior to admission is required; however, the screening process may involve letters of recommendation, an audition, portfolio review, or interview. For further information, contact the Student Services Office, School of Theater, Film, and Television, 103 East Meinitz Building, UCLA, Los Angeles, CA 90024-1622. Applicants are advised that all records submitted in support of an application, including creative work, are not returnable, and the department is not responsible for such material.

In addition to satisfying minimum University requirements for graduate admission, you must (1) have completed an undergraduate major in any area comparable to that offered at UCLA and (2) provide the department with at least three letters of reference and a statement of purpose.

Additional admission requirements are noted under each specific program.

Master of Arts Degree

Admission

Note: Effective Fall Quarter 1993 the department has announced it will not accept applications to the M.A. program for Fall Quarter 1994. Interested students should contact the Student Services Office for further information.

The M.A. degree is awarded only in conjunction with study in the Ph.D. degree program to students who have successfully completed one year of graduate work and all requirements for the M.A. degree, and who either do not wish to continue or are not passed by the Ph.D. committee to continue in the doctoral program. Requirements include scores on the Graduate Record Examination (GRE), a sample of scholarly or critical writing, a statement of purpose, and other information (résumé, portfolio, script, production book, interview, etc.) that may be required to establish the quality of your work in the program. Consult the Student Services Office, School of Theater, Film, and Television, 103 East Meinitz Building, UCLA, Los Angeles, CA 90024-1622, for further information.

Major Fields

The program leads to a general graduate degree, though there are opportunities, through your electives and thesis or research paper topics, to stress a particular interest such as acting,
design, directing, dramatic writing, and theater history and criticism.

**Foreign Language Requirement**
The program does not require a foreign language, but you are urged to develop proficiency in either French, German, Spanish, or Italian.

**Course Requirements**
You are required to complete a minimum of 10½ courses (42 units), five of which must be at the graduate level, in at least one year of intensive study, laboratory exercises, and research leading to the successful completion of either the thesis or comprehensive examination plan. You are required to take an active part in the production program of the department as partial fulfillment of the degree requirements.

The required courses are Theater 245B and C272 (a two-unit course to be taken three times). After consultation with your adviser, you select eight other courses, including one graduate course in theater history (205A, 205B, or 205C), one graduate course in theater production theory (241, 290A, or 290B), and six other courses which emphasize production practice or historical study. Students accepted for joint M.A. and Ph.D. programs are required to take courses 205A-205B-205C.

Only eight units from the 596 series may be applied toward the total course requirement, and only four of these units may be applied toward the minimum graduate course requirement. No 596 courses may be applied toward the total course requirement.

**Thesis Plan**
Before beginning work on the thesis, you must obtain approval of a subject dealing with the history, aesthetics, criticism, or techniques of the theater and a general plan of investigation from the Ph.D. critical studies committee. A thesis committee is formed when you are within one term of completing the coursework, at which time you are eligible to advance to candidacy. You must present the adviser and the committee with a prospectus of the thesis and a petition to advance to candidacy. Both are used as the basis for approval.

If your thesis fails to pass the committee, you may present a rewritten version for approval. The number of times a thesis may be presented depends on assessments made by the committee.

**Comprehensive Examination Plan**
If you elect this plan, you must complete an examination consisting of a research paper which may be associated with four units of Theater 596A, a one-hour oral defense of the paper, and a two-part, six-hour written examination covering theater history and production practice. The examination normally occurs during your final term in residence, at which time you should have advanced to candidacy.

**Master of Fine Arts Degree**

**Admission**
Students are selected on the basis of ability to work on an advanced level and professional promise. At the time of application to the Graduate Division, you must indicate the M.F.A. degree objective and satisfy the specific admission requirements of one of the following areas of specialization within the M.F.A. program.

- **Acting** — Submit a complete résumé and audition for the M.F.A. committee or its representative.
- **Design and Production** (scenic, costume, lighting, production management/technology, or sound) — Submit a résumé and related coursework; provide evidence of ability appropriate to each emphasis as demonstrated by sketches, renderings, photographs, production books, plots, technical papers, reviews, or other appropriate exhibits. In addition to presentation of the portfolio, an interview may be required by the department.
- **Directing** — Submit a résumé and evidence of production work, including prompt books, photographs, reviews, critical commentaries; provide an essay outlining a directorial approach to a selected play. An interview may be required by the department.
- **Playwriting** — Submit a résumé and examples of creative writing which may include dramatic writing or narrative fiction such as full-length plays, one-act plays, and screenplays. At least one stage play must be included. An interview may be required by the department.
- **Producers Program** — Submit a résumé, examples of related coursework, and a statement outlining your areas of specific interest and intent. An interview may be required by the department following initial application review by the faculty committee.
- **Writing for the Stage** — Submit a résumé and examples of related coursework, and a statement outlining your areas of specific interest and intent. An interview may be required by the department.

**Comprehensive Examination Plan**
The comprehensive program is satisfied by fulfilling a series of creative projects appropriate to your specialization. On completion of the final creative project or in the last term in residence, whichever is last, you must file for advancement to candidacy. The committee then reviews and evaluates your record. Your participation in the final review is at the discretion of the committee.

**Ph.D. Degree**

**Admission**
Note: Effective Fall Quarter 1993 the department has announced it will not accept applications to the Ph.D. program for Fall Quarter 1994. Interested students should contact the Student Services Office for further information.

You must submit evidence of potential as a practicing scholar as indicated by (1) breadth and depth of advanced coursework in history, theory, and criticism, (2) imagination and quality of scholarly writing, and (3) academic achievements and potential as indicated by grade-point average, Graduate Record Examination (GRE) scores, awards, scholarships, fellowships, etc. Additionally, you should demonstrate awareness and experience in one of the major fields of the theater, such as directing, dramaturgy, or design.

Students may be admitted with an M.F.A., M.A., or B.A. degree. The dossier submitted for admission must contain a statement of purpose indicating areas of interest appropriate to the doctoral degree, as well as a thesis or other writing samples.

Further information is available from the Student Services Office, School of Theater, Film, and Television, 103 East Melnitz Building, UCLA, Los Angeles, CA 90024-1622.

**Major Fields or Subdisciplines**
The areas of specialization for the M.F.A. program are as specified above.

**Foreign Language Requirement**
There is no foreign language requirement for the M.F.A. degree.

**Course Requirements**
In acting, a total of 23½ courses (94 units) is required; in directing, a total of 26½ courses (106 units); and in design and production (scene-
Foreign Language Requirement
Mastery of one foreign language approved by the Ph.D. committee is required and must be demonstrated by one of the following methods: (1) passing the Graduate School Foreign Language Test (GSFLT) in French, Spanish, German, or Russian with a score of 500 or better, (2) completing a level five foreign language course or equivalent with a grade of C or better, or (3) passing a UCLA language examination given in any foreign language department. The foreign language requirement may be completed after admission to the Ph.D. program; however, you are encouraged to complete five quarters or three semesters of a foreign language appropriate to Ph.D. research objectives prior to admission. Language courses taken toward fulfillment of the language requirement cannot be applied toward the degree.

Course Requirements
During the first six terms (two academic years), you must complete a minimum of 12 graduate courses (200 or 500 level) and two professional courses (Theater 495A and 495B). Courses 216A, 216B, 216C are required. The remaining nine courses are elective graduate courses, seminars, or tutorials. Of these electives, no more than four may be taken outside the department and no more than two may be tutorials. In addition, the distribution of electives must include at least one each in the areas of Western or non-Western theater study. These electives must augment the required courses so as to constitute a definable area of study associated with the dissertation topic. The dissertation is a historical, critical, analytical, or experimental study of a theater topic.

Teaching Experience
Every student must complete Theater 495A and 495B.

Qualifying Examinations
At the end of your second term in residence, you must take a preliminary oral examination administered by a representative committee of the faculty. The committee specifies the area of review, tests your background preparation and progress to date, and determines your general fitness to continue in the doctoral program. After completion of all language and course requirements, approval of a dissertation prospectus, and appointment to a dissertation committee, you are required to pass a written qualifying examination administered during four successive days. Information regarding the examination is available from the Ph.D. committee. With approval of the department chair, you may be reexamined on any failed portions of the examination when it is next regularly scheduled, or within the year following the term in which it was first taken. After you pass the written examination, a doctoral committee is formed to administer the University Oral Qualifying Examination. You are advanced to candidacy only on successful completion of this examination.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D. Dissertation/Final Oral Examination
A dissertation demonstrating your ability to carry out independent and significant inquiry in a historical, theoretical, or critical field of the area is required. Final award of the Ph.D. depends on successful completion of the dissertation.

A final oral examination, held after completion of the dissertation, may be required at the option of the dissertation committee.

Lower Division Courses
11. Contemporary Theater Issues
Lecture, three hours: Investigation of theater in contemporary American culture and society. Topics illustrated by faculty and guest speakers, visits to off-campus theaters, and reading from contemporary plays.

12. Introduction to Performance
Lecture, two hours: studio, four hours. Investigation of phenomenology 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, as well as development of acting, voice, and movement skills.

13. Play Reading and Analysis
Lecture, three hours. Provides a base for subsequent study in the theater. Development of techniques of play reading and habits of scholarship useful to further study in each of the theater’s subdisciplines, including acting, directing, design, playwriting, and critical study.

14A-14B-14C. Introduction to Design
Lecture, three hours; studio, four hours. Exploration of visual interaction of design. Study of styles and techniques of design, collaborative role of the designer, principles of design for scenery, lighting, costumes, and sound. Both technical and aesthetic groundwork for further study.

15. Introduction to Directing
Lecture, two hours; studio, four hours. Enforced requisite: course 11. Investigation 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.

20. Acting Fundamentals
Lecture/laboratory. Required of theater majors. Introduction to interpretation of drama through art of the actor. Development of individual insights, skills, and disciplines in presentation of dramatic material to an audience.

21A-21B. Introduction to Acting, Voice, and Movement
(2 units each)
Studio, six hours. Study of beginning acting technique: improvisation, games, and sense memory with emphasis on action and objective exercises, outline of Stanislavsky system, and development of voice and movement skills.

28A-28F. Acting, Voice, and Movement Workshops
(2 units each)
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.

50. Theater Production and Performance
(2 units)
Studio, six hours. Laboratory experience in various aspects of theater production, including production in a project or production, stage management, or member of a crew. May be repeated for a maximum of eight units.

Upper Division Courses
101A-101B-101C. History of World Theater and Drama
Lecture, three hours; discussion, one hour. Survey of the history of theater and drama in various cultural contexts, with emphasis on stage and movement traditions, and technology of development of theater as a social institution. 101A. Ritual and Religious Drama. Study of origins of theater and drama from oral literature, myths, and ritual in Sumerian, ancient Egyptian, Chinese, Greek, Greek and Roman, and ancient Chinese contexts. 101B. Rise of Secular Drama. Study of Renaissance secular theater and drama in Europe. 101C. Emergence of Realism and 20th-Century Responses. Study of realism and subsequent departures from realism in theater and drama.

102A. Theater of Japan
Lecture, three hours. Exploration of major theaters of Japan, from emergence of earliest theatrical activity to the present, including investigation of Noh, Bunraku, and Kabuki performance traditions.

102B. Theater of Southeast Asia
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.

102C. Cross-Cultural Currents
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.

102E. Non-European World
Lecture, three hours; discussion, one hour. Survey of theater forms of non-European world in which primary attention is concentrated on examination and analysis of traditional dance-drama and puppet theater, including theater of Southeast Asia, South Asia, the Middle East, and Africa. Analogous forms from European theater included for comparative purposes.

M103A. African American Theater History: Slavery to 1920
Lecture, three hours. Prerequisite: upper division standing. Exploration of African-American history, with emphasis on African-American artists in America from slavery to the mid-1900s.

M103B. African American Theater History: Minstrel Stage to Rise of the American Musical
Lecture, three hours. Prerequisite: upper division standing. Exploration of extant materials on history and literature of theater as developed and performed by African-American artists in America from the minstrel stage to the rise of the American musical.

M103C. Origins and Evolution of Chicano Theater
Lecture, three hours. Prerequisite: upper division standing. Exploration of development of Chicano theater from its beginning in legends and rituals of ancient Mexico to work of Luis Valdez (late 1960s).

M103D. Contemporary Chicano Theater
Lecture, three hours. Prerequisite: upper division standing. Study of recent trends in Chicano theater as reflected in works of contemporary Chicano dramatists and theater artists.

M103E. African American Theater History: The Depression to the Present
Lecture, three hours. Prerequisite: upper division standing. Exploration of extant materials on history and literature of theater as developed and performed by African-American artists in America from the Depression to the present.

103F. Native American Theater
Lecture, three hours. Prerequisite: consent of instructor. Study of Native American theater as an evolving art form.
104A-104B-104C. History of American Theater (Formerly numbered 104). Lecture/laboratory, three hours. Study of history of influence of different cultures, traditions, and technologies on development of theater as a social institution in America. 104A, Revolutionary War to the Civil War; 104B, Civil War to WWI; 104C, WWII to the Present.

105. Main Currents in Theater. Lecture, three hours. Critical examination of leading theories of theater from 1887 to the present. Study and discussion of modern styles of production. May be repeated twice for credit.


107. Drama of Diversity. Lecture, three hours. Investigation of diversity in American society as manifested in dramatic works and theatrical presentations.

111A. Selected Topics on History of European Theater from Primitive Times to 1640. Lecture, three hours. In-depth study of a selected area of study in theater history from the Greeks to 1640. May be repeated twice for credit.

111B. Selected Topics on History of European Theater from 1640 to 1900. Lecture, three hours. Investigation in depth of a selected area of study in theater history from the Renaissance through 1900. May be repeated twice for credit.

111C. Selected Topics on History of European Theater from 1900 to the Present. Lecture, three hours. Investigation in depth of a selected area of study in theater history from the present to the present. May be repeated twice for credit.

115. Acting, Voice, Movement I. Studio, 12 hours. Prerequisites: courses 21A-21B. Further study of beginning acting technique and development of acting, voice, movement, and movement skills in a recital project.

116A-116B-116C. Acting, Voice, Movement II (2 units each). Studio, six hours. Prerequisites: courses 21A-21B. Development of acting skills through scene study, use of self, and personalization. Examination of characterization, exercises, and applications to contemporary American scenes. Development of speech, voice, and movement skills.

118A. Creative Dramatics. Lecture/laboratory. Studies of principles and procedures of imaginative approach to drama as done with children from nursery school to junior high.

118B. Advanced Creative Dramatics (2 to 4 units). Lecture, four hours; other, to be arranged. Prerequisite: consent of instructor. Study of imaginative methods andules of other approaches to drama. Exploration of interrelationships of the arts to traditional disciplines of learning. May be repeated once for credit.


119B. Theater for the Child Audience: Performance. Lecture, two hours; laboratory, four hours. Prerequisites: audition and consent of instructor 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 theatrical concepts and principles through creative application of a dramatic process. Exploration of interrelationships of the arts to traditional disciplines of learning. May be repeated once for credit.

121. Acting Workshop (2 units). Laboratory, to be arranged. Prerequisites: course 20, consent of instructor. Students are provided with opportunity to rehearse, perform, and criticize scenes. May be repeated once for credit.

122. Makeup for the Stage (2 units). Prerequisite: consent of instructor. Study of makeup and its role in the production of a whole. History, aesthetics, materials, and procedures of makeup.

123. Intermediate Acting for the Stage. Lecture/laboratory. Prerequisites: course 20, consent of instructor. Study and practice of an art of acting through perfecting of techniques and application of those techniques to acting problems.

124A. Advanced Voice (2 units). Studio/laboratory, three hours. Prerequisites: courses 126A-126B-126C. Development of voice techniques for the stage, including work in relaxation, limbing, breathing, articulators, and resonators.

124B. Advanced Speech (2 units). Studio/laboratory, three hours. Prerequisite: course 124A. Designed to acquaint students with International Phonetic Alphabet and its use to exercise students' skills in pronunciation, enunciation, and development of dialect versatility.

125A. Advanced Movement (2 units). Studio/laboratory, three hours. Physical awareness for the actor, concentrating on warming up the body, relaxation, control, stunts, and gymnastics.

125B. Advanced Movement and Combat (2 units). Studio/laboratory, three to four hours. Prerequisite: course 125A. Advanced and contemporary approach to classical and modern movement for the stage actor.


128A-128B. Acting, Voice, and Movement Workshops II (2 units each). Studio, four to six hours. Prerequisite: consent of instructor. Study of advanced acting technique, scene study, and development of voice and movement skills. May be repeated for a maximum of 12 units.

129. Contemporary Topics in Theater, Film, and Television (2 units). (Same as Film and Television C133B.) Lecture, three hours; laboratory, two hours. Prerequisites: upper division or graduate standing in theater/film and television. Examination of creative process in theater, film, and television, with consideration of writing, acting, directing, production, and performance. Examination of individual contributions in the collaborative effort; examination of distinctiveness and interrelationships among these arts. Individual units may be selected. May be repeated for a maximum of six units. Concurrently scheduled with course CM229.

130A. Beginning Playwriting. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Required of theater majors. Designed to stimulate students' creative faculties through preparation and completion of a one-act play. Students' critical faculties simulated by play analysis and scene exercises in discussion sections.

130B. Fundamentals of Playwriting II. Lecture, three hours plus conference. Prerequisites: course 130A. Consent of instructor. Study in original material for the theater, its preparation and development. Designed to give further insight into critical and creative aspects of character development and playwriting in completion of one-act and full-length plays. May be repeated twice for credit.

130C. Writing for American Musical Theater. Lecture/laboratory, three hours. Prerequisite: consent of instructor. Study of practice and techniques used in writing a libretto for musical theater: opening numbers, romance, subplots, and comedy. May be repeated once for credit.

132. Manuscript Evaluation for Theater. Lecture, three hours. Prerequisites: course 130A, consent of instructor. Principles and practices in evaluation of manuscripts for theater. May be repeated once for credit.

C133A-C133B-C133C. Script Development Workshops. Laboratory, three hours. Prerequisite for playwriting and directors: consent of instructor. Guided preparation of a script for production, focusing collaborative utilization of scene, voice work, and character, action, and production. Emphasis on communication, artistic growth, and professional growth. Course C133A may be repeated for a maximum of 12 units. Concurrently scheduled with courses C433A-C433B-C433C.

136. Advanced Acting for the Stage. Lecture/laboratory. Prerequisites: course 123, consent of instructor. Study and practice of art of acting through a progression of roles from character parts to leading roles. May be repeated twice for credit. Consecutive enrollment with same instructor not permitted. Total units for courses 136, 137A, 137B, and 137C may not exceed 12 units.

137A-137B-137C. Continuum Study in Action for the Stage. Studio, six hours. Prerequisite: course 123. Technique of characterization and performance in advanced and complex acting styles. May be repeated once for credit.

138. Special Problems in Performance Techniques. Lecture/laboratory. Prerequisite: consent of instructor. Study of complex problems in voice, movement, and acting. May be repeated twice for credit.

140A. Scenic Techniques for the Stage. Lecture, three hours; laboratory, six hours. Prerequisites: course 10, consent of instructor. Intensive study of stage scenery techniques: tools, hardware, and materials; and their relationship to the art of theatrical scenic design history. Overall production concepts, and design styles.

141A. Lighting Techniques for the Stage. Lecture, three hours; laboratory, six hours. Prerequisites: course 10, consent of instructor. Required of theater majors. Intensive study of the use of light and its relationship to lighting instruments and control equipment to lighting design. Courses 141A, 140A, and 142A may be taken in any sequence, but not concurrently.

142B. Advanced Costuming for the Stage. Lecture, three hours; laboratory, four hours. Prerequisites: course 142A, consent of instructor. Special problems in procuring, designing, construction, and management of costumes. May be repeated twice for credit.

144. Theater Sound Techniques (2 units). (Formerly numbered 144A.) Lecture, two hours; laboratory, two hours. Prerequisites: courses 14A-14B-14C or consent of instructor. Study of equipment and techniques used in recording and reproduction of sound for the theater.

145. Costume Design for the Theater. Lecture/laboratory. Prerequisite: consent of instructor. Design of costumes for theatrical presentations. Study of use of color, silhouette, fabric, and design as related to theatrical characterizations. May be repeated once for credit.

147A. Drafting (2 units). (Formerly numbered 144A.) Studio, four hours. Development of visual communication skills through drafting. Exploration of drafting for scenic and lighting designs. May be repeated once for credit.

147B. Rendering (2 units). Studio, four hours. Introductory course in basic skills necessary for drawing and rendering for scenic, costume, and lighting design for theater, film, and television. May be repeated once for credit.

148. Special Courses in Design and Technical Theater. Lecture, three hours. Prerequisites: consent of instructor. Special problems in scenic and lighting design. May be repeated for a maximum of eight units.

150. Theater Production and Performance (2 units). Studio, six hours. Prerequisites: course 50. Laboratory experience in various aspects of theater production, including performance in a project or production, stage management, membership of a crew, or assignment as a designer or assistant on a production. May be repeated for a maximum of eight units.
151A-151B. Scenic Design. Lecture/studio. Prerequisites: courses 14A-14B-14C. Introduction to principles of study and practice of the design of scenery for theater, film, and television. Imagery as impetus for design, text analysis, metaphor, and conceptualization. Investigation of design research process, composition, and style leading to visual presentation of the design.

C151C. Production Design for Film and Television. Lecture/studio. Prerequisite: consent of instructor. Study of current professional lighting design practices in television for single- and multi-camera production. Concurrently scheduled with course C452C.


C153C. Costume Design for Film and Television. Lecture/studio. Prerequisites: courses 14A-14B-14C. Study of current professional costume design and wardrobe practices in film and television, including effect of color on media on design concepts. Concurrently scheduled with course C53C.

154A-154B. Sound Design. Lecture/studio. Prerequisites: courses 14A-14B-14C. Study of recording, mixing, editing, and playback of sound effects, voice, and music in the theater. 154B. Introduction to use of delay, equalization, and microphone placement for theater sound reinforcement. Study of creation of sound effects, control of MIDI data, and design techniques for musical theater.

C154C. Sound Design and Television. Lecture/studio. Prerequisite: consent of instructor. Study of current professional sound recording, re-recording, mixing, and synchronization practices for film and television. Concurrently scheduled with course C54C.

C155A-C155B. Graphical Representation of Design. (2 units each). Studio, for 5 hours. Prerequisite: course 147A or 147B. Concurrently scheduled with courses C455A-C455B.

C155A. Perspective Drawing. Introduction to use of pencil and pen to communicate scenic designs, including one- and two-point perspective, form light, shade, and textures.

C155B. Watercolor Rendering. Study of watercolor techniques as they relate to interpretation of scenic designs, including painting of brick, wood, stone, fabrics, and other surfaces.

C155C. Marker Rendering. Study and practice of marker rendering techniques as a means of communication for scenic and costume designers.

C155D. Model Making. Study of the model for representation of scenic design ideas, including model making processes and types to finished color models. Use of wide variety of materials and techniques for execution of the model.

C155E. Life Drawing. Study and practice in drawing of human form.

C155F. Costume Rendering. Study of techniques for the rendering of theatrical costumes, with emphasis on figure, clothing, and fabrics.

C155G. Scene Painting Techniques. (Formerly numbered C146.) Study of scenic painting techniques and materials and their realization of color design and elevations. May be repeated once for credit.

C156A. Introduction to Computer-Assisted Drafting (2 units). Studio, four hours. Prerequisite: course 147A or 147B. Study of computer-assisted design for theater, film, and television. Investigation of application of computer-assisted design techniques, including lighting design, use of computer languages, and systems. Introduction to computer-assisted drafting. Concurrently scheduled with course C456A.

C156B. Introduction to Computer-Assisted Design (2 units). Studio, four hours. Prerequisite: course 147A or 147B. Study of computer-assisted design for theater, film, and television. Investigation of application of computer-assisted design techniques, including lighting design, use of computer languages, and systems. Introduction to computer-assisted drafting. Concurrently scheduled with course C456B.

C156C. Introduction to Computer-Assisted Rendering (2 units). Studio, four hours. Prerequisite: course 147A or 147B. Study of computer design for theater, film, and television. Investigation of three-dimensional computer drawing: wire-frame perspective and photo-realistic computer rendering techniques. Concurrently scheduled with course C456C.


C158A. Design Technology. (Formerly numbered 140B.) Lecture/studio. Prerequisites: courses 14A-14B-14C. Study of materials, systems, and techniques for realizaiton of design for theater, film, and television. Study of advanced techniques and materials for construction, finishing, and rigging of scenery and properties. Concurrently scheduled with course C458A.

C158B. Lighting Design Technology. Lecture/studio. Prerequisites: courses 14A-14B-14C. Investigation of materials, systems, and techniques for realization of lighting designs for theater, film, and television. Study of design technology, and performance of lighting instruments, dimming equipment, and control systems. Includes fixtures, projection equipment, and computer systems for lighting. Concurrently scheduled with course C458B.


159. Design Portfolio Project. Lecture/studio. Prerequisites: courses 14A-14B-14C. Preparation of complete designs and drawings for a production and assembly of a design portfolio and resume. Projects prepared under guidance of instructor. May be repeated for a maximum of two units.

160. Fundamentals of Play Direction (5 units). Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. Required of theater majors. Course 121 may be taken concurrently. Basic theories and techniques of play direction and preparation of scenes under rehearsal conditions. 163A-163B-163C. Directing for the Stage. (Formerly numbered 161A, 161B, 161C.) Lecture/studio. Prerequisites: course 15, consent of instructor. 163A. Intensive development of primary directing skills and process. Study of analysis and exploitation of craft fundamentals as a basis for director/actor communication and effective staging. Students direct scenes from plays under laboratory conditions. 163B. Further development of craft elements of directorial method, with additional emphasis on psychological aspects of director/actor communication. Students direct scenes from plays under laboratory conditions in alternative stage configurations.

163C. Cullminating development of directorial methods, with particular emphasis on challenges of style in text and production. Students direct scenes under laboratory conditions in alternative stage configurations.

C163D. Directing Project for the Stage. (Formerly numbered C162B.) Lecture, four hours; studio, six hours. Prerequisites: courses 163A-163B-163C, consent of instructor. Completion of course C163D satisfies course 180 requirement. Application of stage directing techniques in production of a short play. Students direct a one-act play. May be repeated once for credit. Concurrently scheduled with course C253D.

C171A. Advanced Theater Laboratory (1 to 4 units). Hours to be arranged. Prerequisite: consent of instructor. Creative participation as actor or stage manager in public presentation of departmental productions. May be repeated for a maximum of eight units, but no assignment may be repeated more than once. Concurrently scheduled with courses C272 and C472.

C173A. Design Assignment: Assistant Designer (2 units). Studio, six hours. Prerequisites: courses 14A-14B-14C. Laboratory experience as a designer, including participation in preparation and realization of scenic, lighting, costume, or sound designs. May be repeated twice.

C173B. Production Design Assignment: Designer (2 units). Studio, six hours. Prerequisites: courses 14A-14B-14C. Laboratory experience as a designer, including preparation and realization of scenic, lighting, costume, or sound designs. May be repeated twice.

C174A. Stage Managing Techniques (2 units). Studio, six hours. Prerequisites: courses 14A-14B-14C. Professional duties of stage manager. Problems of unions, professional audiences, organization, scheduling, outlet, volunteer organizations, Broadway openings, and responsibilities of a lengthy run.

174B. Project in Stage Management (3 units). Studio, nine hours. Prerequisite: course 174A. Laboratory experience in the professional duties of assistant stage manager, including participation in preparation and performance phases of a production. May be repeated once for credit.

C174C. Project in Stage Management. Studio, 12 hours. Prerequisites: course 174A. Laboratory experience in the professional duties of stage manager, including participation as a stage manager in preparation, rehearsal, and performance phases of a production. May be repeated once for credit.

180. Senior Project. Lecture/studio, three hours. Prerequisites: courses 101A-101B-101C. Preparation of a conceptual or creative project to provide a culminating experience in the production of a creative or research work.

C190A. Role of Producer in Professional Theater (2 units). Study of structure governing economic and artistic decision-making processes in professional theater of America. Concurrently scheduled with course C294A.

C190B. Role of Management in Educational and Community Theater (2 units). Study of artistic, social, and economic criteria in administration of educational and community theater. Concurrently scheduled with course C294B.
191. The Touring Company (2 to 12 units). Lecture, 20 hours; laboratory, 22 hours. Prerequisite: consent of instructor. Rehearsal and technical preparation of a theatrical work for touring and performance of that work on tour.

192. Motion Picture, Television, and Theater Internship (4, 8, or 16 units). Field experience, eight, 16, or 24 hours; individual conferences, to be arranged. Prerequisite: consent of instructor. Limited to senior Department of Theater majors. Internship at various studios or theaters acquainting creative contribution, organization, and work of professionals in their various specialties. May be taken for a maximum of eight units.

199. Special Studies in Theater Arts (2 to 8 units). Hours to be arranged. Prerequisite: senior standing. 3.0 GPA in major, consent of instructor. May be taken for a maximum of eight units.

Graduate Courses

Certain graduate courses concerned with individual student projects may be repeated for credit upon recommendations of the departmental graduate advisor. Graduate courses are not open to undergraduate students.

202A. Seminar: Western Classical Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Examination of theatrical production and dramatic form in the Greek and Roman periods. May be repeated twice for credit.

202B. Seminar: Medieval Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of theatrical production and dramatic form in the Middle Ages. May be repeated twice for credit.

202C. Seminar: Renaissance and Baroque Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. 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. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1780 to 1870. May be repeated twice for credit.

202E. Seminar: Modern Consciousness in Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Study of proto-types of modern experience as encountered in work of Ibsen and Strindberg. May be repeated twice for credit.

202F. Seminar: Modern Realism. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of theater's response to science and technology, politics, and revolution. May be repeated twice for credit.

202G. Seminar: Modern Theatricalism. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of avant-garde theater. Exploration of dream experience and private psyche, religious experience, and revitalization of myth and ritual. May be repeated twice for credit.

202H. Seminar: American Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies in development of theatrical production and dramatic writing in America. May be repeated twice for credit.

202I. Seminar: Traditions of African Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of traditional theater forms such as those indigenous to Ghana, Nigeria, and other areas of Africa and the Americas. May be repeated twice for credit.

202J. Seminar: East Asian Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected topics in theater forms of East Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202K. Seminar: South Asian Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected topics in theater forms of South Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202L. Seminar: Southeast Asian Theater. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. 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 units). Seminar, for credit. Prerequisites: graduate standing, consent of instructor. Examination 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 units). Seminar, four hours. Prerequisites: graduate standing, consent of instructor. Analysis of major plays, commentaries, and historical materials. 205A. Classical and Medieval Periods; 205B. Renaissance, Baroque, and Rococo Periods; 205C. Romantic, Naturalistic, and Symbolist Periods.

205. Themes in World Theater and Drama (5 units). Seminar, four hours. Prerequisites: graduate standing, consent of instructor. Selected topics in world theater history, drama, production, and/or architecture organized on a thematic basis. May be repeated four times for credit.

207A-207B. Theater Aesthetics. Prerequisites: graduate standing, consent of instructor. Discussion of essential issues in aesthetics of theater and drama based on philosophy of art and theories of the theater. 207A. Classical and Medieval Theories of Art and Theater; 207B. Renaissance Theories of Art and Theater in the Present.

208. Dramaturgy. Discussion/lab, three hours. Prerequisites: graduate standing, consent of instructor. Theoretical and practical aspects of the dramaturge's work in contemporary theater.

209. Theater Authors (5 units). Prerequisites: graduate standing, consent of instructor. Investigation of work of a theater artist from history of world theater, with special emphasis on relationship to time in which the work was generated. May be repeated four times for credit.

210. Topics in World Theater and Drama (5 units). Prerequisites: graduate standing, consent of instructor. Investigation of selected topics in world theater, drama, production, and architecture. May be repeated four times for credit.

216A. Critical and Historical Methods. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Studies in theater historiography and sociological criticism. May be repeated four times for credit.

216B. Critical Methods. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Studies in critical theories of theatrical form and structure.

216C. Critical Methods. Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Studies in contemporary modes of psychoanalytic and archetypal criticism for theater.

220. Graduate Forum (1 unit). (Formerly numbered 220A-220B-220C.) Lecture, 1 hour bimonthly. Prerequisites: graduate standing in theater. Presentation and discussion of issues in forming and affecting contemporary theater. May be repeated four times for credit. S/U grading.

224A. Advanced Theater Laboratory (2 or 4 units). Laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Creative participation as assistant director, stage manager, or performer in public presentation of departmental productions. May be taken for a maximum of four units.

224B. Advanced Theater Laboratory (2 or 4 units). Laboratory, to be arranged. Prerequisites: consent of instructor. Creative participation in realization of production elements related to public presentation of departmental productions. May be taken for a maximum of four units.

225A. Production Management. Lecture, three hours. Prerequisite: consent of instructor. Study in production management for the theater. Examination of production principles of production manager, including production preparation, rehearsal, and performance phases of a production. Problems of resource management, unions, organization, scheduling, and budgeting while maintaining a creative and collaborative environment.

225B. Production Management. (Formerly numbered 2245.) Lecture, three hours. Prerequisite: course 224A. Advanced study in production management for the theater, with an emphasis on planning processes of professional production manager in a seasonal and repertory environment. Problems of resource allocation, unions, organizational structure, scheduling, and budgeting to establish a creative and collaborative environment.
245C. Projects in Production Management. Studio/ laboratory. Prerequisite: course 245B. Laboratory experience in medium of laboratory scene work management, including participation as a production manager in preproduction, rehearsal, and performance phases of a production. Problems of resource management, unions, organization, scheduling, and lighting.

246A-246B-246C. History of Costume. Lecture/ studio. Prerequisite: graduate standing. Study of history of costume as a manifestation of cultural, social, economic, and political influences to provide a historical framework for understanding the medium of written preparation and direction of scenes.

247. Collaborative Project in Design and Production (3 to 4 units). Lecture, four hours; studio, 16 hours. Prerequisite: graduate standing, consent of instructor. Collaborative project in design, including analysis, conceptual development, and preparation of scenic, lighting, costume, and sound designs. May be repeated once for credit.

260. Directing I. Lecture, four hours; studio, 24 hours. Prerequisites: graduate standing, consent of instructor. Development of directorial skills of analysis, planning, and execution for public performance. Discussion and critique of work in progress. May be repeated for a total of no more than 12 units.

263D. Directing Project for the Stage. (Formerly numbered 260D.) Lecture, four hours, studio, six hours. Prerequisite: graduate standing, consent of instructor. Application of stage directing techniques in production of short plays. Students direct a one-act play. May be repeated once for credit. Concurrently scheduled with course C163D.

264. Directing Classical and Historical Drama. Lecture, four hours; studio, 30 hours. Prerequisites: graduate standing, consent of instructor. Problems in direction of post-realist plays through medium of interpretation and laboratory scene work.

265. Modern Theories of Production. Examination of modern theories of production from emergence of the director in the 19th century to the present. Investigation of director's responses to problems of directing a vital theatrical event with emphasis on the development of the theater as an art form. Examination of contribution of significant directors and movements; relation between theater and other forms of representation.

266. Theatrical Conceptualization. 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.

272. Production and Performance Laboratory (2 units). Lecture, three hours; laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Credit for creative production assignments required of all M.A. students during first three terms in residence. May be repeated once in credit. Concurrently scheduled with courses C72 and C472.

280A. Role of Management in Artistic Decision Making in the Theater. Prerequisite: consent of instructor. Descriptive study of criteria for decision making in artistic affairs, with emphasis on the relationship between the institution in society, economic environment of the arts, and artistic value systems of arts organizations.

290A. Programming and Planning Policies in the Theater. Prerequisite: consent of instructor. Analysis of social, economic, and institutional roles of the arts as reflected in programming policy. Examination of social goals pursued in establishing relationships between the arts and their environment.

C294A. Artistic Control of Theatrical Production by Professional Producers (2 units). Prerequisite: graduate standing, consent of instructor. Study of structure governing economic and artistic decision-making processes in professional theater of America and of developments in the directing of a producer in artistic process. Concurrently scheduled with course C190A. Additional research and writing required of graduate students.

C294B. Organization and Operation of Community Theaters. Prerequisite: consent of instructor. Seminar study of production and management problems in the community theater, with research in history of current practices in operations, administration, and organization. Concurrently scheduled with course C190B.

298A-298B. Special Studies in Theater Arts (2 to 4 units each). Lecture/discussion. Prerequisite: graduate standing, consent of instructor. Seminar study of problems in the theoretical organization on topic basis. May be repeated once for credit.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship and skills required of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

420A-420B-420C. Advanced Acting I (4 to 6 units, 4 units, 4 units each). Lecture, 30 hours. Prerequisite: consent of instructor. Laboratory. Development of acting skills of analysis, placement, and characterization of the actor in the role. May be repeated for a total of no more than 12 units.

420A. 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, capabilities, and dimensions of the actor's life, character, and intentions of the scene.

420B. 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 discovering and research and fieldwork on the character being played.

420C. Development of an external technique through comedy and of skills, improvisation, physical humor, delivery of a line, rhythm, timing, and public cabinet. Focused on the internal; use of action and objective with the external.

421A-421B-421C. Advanced Acting II (4 or 8 units each). Lecture/studio, six to 18 hours. Prerequisite: 421A. Extending the idea of autobiograpy and using it as art. The actor develops a line of character and intensity work quite removed from oneself. Using language. Using the idea of autobiography and using it as art.

420A. Development of voice and speech techniques for professional work. Speech training uses International Phonetic Alphabet; phonic, dynamic, resonant, and development of speaking voice. Speech training uses Italian Phonetic Alphabet; phonic, dynamic, resonant, and development of speaking voice. Speech training uses Italian Phonetic Alphabet; phonic, dynamic, resonant, and development of speaking voice.

421A-421B-421C. Advanced Movement I (2 or 4 units each). Lecture/studio, six to 16 hours. Prerequisite: 421A. Phonic and dynamic training for on and off stage. Use of the voice and speech in character development.

421A. Advancement of physical training of individual actors to their maximum potential. Experience in artistry and discovery of origins of a variety of acrobatic and dance disciplines, including ballet, ballroom, period dance, and circus acrobatics.

429. Performance Workshop (2 units). Studio, four hours. Prerequisites: graduate standing, consent of instructor. Limited to graduate students not enrolled in M.F.A. acting program. Exercises in performance techniques, including autodrama and scene study. Development of performance skills through scene study, use of self, and personalization. Examination of characterization exercises and their application to specific content.

430A-430B-430C. Advanced Studies in Playwriting (4 to 8 units each). Lecture, three hours. Prerequisite: graduate standing in M.F.A. playwriting program. Guided completion of full-length scripts for the stage.

431. Special Topics in Playwriting. Discussion, three hours. Prerequisite: graduate standing in M.F.A. playwriting program and/or consent of instructor. Analysis and practice of varied aspects of playwright's art. Variable content selected from topics such as comedy, writing, docudrama, writing for alternative narratives, adaptation from stage to screen, children's theater, or improvisational techniques. May be repeated twice for credit.

432. Manuscript Evaluation. Lecture, four hours; laboratory, to be arranged. Prerequisite: graduate standing and consent of instructor, or candidate in M.F.A. writing program and consent of instructor. Evaluation of manuscripts of beginning writers, including but not limited to those produced in Film and Television 130B. May be taken twice for credit (once for each M.F.A. residence).

C433A-C433B-C433C. Script Development Workshops. Laboratory, three hours. Prerequisites: permission of instructor and direct standing in M.F.A. playwriting program and consent of instructor. Guided preparation of a script for production, focusing on collaborative process between playwright and director, scene work, staged readings, writing, casting, and production. Emphasis on creative process, collaborative process, and professional process. Course C433A may be repeated once for credit. Concurrently scheduled with courses C133A-C133B-C133C.

435AF-435AW-435AS. Problems in Advanced Writing for the Stage (0 units, 0 units, 2 units). Prerequisite: consent of instructor. Limited to M.F.A. candidates. Review discussion and critique of playwriting projects. May be repeated for a maximum of six units. In Progress and S/U grading.

441A-441B-441C. Lighting Design. Lecture/studio. Prerequisite: consent of instructor. 441A. Study and practice in lighting the actor, emphasizing textual and character analysis from lighting design perspective. Scene work, to be scene study and costumes, lighting for arena/thrust theaters, multicamera productions, lighting patterns, and moving scenery. May be repeated once for credit.

441B. Study of use of light and color to define space, effect of lighting on scene and costumes, lighting for arena/thrust theaters, multicamera productions, lighting patterns, and moving scenery. May be repeated once for credit.

441C. Investigation of lighting design in production, musical theater, opera, touring, and repertory situations. Study of analysis of script and score for lighting designer. May be repeated once for credit.
441D. SCENIC PROJECTION AND MEDIA TECHNIQUES. Lecture/laboratory. Prerequisites: graduate standing, consent of instructor. 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. Lecture/studio. Prerequisite: consent of instructor. Advanced study and practice in costume design for theater, imagination as impetus for design, text analysis, metaphor, and conceptualization. Investigation of design research process, and development. Concurrently scheduled with course C272.

443. PROBLEMS IN DESIGN (2 or 4 units). Lecture/laboratory. Four hours (additional hours as required). Prerequisite: consent of instructor. Study and practice in design techniques for theater. May be repeated for a maximum of 12 units.

444A-444B/444C. SOUND DESIGN. Lecture/studio. Prerequisite: consent of instructor.

444A. 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.

444B. Advanced study and practice in preparation and recording of theater sound, design, with emphasis on analyzing and using environmental acoustics, comprehension of auditory perception, preparation of sound and music 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.

444C. 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.

451C. PRODUCTION DESIGN FOR FILM AND TELEVISION. Lecture/studio. Prerequisite: consent of instructor. Study of role of art director. Production design for single- and multiple-camera production and set decoration. Concurrently scheduled with course C515C.

452C. LIGHTING DESIGN FOR TELEVISION. Lecture/studio. Prerequisite: consent of instructor. Study of current professional lighting design practices in real-time television for single- and multiple-camera production. Concurrently scheduled with course C515C.

453C. COSTUME DESIGN FOR FILM AND TELEVISION. Lecture/studio. Prerequisites: courses 14A-14B-14C. Study of current professional costume design and production practices in film and television, including effect of differing media on design choices. Concurrently scheduled with course C515C.

454C. SOUND FOR FILM AND TELEVISION. Lecture/studio. Prerequisite: consent of instructor. Study of current professional sound recording, re-recording, mixing, and synchronization practices for film and television. Concurrently scheduled with course C515C. Graduate students expected to produce designs demonstrating a higher level of proficiency and skills.

455A-455B/455C. GRAPHIC REPRESENTATION OF DESIGN (2 units each). Studio, four hours. Prerequisite: course 147A or 147B. Concurrently scheduled with courses C155A-C155G.

455A. PERSPECTIVE DRAWING. Introduction to use of pencil and paper to create and characterize design, including one- and two-point perspective, form, light, shade, and textures. Graduate students expected to produce drawings demonstrating a higher level of proficiency and skill.

455B. WATERCOLOR RENDERING. 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.

455C. MARKER RENDERING. Study and practice of marker rendering techniques as a means of communicating for scenic and costume designers.

456D. MODEL MAKING. Introduction and production of representation of scenic designs from initial working prototypes to finished color models. Use of wide variety of materials and techniques for execution of the model. Graduate students expected to produce models demonstrating a higher level of proficiency and skill.

456E. LIFE DRAWING. Study and practice in drawing of human form.

456F. COSTUME RENDERING. Study of techniques for rendering theatrical costumes, with emphasis on figure, clothing, and fabric. Graduate students expected to produce designs demonstrating a higher level of proficiency and skill.

456G. SCENE PAINTING TECHNIQUES. Formerly numbered C446. Study of scenic painting techniques and materials and their realization of color design and elevations. May be repeated once for credit.

456H. INTRODUCTION TO COMPUTER-ASSISTED DRAFTING (2 units). Studio, four hours. Prerequisite: course 147A or 147B. Study of computer-assisted design for theater, film, and television. Introduction to computer drafting, drawing and editing techniques, drawing floor plans, and elevation drawings. Concurrently scheduled with course C156A.

456I. INTRODUCTION TO COMPUTER-ASSISTED DESIGN (2 units). Studio, four hours. Prerequisite: course 147A or 147B. Study of computer-assisted design for theater, film, and television. Investigation of computer-assisted design methods, including lighting designs, use of symbol libraries, and pictorial. Introduction to computer-assisted drafting. Concurrently scheduled with course C156A.

456J. INTRODUCTION TO COMPUTER-ASSISTED RENDERING (2 units). Studio, four hours. Prerequisite: course 147A or 147B. Study of computer design for theater, film, and television. Investigation of three-dimensional computer drawing with an emphasis on design drawing and photo-realistic computer rendering techniques. Concurrently scheduled with course C156C.

457A/C457B-C457C. COSTUME READING TECHNIQUES (2 units each). Studio, four hours. Study of theory and application of drafting, pattern making, fitting, and construction techniques for period costumes and undergarments to achieve an authentic appearing costume using contemporary methods. Concurrently scheduled with courses C157A-C157B-C157C. Prerequisite: courses 14A-14B-14C, consent of instructor. Introduction to draping, pattern grading, fitting, and construction of costumes. Concurrently scheduled with course C157B. Prerequisite: course C457A. Introduction to costume drafting, construction of period undergarments. Prerequisite: courses C457A-C457B. Fitting, pattern grading, and fitting techniques for period garments.

458A. SCENIC DESIGN TECHNIQUES. Lecture/studio. Prerequisites: courses 14A-14B-14C. Investigation of materials, systems, and techniques for realization of scenic designs for theater, film, and television. Study of advanced techniques and materials for construction, finishing, and rigging of scenery and properties. Concurrently scheduled with course C158A.

458B. LIGHTING DESIGN TECHNIQUE. Lecture/studio. Prerequisites: courses 14A-14B-14C. Investigation of materials, systems, and techniques for realization of lighting designs for theater, film, and television. Study of design, operation, and performance of lighting equipment, lighting instruments, control, and control systems, including automated fixtures, projection equipment, and computer systems for lighting. Concurrently scheduled with course C158B.

458C. SOUND DESIGN TECHNIQUES. Lecture/studio. Prerequisite: consent of instructor. Study of aural techniques, including recording, mixing, and reproduction of theater sound. Concurrently scheduled with course C158C.

459A-459B. DIRECTING FOR THEATER, FILM, AND TELEVISION. Lecture, three hours. Prerequisite: consent of instructor. Limited to graduate students in Department of Theater. Directed laboratory experience with specific scenes, of differences and many similarities in directorial approach to same literary material in three media.

460A-460AW/460A. CONTEMPORARY ISSUES IN DIRECTING (1 unit each). Discussion section. Prerequisites: graduate standing, consent of instructor. Discussion of role of director in contemporary professional practice. Review discussion and critique of directing projects. May be repeated for a maximum of four units.

460B-460C. PROBLEMS IN ADVANCED DIRECTION FOR THE STAGE. Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a published play under rehearsal conditions. Prerequisite: graduate standing, consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of an original play under minimal production conditions. Discussion and critique of work in progress.

463. PRODUCTION PROJECT IN DIRECTION FOR THE STAGE (8 or 12 units). Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a play under fully produced theatrical conditions.

472. PRODUCTION AND PERFORMANCE LABORATORY (2 or 8 units). Laboratory, to be arranged. Prerequisites: M.F.A. candidate, consent of instructor. Credit for creative production projects required of all M.F.A. students. May be repeated three times for a maximum of 16 units. Concurrently scheduled with courses C172 and C272.

473. PROJECTS IN THEATER DESIGN (2 or 4 units). Discussion, three hours; laboratory, 12 hours to be arranged. Prerequisites: graduate standing, consent of instructor. Study and practice in preparation and performance of dramatic works for public performances as a contributing artistic member of a departmental production. Creative responsibilities include designer, technical supervisor, production manager, choreographer, or dramaturge. May be repeated for a maximum of 16 units.

479A. PRACTICUM IN TEACHING THEATER. Lecture/laboratory, to be arranged. Prerequisite: graduate standing, consent of instructor. Study of and practice in teaching theater at college and university level.

479B. PRACTICUM IN THEATER PRODUCTION (2 or 4 units). Laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Demonstration of competence in theater production through successful completion of a major teaching production assignment. May be repeated for a maximum of 12 units.

496. PRACTICE OF TEACHING THEATER (2 units). Discussion. Required once of all teaching assistants or 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 the teaching experience. May not be applied toward M.A., M.F.A., or Ph.D. May be repeated once for credit. S/U grading.

499A. PROFESSIONAL INTERNSHIP IN THEATER. Lecture/laboratory, 2 or 4 units. Full- or part-time study at a university or on a professional project. Prerequisites: graduate standing, advanced standing in M.F.A. program, consent of instructor. Internship at a professional theater, museum, educational facility, or related organization. Organization and work of professional in their various specialties. Given only when projects can be scheduled.
501. Cooperative Program (2 to 8 units). Prerequisite: 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.

596A. Directed Individual Studies: Research (2 to 12 units). Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596B. Directed Individual Studies: Writing (2 to 12 units). Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596C. Directed Individual Studies: Directing (2 to 12 units). Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596D. Directed Individual Studies: Design (2 to 12 units). Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596E. Directed Individual Studies: Acting (2 to 12 units). Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596F. Directed Individual Studies: Production (2 to 12 units). Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

597. Preparation for Ph.D. Qualifying Examinations in Theater Arts (2 to 8 units). May be repeated for a maximum of 12 units.

598. M.A. Thesis in Theater Arts (2 to 8 units). Prerequisite: advancement to M.A. candidacy. Research and writing for M.A. thesis. May be repeated for a maximum of 12 units.

599. Ph.D. Dissertation in Theater Arts (2 to 8 units). Prerequisite: advancement to Ph.D. candidacy. Research and writing for Ph.D. dissertation. May be repeated for a maximum of 12 units.

Related Courses in Other Departments

Classics 143. Ancient Drama

Dance 141. Lighting Design for Dance Theater

144. Costume and Scenic Design Concepts for Dance Theater

English 10A, 10B, 10C. English Literature

90. Shakespeare

112. Children's Literature

135A-135B-135C. Creative Writing: Drama

167. Drama, 1842-1945

Film and Television

126. Acting for Film and Television

177. Film and Television Acting Workshop

Humanities 1A, 1B, 1C. World Literature

Italian 122. Italian Theater

Musicology 135A-135B-135C. History of Opera
For 50 years, the UCLA School of Engineering and Applied Science has enjoyed a respected reputation for technological innovation and pursuit of fundamental scientific knowledge. The school has always attracted top faculty, celebrated for distinguished teaching and research, to train and mentor students and enjoys strengths in traditional disciplines, including computer science, electrical engineering, manufacturing, and mechanical engineering. Growing programs exist in evolving fields such as optoelectronics, microsensors, industrial ecology, environmental cleanup and pollution prevention, water reclamation, composites, and new materials development.

As the twenty-first century approaches, the pace of technological development quickens, and engineers need to adapt faster to help meet societal needs and maintain U.S. leadership in the marketplace. Engineers must greatly expand their knowledge in their own disciplines and must be able to work as team members across disciplines to solve increasingly complex problems.

UCLA meets the needs of the marketplace by seeing that laboratory breakthroughs translate into technologies and products. Faculty members engage in mutual collaborations with industry, from applied research to technology goal setting. The school's educational mission nurtures innovation and provides a balanced approach to teaching and research, which are viewed as independent intellectual endeavors as well as support for business, industry, and the community.

Students receive their professional education through classroom investigation and real-world applications. The curriculum includes exposure to the humanities, social sciences, and fine arts and addresses the need to educate men and women about their responsibility to create, protect, and manage technology with due regard for ethics and human values. The challenges and rewards of a career in engineering have never been greater. If you can commit to a high standard of achievement, we invite you not only to join but also to contribute to the great success story of UCLA.
School of Engineering and Applied Science

Degrees Offered

<table>
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<tr>
<th>Degrees Offered</th>
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<tbody>
<tr>
<td>Aerospace Engineering</td>
<td>B.S., M.S., Ph.D.</td>
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<tr>
<td>Chemical Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Computer Science</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>B.S.</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>B.S., M.S., Ph.D.</td>
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<tr>
<td>Engineering</td>
<td>B.S., M.S., M.Eng., Ph.D.</td>
</tr>
<tr>
<td>Manufacturing Engineering</td>
<td>M.S.</td>
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<tr>
<td>Materials Engineering</td>
<td>B.S.</td>
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<tr>
<td>Materials Science and Engineering</td>
<td>M.S., Ph.D.</td>
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<tr>
<td>Mechanical Engineering</td>
<td>B.S., M.S., Ph.D.</td>
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<tr>
<td>Nuclear Engineering</td>
<td>M.S., Ph.D.</td>
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Office of Academic and Student Affairs: 6426 Boelter Hall
Graduate: (310) 825-1704
Undergraduate: (310) 825-2826

Bachelor of Science Degrees

Students in the School of Engineering and Applied Science (SEAS) may elect one of the nine four-year curricula listed below.

1. Bachelor of Science in Aerospace Engineering
2. Bachelor of Science in Chemical Engineering
3. Bachelor of Science in Civil Engineering
4. Bachelor of Science in Computer Science
5. Bachelor of Science in Computer Science and Engineering
6. Bachelor of Science in Electrical Engineering
7. Bachelor of Science in Engineering with a specialization in bioengineering
8. Bachelor of Science in Materials Engineering
9. Bachelor of Science in Mechanical Engineering

*Bioengineering is an interdepartmental program listed under Schoolwide Fields, Programs, Courses, and Faculty at the end of the departmental listings.

Admission

Applicants for admission to the school must satisfy the general admission requirements of the University as outlined in the section entitled "Undergraduate Admission" in Chapter 2. You must select a specific major within the school when applying for admission. In the selection process many elements are considered, including grades, test scores, and academic preparation.

Freshman applicants are strongly advised to take the tests required by the University for admission on or before December 2. Reports of test scores are needed to give full consideration to admission requests; ask the testing agencies to send your results directly to the UCLA Undergraduate Admissions Office.

Applicants are encouraged to apply either at the freshman or junior level. 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, mathematics, physics, and the recommended engineering courses before transferring to the University. Experience indicates that transfer students who have completed the recommended lower division program in engineering at California community colleges are able to complete the remaining requirements for one of the B.S. degrees in six terms (two academic years) of normal full-time study. Some students who select certain majors, such as computer science and engineering or chemical engineering, may be required to complete additional lower division courses as prerequisites for the major sequence.

Admission as a Freshman

While many students take their first two years in engineering at a community college, an applicant may qualify for admission to the school in freshman standing. It is anticipated that admission will require that the following subjects be taken when satisfying the University admission requirements:

- Algebra .................. 2 years
- Plane geometry .......... 1 year
- Trigonometry .......... 1/2 year
- Chemistry and physics
  - with laboratory .... 2 years

Freshman applicants whose entire secondary schooling was outside the U.S. must pass, with satisfactory scores, the Scholastic Assessment Test I: Reasoning Tests (verbal and mathematics sections) and Scholastic Assessment Test II: Subject Tests in Writing, Mathematics, and Physics before a letter of admission to engineering can be issued. Arrangements to take the tests in another country should be made directly with the Educational Testing Service, 1947 Center Street, Berkeley, CA 94704. Test scores should be forwarded to UCLA.

Credit for Advanced Placement Tests

You may fulfill part of the school requirements with credit allowed at the time of admission for College Entrance Examination Board (CEEB) Advanced Placement Tests with scores of 5, 4, or 3. Students with Advanced Placement Test credit may exceed the 213-unit maximum by the amount of this credit. Advanced Placement Test credit for freshmen entering in Fall Quarter 1994 fulfills requirements in the School of Engineering and Applied Science as follows:

<table>
<thead>
<tr>
<th>TEST</th>
<th>CREDIT ALLOWED ON SCHOOL REQUIREMENTS</th>
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</thead>
<tbody>
<tr>
<td>Art History</td>
<td>8 lower division units toward humanities</td>
</tr>
<tr>
<td>Biology</td>
<td>Biology 2 (4 units) plus 4 lower division units free electives</td>
</tr>
<tr>
<td>Chemistry</td>
<td>8 lower division units toward general chemistry</td>
</tr>
</tbody>
</table>
Computer Science (A Test)*

Mathematics (AB Test)**

Chemistry

Mathematics

Computer Science

(Economics, Macroeconomics)

Score 3 — lower division units free electives

Score 4 or 5 — Economics 2 (4 units)

Score 4 or 5 — Economics 1 (4 units)

English, Composition and Literature*

Score 3 — lower division units free electives

Score 4 — English 3 (4 units), 4 units humanities, Subject A

Score 5 — English 3 (4 units), Subject A

Score 5 — English 4 (4 units), Subject A

Government and Politics, U.S.

Political Science 50 (4 units toward social sciences)

Score 3 — lower division units toward social sciences

Score 4 or 5 — History 7A-7B (8 lower division units toward social sciences)

History, European

History 1C (4 units) plus European history (4 lower division units toward social sciences)

Language, French

Score 3 — French 4 (8 units free electives)

Score 4 — French 5 (8 units free electives)

Score 5 — French 6 (8 units free electives)

Score 4 — German 3 (8 units free electives)

Score 5 — German 5 (8 units free electives)

Language, Latin (Virgil or Catullus/Horace)

Score 3, 4, or 5 — Mathematics 31A (4 units)

Score 3, 4, or 5 — Mathematics 31A (6 units)

Score 3, 4, or 5 — Mathematics 31A (8 units)

Score 4 or 5 — Mathematics 31A, 31B (6 units)

Score 3, 4, or 5 — Mathematics 31A, 31B (8 units)

Score 4 or 5 — Maths Theory***

Score 8 lower division units free electives

Score 8 lower division units free electives

Score 8 lower division units free electives

Score 4 — Maths Theory***

Score 4 — Physics General C — 4 lower division units (credit determined on an individual basis)

Score 4 — Physics General C — 4 lower division units (credit determined on an individual basis)

Score 3 — Spanish 4 (8 units free electives)

Score 4 or 5 — Spanish 5 (8 units free electives)

Some portions of Advanced Placement Test credit are evaluated using corresponding UCLA course number. If you take the equivalent UCLA course, a deduction of UCLA unit credit is made prior to graduation.

If you have completed 36 quarter units at the time of the examination, you will receive no Advanced Placement Test credit.

Admission as a Junior

Applicants for admission to the school in junior standing should have completed 21 to 23 courses (84 to 92 quarter units) in good standing, including the following minimum subject requirements:

(1) Two and one-half courses in chemistry, equivalent to UCLA's Chemistry and Biochemistry 11A, 11B/11BL† (only Chemistry and Biochemistry 11A is required for the computer science and engineering degree; computer science degree does not require the chemistry degree)

†Chemical engineering curriculum also requires Chemistry and Biochemistry 11C/11CL, 132A, 132B/132BL

Additional Courses

Life sciences (4 units), English composition (4 units), humanities/social sciences (total of 16 quarter units minimum)

SEAS general education (GE) courses

Mathematics

Analytic geometry and calculus, 8 units; calculus of several variables, 8 units; matrices and differential equations, 4 units; infinite series, 4 units (total of 24 quarter units minimum)

Physics

Calculus-based courses in mechanics of solids, vibration, wave motion, sound, fluids, heat, kinetic theory, electricity, magnetism, electromagnetic waves, light and relativity, with laboratory (total of 16 quarter units minimum)

Chemistry**

Two quarters or two semesters of general chemistry with laboratory (total of 10 quarter units minimum)

Engineering

Digital computer programming, using a higher-level language such as FORTRAN, PASCAL, or C (4 units); other courses: statics, dynamics, graphics and descriptive geometry, surveying, circuit analysis, properties of materials, strength of materials, additional chemistry, additional computer science (total of 24 quarter units minimum)

If you have completed 36 quarter units at the time of the examination, you will receive no Advanced Placement Test credit.

UCLA Equivalent Courses

Mathematics 31A, 31B
Mathematics 32A, 32B
Mathematics 33A, 33B

Physics 8A/8AL*, 8B/8BL*, 8C/8CL*, 8D/8DL*

Chemistry and Biochemistry 11A, 11B/11BL†
in physics, equivalent to UCLA's Physics 8A, 8B, 8C, 8D. (Physics 8D/8DL are not required for the civil engineering, computer science, or computer science and engineering degree), and physics laboratory courses (8AL, 8BL, 8CL, 8DL), depending on curriculum selected.

It is strongly recommended that transfer students complete a course equivalent to UCLA's English 3 in addition to the minimum admissions requirements.

Students transferring to the school from institutions which offer instruction in engineering subjects in the first two years, particularly California community colleges, are given credit for certain engineering core requirements.

Students who have been admitted to senior standing in the school on the basis of credit from another institution, from UCLA Extension, or from another college or school of the University must complete, after admission, eight upper division courses which satisfy part of their approved major field sequence.

Degree Requirements

The requirements for the Bachelor of Science degrees in Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Science, Computer Science and Engineering, Electrical Engineering, Engineering, Materials Engineering, and Mechanical Engineering consist of completing the minimum number of required units (from 180 to 200 units, depending on the curriculum selected), the general University requirements, and the school requirements for scholarship and senior residence. You must also satisfy the curricular requirements for the curriculum you choose to follow.

University Requirements

University requirements in scholarship, Subject A or English as a Second Language (ESL), and American History and Institutions are discussed in detail in the "Undergraduate Degree Requirements" section in Chapter 2.

Scholarship and Minimum Progress Requirements

In addition to the University requirement that you must earn at least a C (2.0) average in all courses taken at any University of California campus, at least a 2.0 grade-point average must be achieved in all upper division University courses offered in satisfaction of the subject and elective requirements of the curriculum. A 2.0 minimum grade-point average in upper division mathematics, upper division core courses, and the major field is also required for graduation.

Full-time undergraduate students in the School of Engineering and Applied Science must complete a minimum of 36 units in three consecutive terms in which they are registered.

Senior Residence Requirement

Of the last 48 units completed for the bachelor's degree, 36 must be earned in residence in the School of Engineering and Applied Science on this campus. No more than 16 of the 36 units may be completed in Summer Sessions at UCLA.

Study Lists and Credit Limitations

Study Lists require approval of the dean of the school or a designated representative. It is your responsibility to present Study Lists which reflect satisfactory progress toward the Bachelor of Science degree, according to standards set by the faculty; academic counselors in the Office of Academic and Student Affairs are available to help you. Study Lists or programs of study which do not comply with these standards may result in enforced withdrawal from the University or other academic action. You are expected to enroll in at least 12 units each term. If you enroll in less than 12 units, you must obtain approval by petition to the dean prior to enrollment in courses. The normal program is 16 units per term. You may not enroll in more than 18 units per term unless an Excess Unit Petition is approved in advance by the dean.

You must attain a minimum grade of C to satisfy the English 3 requirement, which must be met before you have completed 90 quarter units (a grade of C - does not satisfy this requirement).

After 213 quarter units, enrollment may not normally be continued in the school. You may petition the dean for special permission to continue work required to complete the degree. This regulation does not apply to Departmental Scholars.

After you have completed 105 quarter units (regardless of where these units have been completed), you will not receive unit credit for subject credit for courses completed at a community college.

Credit earned through the College Level Examination Program (CLEP) may not be applied toward the bachelor's degree.

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.

Credit for Transfer Students

A course in digital computer programming, using a higher-level language such as FORTRAN, PASCAL, or C, satisfies the computer programming requirement. 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 14 requirements respectively. Check with the Office of Academic and Student Affairs.

Curricular Requirements

The curricula for the bachelor's degrees include the following categories, depending on curriculum selected:

(1) Twelve to 16 engineering major field courses (48 to 64 units), depending on curriculum followed.

(2) Three to 10 engineering core courses (12 to 40 units), depending on curriculum selected.

(3) Mathematics courses, ranging from four to 12 upper division units; see curricula in individual departments.

(4) SEAS general education (GE) course requirements: (a) English 3, which must be completed with a minimum grade of C within your first 90 units; (b) six courses from the humanities and social sciences, with at least two courses from each category; (c) one life sciences course (this requirement is automatically satisfied for chemical engineering majors).

All lower division courses taken to satisfy items b and c must be selected from the College of Letters and Science GE requirements list (see Chapter 5). Students interested in taking a foreign language to satisfy this requirement must first consult with an academic counselor in the Office of Academic and Student Affairs.

For item b, at least three courses must be in the same academic department or must otherwise reflect coherence in subject matter. Of the three, at least two must be upper division courses selected from an approved list available in the Office of Academic and Student Affairs.

(5) Free elective courses (four to eight units) may be selected in some programs (see curriculum requirements in individual departments). The free electives may be selected from any courses yielding credit acceptable to the University of California except CLEP and certain remedial courses. However, in programs which include free elective units, it is strongly recommended that you select additional technical courses for some of these units.

(6) The engineering design content of your program must total at least one half-year of design experience.

(7) The engineering science content of your program must include a minimum of one year of engineering science units.

Lists of courses approved to satisfy specific curricular requirements, as well as specifying design and engineering science credit in engineering courses, are available from the Office of Academic and Student Affairs.

The aerospace engineering, chemical engineering, civil engineering, computer science and engineering, electrical engineering, materials engineering, and mechanical engineering curricula are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), the nationally recognized accrediting body for engineering programs.
Advising and Program Planning
As a new undergraduate, you must have your course of study approved by an academic counselor. After the first term, curricular and career advising is accomplished on a formal basis. You are assigned a faculty adviser in your particular specialization in your sophomore year or earlier.
In addition you are assigned, by major, to an academic counselor in the Office of Academic and Student Affairs who provides you with advice regarding general requirements for the degrees and University and school regulations and procedures. It is your responsibility to periodically meet with your academic counselor in the Office of Academic and Student Affairs, as well as with your faculty adviser, to discuss curriculum requirements, programs of study, and any other academic matters of concern.
You normally follow the curriculum in effect when you 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.
All SEAS undergraduate students may use the computerized SEAS Academic Program Planner, an interactive self-advising system which informs users immediately 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.
Academic counselors in the Office of Academic and Student Affairs are available to assist you with University procedures and to answer any questions you may have in regard to general requirements. Pay them a visit.
Passed/Not Passed Grading
You may take one course per term on a Passed/Not Passed basis if you are in good academic standing and are enrolled in at least three and one-half courses (14 units) for the term. Only SEAS general education courses (with the exception of English 3) and free electives may be one-half courses (14 units) for the term. Only SEAS general education courses (with the exception of English 3) and free electives may be one-half courses (14 units) for the term. Only SEAS general education courses (with the exception of English 3) and free electives may be one-half courses (14 units) for the term. Only SEAS general education courses (with the exception of English 3) and free electives may be one-half courses (14 units) for the term.

Honors
Departmental Scholars
If you are an exceptionally promising junior or senior, you may be nominated as a Departmental Scholar to pursue bachelor's and master's degree programs simultaneously. See "Academic Excellence" in Chapter 2 and the Announcement of the UCLA School of Engineering and Applied Science for details.
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 16 units (12 units of letter grade) with a grade-point average equal to or greater than 3.7.
Honors at Graduation
Students who have achieved scholastic distinction may be awarded the bachelor's degree with honors. To be eligible, you 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 which places you in the top five percent of the school (GPA of 3.804 or better) for summa cum laude, the next five percent (GPA of 3.678 or better) for magna cum laude, and the next 10 percent (GPA of 3.497 or better) for cum laude.
Based on grades achieved in upper division courses, engineering students must have a 3.804 grade-point average for summa cum laude, a 3.678 for magna cum laude, and a 3.497 for cum laude. For all designations of honors, you must have a minimum 3.25 grade-point average in your major field courses. To be eligible for an award, you 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."
Special Programs and Activities
Extracurricular Activities
The faculty strongly encourages students to participate in the many extracurricular activities available on campus, especially those of most relevance to engineering. Among these are the student engineering society (the Engineering Society, University of California), student publications, and programs of the many 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 Executive Committee.
Women in Engineering
Women make up approximately 20 percent of the undergraduate and 13 percent of the graduate enrollment in the School of Engineering and Applied Science. 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.
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 the School of Engineering and Applied Science. The department offers evening classes, short courses, certificate programs, special events, and education and training at the workplace. The office (515 UNEX, 10995 Le Conte Avenue) is open Monday through Friday. Call (310) 825-4100 for engineering and information systems class programs, (310) 825-3344 for short course programs, (310) 825-0328 for environmental sciences, and (310) 825-3858 for technical management programs. The fax number is (310) 206-2815.
Graduate Study
Admission
In addition to meeting the requirements of the Graduate Division, applicants to the graduate engineering programs are required to take the General Test of the Graduate Record Examination (GRE). In some cases applicants are also required to take the GRE Subject Test in Engineering, Mathematics, or a related area. Applicants for the graduate computer science programs are required to take the GRE General Test and Subject Test in Mathematics or Computer Science. 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.
Graduate students without adequate preparation may be admitted provisionally and may be required to take additional coursework which may not be applied toward the degree. After you arrive at UCLA, the adviser will help you plan a program which will remedy any such deficiencies.
For information on the proficiency in English requirements for international graduate stu-
Undergraduate Courses
No lower division courses may be applied toward graduate degrees. In addition, the following upper division courses are not applicable toward graduate degrees: Chemical Engineering M105A, 199, Civil and Environmental Engineering 106A, 108, 199, Computer Science 152A, 152B, 168L, 171L, 199, Electrical Engineering 100, 101, 102, 103, 110L, 199, Materials Science and Engineering 199, Mechanical, Aerospace, and Nuclear Engineering 102, 103, M105A, 105D, 199.

Individual departments within the school may impose certain restrictions on the applicability of other undergraduate courses toward graduate degrees. Consult with your graduate adviser on departmental requirements and restrictions.

Master of Science Degrees

Major Fields or Subdisciplines
The M.S. program is centered around one major field. The major fields and subdisciplines offered are: Chemical Engineering, Civil and Environmental Engineering, Computer Science, Electrical Engineering, Mechanical, Aerospace, and Nuclear Engineering. A majority of the total formal course requirement and of the graduate course requirements of the Graduate Division (see "Requirements") must consist of courses in the School of Engineering and Applied Science. 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.

Thesis Plan
The thesis must either describe some original piece of research that you have done, usually but not necessarily under the supervision of the thesis committee, or else provide a critical exposition of some topic in your major field of study. You would normally start to plan the thesis at least one year before the award of the M.S. degree is expected. There is no examination under the thesis plan.

Comprehensive Examination Plan
The comprehensive examination, which is offered every term, is required in written form only. Your comprehensive examining committee may conduct an oral query after review of the written examination. If in case of failure, you may be reexamined once with the consent of your departmental graduate adviser.

Cooperative Degree Programs
The School of Engineering and Applied Science has established two joint degree programs with other schools and departments on campus which allow you to earn two master's degrees simultaneously: the M.B.A./M.S.-Computer Science and the M.A.-Latin American Studies/M.S.-Engineering. Contact the Office of Academic and Student Affairs for details.

Master of Engineering Degree
The Master of Engineering (M.Eng.) 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 full details, write to the Office of Academic and Student Affairs, School of Engineering and Applied Science, 6426 Boelter Hall, UCLA, Los Angeles, CA 90024-1601, (310) 825-1704.

Engineer Degree
The School of Engineering and Applied Science 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 in each).

The Ph.D. and Engineer degree programs are administered interchangeably in the sense that a student in the Ph.D. program may exit with an Engineer degree or even pick up the Engineer degree enroute to the Ph.D. degree; similarly, a student in the Engineer degree program may continue to the Ph.D. after receiving the Engineer degree. The time spent in either of the two programs may also be applied toward the minimum residence requirement and time limitation for the other program.

Ph.D. Degrees

Major Fields or Subdisciplines
Chemical Engineering Department — Chemical engineering.
Civil and Environmental Engineering Department — Environmental engineering, geotechnical engineering, structures (structural mechanics and earthquake engineering), water resources engineering.

Computer Science Department — Artificial intelligence, computer network modeling and analysis, computer science theory, computer system architecture, programming languages and systems (software systems), scientific computing (biomedical systems, physical systems).

Electrical Engineering Department — Applied mathematics (established minor field only), applied plasma physics and fusion engineering, communications and telecommunication engineering, control systems, electromagnetics, integrated circuits and systems, operations research, quantum electronics, signal processing, solid-state electronics.

Materials Science and Engineering Department — Ceramics and ceramics processing, materials science, mechanical metallurgy, metallurgy and metals processing.

Mechanical, Aerospace, and Nuclear Engineering Department — Applied dynamic systems control, applied mathematics (established minor field only), applied plasma physics and fusion engineering, dynamics, fluid mechanics, heat and mass transfer, nuclear science and engineering, structural and solid mechanics.

Schoolwide Fields and Programs — For information regarding biocybernetics and man/machine/environment systems, contact the Office of Academic and Student Affairs, School of Engineering and Applied Science, 6426 Boelter Hall, UCLA, Los Angeles, CA 90024-1601, (310) 825-1704.

Requirements
All candidates must fulfill the minimum requirements of the Graduate Division (see "Requirements for Graduate Degrees" in Chapter 3). Major and minor fields may have additional course and examination requirements. For further information, contact the individual departments.

*You may propose to the school any other field of study with the support of your adviser. Instructions on the definition of acceptable ad hoc fields and procedures for their approval are available in each department office.
Graduate Certificate of Specialization

A certificate of specialization is available in all areas, except computer science, offered by the School of Engineering and Applied Science. 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 for a Certificate of Specialization in the School of Engineering and Applied Science may subsequently be applied toward master’s and/or doctoral degrees.

Chemical Engineering

5531 Boelter Hall, (310) 825-2046, 825-2491

Professors
David T. Allen, Ph.D., Chair
Yoram Cohen, Ph.D.

Traugott H. Frederking, Ph.D.
Sheldon K. Friedlander, Ph.D. (Ralph M. Parsons Professor of Chemical Engineering)

Ken Nobe, Ph.D. (Distinguished Teaching Award)
Selim M. Senkan, Ph.D.
Owen I. Smith, Ph.D.

Vincent L. Villker, Ph.D.
A. R. Frank Watzman, Ph.D., Dean

Eldon L. Knuth, Ph.D., Emeritus

Lawrence B. Robinson, Ph.D., Emeritus

William D. Van Vorst, Ph.D., Emeritus

Associate Professors
Robert F. Hicks, Ph.D., Vice Chair

Vasilios Manousiouthakis, Ph.D.
Harold G. Monbouquette, Ph.D.

Scope and Objectives

The Department of Chemical Engineering conducts undergraduate and graduate programs of teaching and research in the areas of thermodynamics, mass transfer, catalysis, semiconductor materials processing, electrochemistry and corrosion, high-temperature chemical kinetics and reaction engineering, combustion science, environmental reaction engineering, cryogenics and low-temperature processes, biochemical engineering, computer-aided process design and control, particle technology, pollution control, and polymer engineering. 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 bioengineering and environmental 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.

Bachelor of Science Degree

The goal of the ABET-accredited chemical engineering curriculum is to provide a high quality, professionally oriented education in modern chemical engineering. The bioengineering and environmental options exist as subsets of courses within the accredited curriculum. Balance is sought between science and engineering practice.

The Major

Course requirements are as follows (200 minimum units required):


(3) Two elective courses from Chemical Engineering 110, C111, 112, 113, C115, C116, C118, 119, C125, C140 and three upper division chemistry elective courses (except Chemistry and Biochemistry 100A).

(4) Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL; Civil and Environmental Engineering 15A and 15B or Mechanical, Aerospace, and Nuclear Engineering 20; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B, 8C, 8D.

(5) SEAS general education (GE) course requirements — see “Curricular Requirements” (item 4) earlier in this chapter for details.

Environmental Option

Course requirements are as follows (198 minimum units required):


(3) Two elective courses from Chemical Engineering 113, C118, 119, C140 (another chemical engineering elective may be substituted for one of these with approval of your faculty adviser) and three advanced chemistry electives in the environmental field from Atmospheric Sciences M203A, Biology M127, Chemistry and Biochemistry 103, Environmental Health Sciences 240, 241, 261 (other advanced chemistry courses may be selected in consultation with your faculty adviser).

(4) Atmospheric Sciences 2A; Chemistry and Biochemistry 11A, 11B/11BL, 11C/11CL; Civil and Environmental Engineering 15A and 15B or Mechanical, Aerospace, and Nuclear Engineering 20; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B/8BL, 8C/8CL, 8D/8DL.

(5) SEAS general education (GE) course requirements — see “Curricular Requirements” (item 4) earlier in this chapter for details.

Graduate Study

For information on graduate admission to the chemical engineering program and require...
ments for the M.S. and Ph.D. degrees, see "Graduate Study" at the beginning of this chapter.

Lower Division Course

2. Technology and the Environment. 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. Represent materials in industrial systems compared and contrasted with natural flows; presentation of life-cycle methods for evaluating environmental impact of processes and products. Mr. Allen (Sp)

Upper Division Courses

100. Introduction to Chemical Engineering. Prerequisites: Mathematics 32B (may be taken concurrently), Chemistry 11C/11CL, Physics 8B. Introduction to analysis and design of industrial chemical processes. Materials and energy balances. Mr. Monbouquette (F)

101A. Momentum Transfer. Prerequisites: course 106, Mathematics 33A, 33B. Introduction to analysis of fluid flow in systems of interest to chemical engineering practice. Fundamentals of momentum transport, Newton's law of viscosity, Navier-Stokes equations, thermodynamics, separation operations, and reaction engineering and simple economic principles for purpose of designing chemical processes and evaluating process designs. Mr. Nobe (Sp)

101B. Heat Transfer. Lecture, four hours; discussion, one hour. Prerequisite: course 101A. Introduction to analysis of heat transfer in systems of interest to chemical engineering practice. Fundamentals of thermal energy transport, Fourier law of heat conduction, forced and free convection, radiation, interphase heat transfer, heat exchanger analysis. Mr. Smith (W)

101C. Mass Transfer. Lecture, four hours; discussion, one hour. Prerequisites: courses 100, 101B, 102. Introduction to analysis of mass transfer in systems of interest to chemical engineering practice. Fundamentals of mass transport processes, chemical reaction rates, diffusion in chemically reacting flows, interphase mass transfer, multicomponent systems. Mr. Hicks (Sp)

102. Chemical Engineering Thermodynamics. Prerequisites: courses 100, 101A. Thermodynamic properties of pure substances and solutions. Phase equilibrium. Chemical reaction equilibrium and kinetics. Mr. Cohen (W)

103. Separation Processes. Prerequisites: courses 100, 101B, 102. 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. Mr. Vilker (Sp)

104A. Chemical Engineering Laboratory I (8 units). Lecture, four hours; laboratory, eight hours: outside study, four hours; other, four hours. Prerequisites: courses 100, 101B, 102. Measurements of temperature, pressure, flow rate, velocity, and fluid composition in chemical processes. Methods of data acquisition, evaluation, selection, fabrication and installation of laboratory safety. Development of written and oral communication skills. Mr. Hico (W,Sp)

104B. Chemical Engineering Laboratory II (8 units). Lecture, two hours; laboratory, eight hours; outside study, four hours; other, four hours. Prerequisites: courses 101C, 103, 104A. Course consists of experiments in chemical engineering unit operations, each unit studied in detail and presented in written form which presents their results both written and orally. Written report includes sections on theory, experimental procedures, scaleup and process design, and error analysis. Mr. Senkna (F, W)

105A. Introduction to Chemical Engineering Thermodynamics. Same as Mechanical, Aerospace, and Nuclear Engineering M105A. Lecture, four hours; recitation, one hour. Prerequisites: Mathematics 32B, Physics 8B. Phenomenological thermodynamics. Concepts of equilibrium and nonequilibrium thermodynamics; laws of thermodynamics, entropy, and free energy; second law and concept of entropy; equations of state and thermodynamic properties. Mr. Frederking (F, W, Sp)

106. Chemical Reaction Engineering. Prerequisites: courses 100, 101C, 102. Fundamentals of chemical kinetics and catalysis. Introduction to analysis and design of closed and open reaction systems. Mr. Allen (F)


108A. Process Economics and Analysis. Prerequisites: courses 103, 104B, 106. Integration of chemical engineering theory with economic principles, cost accounting, economic decision analysis, project economic analysis. Mr. Nobe (Sp)

108B. Chemical Process Computer-Aided Design and Analysis. Prerequisites: courses 103, 106, 108A. Computer Science 10F. Introduction to application of some mathematical and computing methods to chemical engineering problems, with focus on numerical solution of algebraic, differential, and partial differential equations. Mr. Allen, Mr. Manousiouthakis (Sp)

109. Mathematical Methods in Chemical Engineering. Lecture, four hours; outside study, six hours. Prerequisite: working knowledge of FORTRAN programming. Discussion of theory and applications of mathematics to chemical engineering problems. Study of mathematical and analytical techniques encompassing linear and nonlinear algebraic equations, finite difference methods, and ordinary and partial differential equations. Mr. Smith (F)

110. Intermediate Engineering Thermodynamics. Lecture, four hours; outside study, eight hours. Prerequisite: course 102. Principles and engineering applications of statistical and phenomenological thermodynamics. Determination of heat and mass transfer in terms of simple molecular models and spectroscopic data; nonideal gases; phase transitions and adsorption; nonequilibrium thermodynamics and coupled transport processes. Mr. Nobe (Sp)

111. Cryogenics and Low-Temperature Processes. (Formerly numbered 111.) Lecture, four hours; outside study, eight hours. Prerequisites: courses 102 or (Materials Science 130), M105A. Fundamentals of cryogenic and cryogenics science pertaining to industrial low-temperature processes. Basic approaches to analysis of cryofluids and envelopes needed for operation of cryogenic systems; low-temperature crystals, optimization of cryosystems and other special conditions. Concurrently scheduled with course C211. Mr. Frederking (W)

112. Polymer Processes. Prerequisites: course 101A, Chemistry 32A. Introduction to polymer science and technology, including polymerization reactions and polymer properties. Mr. Cohen (Sp)

113. Air Pollution Engineering. Lecture, four hours; preparation, two hours; outside study, six hours. Prerequisites: courses 101C and 102, or consent of instructor. Integrated approach to air pollution regulation, including concentrations of atmospheric pollutants, air pollution standards, air pollution sources and control technology, and relationship of air quality to emission sources. Mr. Friedlander (F)

114. Electrochemical Processes and Corrosion. Lecture, four hours; other, eight hours. Prerequisites: courses M105A, and 102 or Materials Science 130. Fundamentals of electrochemistry and engineering applications to industrial electrochemical processes and metal decontamination. Introduction to fundamentals of electrochemical processes and corrosion processes. Specific topics include corrosion of metals and semiconductors, electrochemical metal and semiconductor surface finishing, passivity, electrodeposition, electrosorption, electrochemical processes, and bioelectrochemical processes. May be concurrently scheduled with course C214. Mr. Nobe (F)

115. Biochemical Reaction Engineering. Lecture, four hours; outside study, eight hours. Prerequisites: courses 101C and 106, or Chemistry 156, or consent of instructor. 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 C215. Mr. Monbouquette, Mr. Vilker (W)

116. Surface and Interface Engineering. Prerequisites: courses 101C, 102, 106. Description of thermodynamics and kinetics of surface phenomena; nucleation, growth, and coalescence of films, solidification, diffusion, sorption, and reaction of gases on surfaces. Application of these concepts to electronic materials processing and catalyst design. May be concurrently scheduled with course C216. Mr. Hicks (F)

117. Multimedia Environmental Assessment. Lecture, four hours; preparation, two hours; outside study, six hours. Prerequisites: courses 101C and 102, or consent of instructor. Pollutant sources, estimation of source releases, waste minimization, transportation and fate of chemical pollutants in environment, multimedia techniques of multimedia assessment of environmental quality, including multimedia assessment and multimedia for designing chemical processes and evaluating process designs. May be concurrently scheduled with course C217. Mr. Allen (Sp)

119. Pollution Prevention for Chemical Processes. Lecture, four hours; recitation, one hour; preparation/outside study, seven hours. Prerequisite: course 108A or consent of instructor. Waste audits and emission inventories, process design and process flowsheets for waste minimization, economic analysis of environmental projects, life-cycle analysis. Mr. Cohen (W)

125. Bioseparations and Bioprocess Engineering. Lecture, four hours; outside study, eight hours. Prerequisites: courses 101C and 103, or Chemistry 156, or consent of instructor. 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 microbial reactors. Concurrently scheduled with course C225. Mr. Monbouquette, Mr. Vilker (Sp)

140. Fundamentals of Aerosol Technology. Lecture, four hours; outside study, eight hours. Prerequisites: courses 101C and 101B, or Consent of instructor. 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 microbial reactors. Concurrently scheduled with course C240. Mr. Friedlander (F)

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor. Individual investigation, under direction of faculty member. Enrollment request forms available in department office. Occasional field trips may be arranged. May be repeated for credit. (F, W, Sp)
Graduate Courses

200. Advanced Engineering Thermodynamics. Prerequisite: course 102 or equivalent. Phenomenological and statistical thermodynamics of chemical and physical systems with engineering applications. Presentation of role of atomic and molecular spectra and inter-molecular forces in interpretation of thermodynamic properties of gases, liquids, solids, and plasmas.

Mr. Nobe (F)

210. Advanced Chemical Reaction Engineering. Prerequisites: courses 101C, 106, or equivalent. Principles of chemical reactor analysis and design. Particular emphasis on simultaneous effects of chemical reaction and mass transfer on noncatalytic and catalytic reactions in fixed and fluidized beds.

Mr. Senkan (W)

C211. Cryogenics and Low-Temperature Processes. (Formerly numbered 211.) Lecture, four hours; outside study, eight hours. Prerequisites: courses 102 or Materials Science 130, M105A. 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; liquid helium; optimization of cryosystems and other special conditions. Concurrently scheduled with course C111.

Mr. Frederking (W)

C214. Electrochemical Processes and Corrosion. Lecture, four hours; outside study, eight hours. Prerequisites: courses M105A, and 102 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, electrodepositing, electrodeposition of batteries and fuel cells, electrolysis and photoelectrochemical processes. May be concurrently scheduled with course C114.

Mr. Nobe (F)

C215. Biochemical Reaction Engineering. Lecture, four hours; outside study, eight hours. Prerequisites: courses 101C and 106, or Chemistry 156, or consent of instructor. 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 C115.

Mr. Monbouquette, Mr. Viker (W)

C216. Surface and Interface Engineering. Prerequisites: courses 101C, 102, 106. Description of thermo-dynamics and kinetics of surface phenomena: nucleation, growth, and coalescence of films; adhesion, diffusion, and reaction of gases on surfaces. Application of these concepts to electronic materials processing and catalyst design. May be concurrently scheduled with course C116.

Mr. Hicks (F)

217. Electrochemical Engineering. Prerequisite: course C114. Transport phenomena in electrochemical systems; relationships between molecular transport, convection, and electrode kinetics, along with applications to industrial electrochemistry; fuel cell design, and modern battery technology.

Mr. Nobe (F)

C218. Multimedia Environmental Assessment. Lecture, four hours; preparation, two hours; outside study, six hours. Prerequisites: courses 101C and 102, or consent of instructor. Pollutant sources, estimation and measurement, transport and fate of chemical pollutants in environment, multimedia transfers of pollutants, multimedia modeling of chemical partitioning in environment, exposure assessment, and fundamentals of risk imaging, risk reduction strategies. Concurrently scheduled with course C118.

Mr. Cohen (W)

220. Advanced Mass Transfer, Prerequisite: course 101C or equivalent. Advanced treatment of mass transfer, with applications to industrial separation processes, gas cleaning, pulmonary reactions, controlled release systems, and reactor design. Molecular and constitutive theories of diffusion, interfacial transport, membrane transport, convective mass transfer, concentration boundary layers, forced turbulent transport.

Mr. Friedlander (F)

C225. Bioseparations and Bioprocess Engineering. Lecture, four hours; outside study, eight hours. Prerequisites: courses 101C, 106, or consent of instructor. 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 viable in stirred reactors. Concurrently scheduled with course C125.

Mr. Monbouquette, Mr. Viker (Sp)


Mr. Senkan, Mr. Smith (Sp)

C231. Molecular Dynamics. Prerequisite: course 106 or 110. Analysis and design of molecular-beam systems. Molecular-beam methods. Molecular beams: gas-surface interactions, including energy accommodation and heterogeneous reactions. Applications to air pollution control and to catalysis.

Mr. Allen (W)


Mr. Senkan, Mr. Smith (Sp)

M233. Principles, Practices, and Policies in Biotechnology (2 units). (Same as Biological Chemistry 233, Biology M233, Chemistry M233, Microbiology M233, Microbiology and Immunology M233, and Radiological Sciences M231.) Prerequisite: graduate standing or consent of instructor. Presentation of technologies, regulatory practices, and policies required for product development and review of current opportunities for new technology development. Topics include fermentation processes, pilot and large-scale bioprocess technologies, scaleup strategies, industrial recombinant DNA processes, hybridomas, protein engineering, peptide mimetics and rational drug design, medical and microscopic imaging, and intellectual property issues. S/U or letter grading.

Mr. Fox, Ms. Morrison

C240. Fundamentals of Aerosol Technology. (Formerly numbered 240.) Lecture, four hours; study, eight hours. Prerequisite: course 101C. Technology of particle/gas systems with applications to gas cleaning, commercial production of fine particles, and catalysis. Particle transformation and depositions, optical properties, experimental methods, dynamics and control of particle formation processes. Concurrently scheduled with course C140.

Mr. Friedlander (F, W)

250. Computer-Aided Chemical Process Design. Prerequisite: course 110A. Application of optimization methods in chemical process design; computer aids in process engineering; process modeling; systematic flowsheet invention; process synthesis; optimal design and operation of large-scale chemical processing systems.

Mr. Manusouckios (F)


Mr. Cohen (Sp)

290A-290Z. Special Topics (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as 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. S/U or letter grading.

M290U. Toxics Reduction: Science, Engineering, and Policy Issues. Same as Urban Planning M262A and Environmental Health Sciences M249.) Lecture, three hours. Prerequisites: Urban Planning 260A and 260B, or consent of instructor. 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 toxics reduction and current state of government and industry activities in this area.

Mr. Allen (W)

298A-298Z. Research Seminars (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by department. Lectures, discussions, student presentations, and projects in areas of current interest. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: appropriate personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

397B. Preparation for Ph.D. Preliminary Examinations (2 to 16 units). Prerequisites: graduate standing in chemical engineering, consent of instructor. Petitions for student to request enrollment may be obtained from assistant dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

397C. Preparation for Ph.D. Oral Qualifying Examination (2 to 16 units). Prerequisites: graduate standing in chemical engineering, consent of instructor. Preparation for oral qualifying examenation, including preliminary research on dissertation. S/U grading.

398. Research for and Preparation of M.S. Thesis (2 to 12 units). Prerequisites: graduate standing in chemical engineering, consent of instructor. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

399. Research for and Preparation of Ph.D. Dissertation (2 to 16 units). Prerequisites: graduate standing in chemical engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.
Chemistry/Materials Science
(Interdepartmental)

For details on this undergraduate program, see Chapter 5 on the College of Letters and Science.

Civil and Environmental Engineering

3173 Engineering I, (310) 825-2471

Professors
Stanley B. Dong, Ph.D.
John A. Dracup, Ph.D.
Gary C. Hart, Ph.D.
Richard B. Nelson, Sc.D.
Moshe F. Rubinstein, Ph.D. (Distinguished Teaching Award)
Lawrence G. Selma, Ph.D.
Michael K. Stenstrom, Ph.D., Chair
William W-G. Yeh, Ph.D.

Professors Emeriti
Michael E. Fournier, Ph.D.
Poul V. Lade, Ph.D.
Tung Hua Lin, D.Sc.
Chung Yen Liu, Ph.D.
Rokuro Muki, Ph.D.
Richard L. Perrine, Ph.D.
Sanford B. Roberts, Ph.D.
Lucien A. Schmit, Jr., M.S.

Associate Professors
Menachem Einmacht, Ph.D.
Lewes R. Felten, Ph.D., Vice Chair
Jiann-Wen Ju, Ph.D.
Mladen Vucetic, Ph.D.

Assistant Professors
Thomas C. Harman, Ph.D.
Janet G. Hering, Ph.D.

Senior Lecturer
George J. Tauxe, M.S., Emeritus

Adjunct Professors
Y. Marvin Illo, Ph.D.
Keith D. Stolzenbach, Ph.D.

Scope and Objectives

The civil and environmental engineering programs at UCLA include structural engineering, structural mechanics, geotechnical engineering, earthquake engineering, water resources engineering, environmental engineering, and system analysis.

The ABET-accredited civil engineering curriculum leads to a B.S. in Civil Engineering, a broad-based education in structural engineering, geotechnical engineering, 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, water resources engineering, and environmental engineering. 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.

Bachelor of Science in Civil Engineering

The objective of the civil engineering curriculum is to give graduating seniors an academically sound and practical background in civil engineering. A balanced program, including engineering science, design, and laboratory courses in civil engineering, is stressed. The ongoing goal of the program is to produce well-qualified graduates for the engineering profession or for graduate civil engineering schools in the U.S.

The Major

Course requirements are as follows (180 minimum units required):

1. Eight core courses: Chemical Engineering 1M05A or Mechanical, Aerospace, and Nuclear Engineering 1M05A, Civil and Environmental Engineering 11, 108, Electrical Engineering 100, 103, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 103.
2. (2) Civil and Environmental Engineering 120, 121, 130, 135A, 151, 153; one mathematics course from Mechanical, Aerospace, and Nuclear Engineering 174, 191A, 192A, 192B, 192C, 192D.
3. Thirty-two elective units, to be selected from the courses listed below, which must include eight units of laboratory:


Geotechnical Engineering — Chemical and Environmental Engineering 128L, Earth and Space Sciences 100, 139.

Structures — Civil and Environmental Engineering 135B, 135C, 135L, 137, 137L, 141, 142, 142L, 142X (two units), 143, 144, 147.

Systems Analysis — Civil and Environmental Engineering 106A, 1M140, 175.


(5) SEAS general education (GE) course requirements — see "Curricular Requirements" (item 4) earlier in this chapter for details.

(6) One free elective course.

Graduate Study

For information on graduate admission to the civil engineering program and requirements for the M.S. and Ph.D. degrees, see "Graduate Study" at the beginning of this chapter.

Lower Division Courses

3. Fundamentals of Environmental Engineering Science. Lecture, four hours; outside study, eight hours. Quantitative analysis of sources, transformations, and effects of pollutants in water, air, and soil. Topics include drinking water, wastewater, hazardous wastes, radioactive wastes, and atmospheric emissions.

   Ms. Hering, Mr. Stolzenbach (Sp)

11. Patterns of Problem Solving. (Formerly numbered Engineering 11.) Introduction to creative patterns of problem solving and decision making. Discussion of attitudes and techniques productive in problem solving. Heuristic guides for knowledge acquisition, problem presentation, and problem solving. Tools and concepts for decision making that include technology and human values.

   Mr. Rubinstein (F)


   Mr. Rubinstein (Sp)

15A. Introduction to Computing in Civil Engineering (2 units). Lecture, two hours; laboratory, two hours. Overview of operating systems for microcomputers, file editors, spreadsheets, database programs, SEASNet facilities. Introduction to programming. Civil engineering applications.

   Mr. Stenstrom (FW)

15B. Introduction to FORTRAN Programming (2 units). Lecture, two hours; laboratory, two hours. Enforced requisite: course 15A. Introduction to programming using structured FORTRAN. Selected topics in programming, with emphasis on numerical techniques as applied to engineering problems.

   Mr. Stenstrom (FW)

Upper Division Courses

105A. Problem Solving in Engineering Economy. Lecture, four hours; outside study, eight hours. Prerequisite: upper division standing. Problem-solving and decision-making framework for economic analysis of engineering projects. Foundation for understanding corporate financial practices and accounting. Decisions on capital investments and choice of alternatives for engineering applications in all fields. Introduction to use of engineering economics in analysis of inflation and public investments.

   Mr. Dracup (W)

108. Introduction to Mechanics of Deformable Solids. Lecture, three hours; recitation, two hours; outside study, seven hours. Prerequisite: Mathematics 33A. Review of equilibrium principles; forces and moments transmitted by slender members. Concepts of stress and strain. Material constitution (stress-strain relations). Yield criteria. Structural applications to trusses, beams, shafts, columns, and pressure vessels.

   Mr. Felton (FW,Sp)
120. Principles of Soil Mechanics. Lecture, four hours; outside study, eight hours. Prerequisite: course 108. Soil as a foundation for structures and as a material of construction. Basic concepts of soil mechanics, physical and mechanical properties, compaction, bearing capacity, earth pressures, consolidation, and shear strength. Mr. Vucetic (F)

121. Design of Foundations and Earth Structures. Prerequisite: course 120. Design methods for foundations and earth structures. Site investigation, including determination of soil properties for design. Design of footings and piles, including stability and settlement calculations. Design of slopes and earth retaining structures. Mr. Vucetic (W)

128L. Soil Mechanics Laboratory. Lecture, one hour; laboratory, eight hours; outside study, three hours. Prerequisite: 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 index, consolidation, shear strength determination. Design problems, report writing. Mr. Vucetic (Sp)

130. Elementary Structural Mechanics. Lecture, four hours; outside study, eight hours. Prerequisite: course 108. Analysis of stress, strain; phenomenological material behavior, fatigue, cumulative damage; bending, extension of beams, unsymmetrical sections, stiffened shell structures; torsion of beams, stress function, warping, thin-walled cross-sections; stress states; plate analysis; instability, buckling of structural components, plates, approximate methods, critical formulas. Mr. Nelson (W)

130F. Experimental Fracture Mechanics. Lecture, two hours; laboratory, six hours; outside study, four hours. Prerequisite: course 108. Validation of structural concepts by experimental methods. Elementary introduction to fracture mechanics and experimental techniques used in fracture, crack tip stress fields, strain energy release rate, fracture characterization, compliance calibration, surface flaws, fatigue crack growth and fatigue life of structural components, mixed mode fracture, and individual projects. Mr. Felton (F)

130L. Experimental Structural Mechanics. Lecture, two hours; laboratory, six hours; outside study, four hours. Prerequisite or corequisite: course 130 or equivalent. Lecture, four hours; outside study, eight hours. Prerequisite: course 108 or consent of instructor. Introduction to structural analysis, classification of structural elements; analysis of statically determinate trusses, cables, beams, and frames; deflections in elementary structures; introduction to virtual work; analysis of indeterminate structures; introduction to force method of analysis. Mr. Selna (W)

135A. Elementary Structural Analysis and Failure. Lecture, four hours; outside study, eight hours. Prerequisite: course 108 or consent of instructor. Introduction to structural analysis, classification of structural elements; analysis of statically determinate trusses, cables, beams, and frames; deflections in elementary structures; introduction to virtual work; analysis of indeterminate structures; introduction to force method of analysis. Mr. Hart (Sp)

135B. Intermediate Structural Analysis. Lecture, four hours; outside study, eight hours. Prerequisite: course 135A or consent of instructor. Analysis of truss and frame structures using matrix methods; matrix force methods; matrix displacement method; analysis concepts based on theorem of virtual work; moment distribution. Mr. Nelson (W)

135C. Computer Analysis of Structures. Lecture, four hours; outside study, eight hours. Prerequisite: course 135A. Recommended: course 135B. Matrix displacement and finite element method of structural analysis, with emphasis on their application in computer analysis. Development of approximate analysis techniques for estimation/verification of computer results. Discussion of structural principles, including symmetry, antisymmetry, superposition, and Muellner/Breslau principle for influence lines. Mr. Ju (Sp)
Graduate Courses

220. Shear Strength of Soil and Stability of Slopes. Prerequisite: course 120. Detailed study of fundamental concepts of shear strength of soils, stability determination factors, methods of strength measurement. Slope stability and stability analysis techniques using circular and noncircular failure surfaces, effect of side forces, total and effective stress analysis methods. Mr. Vucetic (F)

221. Foundation Engineering. Prerequisites: courses 120, 220. Principles of foundation design, including theory of consolidation, impounded drainage, stress distribution, settlement analysis, allowable bearing capacity for shallow foundations, piles and piers, laterally loaded piles. Mr. Vucetic (W)

222. Soil Dynamics. Lecture, four hours; outside study, eight hours. Prerequisite: course 220. Soil mass behavior of soils under cyclic loads. Behavior of soil deposits and earth structures during earthquakes. Liquefaction of saturated cohesionless deposits. Fundamentals of vibrations of machinery foundation. Mr. Vucetic (W)

223. Earth Pressures and Earth Retaining Structures. Lecture, four hours; outside study, eight hours. Prerequisite: course 120. Basic concepts of theory of earth pressures behind retaining structures, with special application to design of retaining walls, bulkheads, and excavation bracing; effects of flexibility of bulkheads, creep in soils, and construction techniques.

228L. Advanced Soil Mechanics Laboratory. Prerequisites: courses 120, 121, 220, 221. Lectures and laboratory studies of advanced aspects of soil properties and their application to design. Permeability, consolidation, strength testing, pore water pressure measurements, advanced instrumental linear and nonlinear evaluation techniques. Preparation of engineering reports. Mr. Vucetic (Sp)

229. Seminar: Advanced Topics in Soil Mechanics. Lecture, four hours; outside study, eight hours. Prerequisite: consent of instructor. Topic variable; each term to cover subjects such as earth dam design, seepage through soils, consolidation, constitutive laws, finite difference and finite element methods with special application in soil mechanics; theories of elasticity and plasticity, and case histories.

230. Elasticity. (Same as Mechanical, Aerospace, and Nuclear Engineering M256B.) Lecture, four hours; outside study, eight hours. Prerequisite: M230 or consent of instructor. Equations of linear elasticity; uniqueness of solution; Betti/Rayleigh reciprocity; Saint-Venant's principle; simple problems involving axisymmetry and cylinders; special techniques for plane problems. Airy stress function, complex variable method, transform method; three-dimensional problems, torsion, entire space and half-space problems; boundary integral equations. Mr. Dong, Mr. Ma (W)

231. Inelastic Effects in Structures and Materials. Prerequisite: course 130 or equivalent consent of instructor. Analysis between inelastic stress and applied force in stress analysis. Mathematical and physical theories of plasticity and creep and their basic assumptions. Static and dynamic analysis of inelastic beams, columns, frames, and plates. Localized plastic deformation in materials.

232. Theory of Plates and Shells. Prerequisites: course 130 or Mechanical, Aerospace, and Nuclear Engineering 156B. Small and large deflection theories of thin plates; energy methods; free vibrations; membrane theory of shells; axisymmetric deformations of cylindrical and spherical shells, including bending. Mr. Nelson (W)

233. Mechanics of Composite Material Structures. Lecture, four hours; outside study, eight hours. Prerequisites: courses M230 and 232, or consent of instructor. Elastic, anisotropic stress-strain-temperature relations. Analysis of prismatic beams by three-dimensional elastic analysis; theory of control plates and shells based on classical and first-order shear deformation theories. Elasticodynamic behavior of laminated plates and cylinders. Mr. Nelson (W)

234. Advanced Topics in Structural Mechanics. Prerequisites: graduate standing in engineering, consent of instructor. Current topics in composite material, computational methods, finite element analysis, structural synthesis, nonlinear mechanics, and structural mechanics in general. Topics may vary from term to term.

235A. Advanced Structural Analysis. 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. Mathematical approximation, introduction to finite element analysis.

235B. Finite Element Analysis of Structures. Prerequisites: courses 130 and 235A, or consent of instructor. Theory of finite element 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. Mr. Nelson (W)

235C. Nonlinear Structural Analysis. Prerequisite: course 235B or consent of instructor. Classification of nonlinear effects; material nonlinearities; conservative, nonconservative material behavior; geometric nonlinearities, Lagrangian, Eulerian description of motion; finite and infinitesimal principles; solutions of nonlinear problems; postbuckling behavior of structures; solution of nonlinear equations; incremental, iterative, programming methods. Mr. Nelson (Sp)

236. Stability of Structures I. Prerequisite: course 130 or 135B or equivalent. Elastic buckling of bars. Different approaches to stability problems. Inelastic buckling of columns and beam columns. Columns and beam columns with linear, nonlinear creep. Combined torsional and flexural buckling of columns. Buckling of plates. Mr. Nelson (Sp)

237A. Dynamics of Structures. (Same as Mechanical, Aerospace, and Nuclear Engineering M269C.) Prerequisite: course 137. Response of structural systems to random excitations. Stationary and nonstationary excitations. Response of systems with random parameters. Discrete and continuous linear systems. Applications to earthquake response, vibrations due to random vibrations. Mr. Vucetic (W)

240. Optimum Structural Design. (Same as Mechanical, Aerospace, and Nuclear Engineering M276.) Lecture, four hours; outside study, eight hours. Prerequisites: courses 137, 141, 235A. Performance characterization of steel structures for static and dynamic loads. Determination of resistance factor design of beams, columns, and plates for biaxial loads. Composite steel-concrete members. Mr. Hart (W)

242. Advanced Reinforced Concrete Design. Lecture, four hours; outside study, eight hours. Prerequisite: course 142. Design of building and other structural systems for vertical and lateral loads. Earthquake forces. Ductility in elements and systems. Columns; secondary effects and base bending. Slab and floor systems; design and analysis methods. Footings, shear walls, diaphragms, chords, and collectors. Dolling for ductile behavior. Retrofitting. Mr. Sela (Sp)

244. Structural Loads and Safety for Civil Structures. Prerequisite: course 141 or 142 or 143 or 144. Modeling of uncertainties in structural loads and structural mechanics; structural safety analysis; and calculation of capacity reduction factors. Mr. Hart (F)

245. Earthquake Ground Motion. Lecture, four hours; outside study, eight hours. Prerequisite: course 137. Methods for determination of site ground motion. Seismology and seismicity. Plate tectonics. Source mechanisms. Waves associated with earthquakes. Use of Fourier and response spectra. Attenuation methods for prediction of site response. Typical strong ground motion records. Mr. Hart (W)

246. Structural Response to Ground Motions. Prerequisite: course 137. Spectral analysis of ground motions; response, time, and Fourier spectra. Response of structures to ground motions due to earthquakes and nuclear events. Comparative methods for evaluating structural response. Response analysis, including evaluation of contemporary design standards. Limitations due to idealizations. Mr. Hart, Mr. Seina (Sp)
250A. Surface Water Hydrology. Lecture, four hours; outside study, eight hours. Prerequisite: course 150 or consent of instructor. In-depth study of surface water components of hydrologic cycle. Hydrologic mass balance analysis and empirical methods in surface water investigation and physical hydrology. Stochastic hydrologic time-series analysis, Markovian streamflow generating models, and generation of multivariate synthetic streamflows. Applications. Mr. Dracup (W).


250C. Mathematical Modeling of Contaminant Transport in Groundwater. Lecture, four hours; laboratory, eight hours. Prerequisites: courses 250B and 252, or consent of instructor. 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, coupled advection-diffusion-porosity problems, computer programs and applications. Mr. Yeh (Sp).

251. Water Resources Systems Engineering. Lecture, four hours; outside study, eight hours. Prerequisites: course 108A, one or more courses from Economics 1, 2, 11, 101, and 101, or consent of instructor. Economic theory and applications in analysis and management of water and environmental problems; application of price theory to water resource management and rechargeable water resources planning; conjunctive use of surface and ground water resources. Emphasis on management of water quantity. Mr. Yeh (Sp).

252. Engineering Economic Analysis of Water and Environmental Planning. Lecture, four hours; outside study, eight hours. Prerequisite: course 153. Development of mathematical models for simulating environmental engineering problems. Emphasis on numerical techniques to solve nonlinear partial differential equations and their application to environmental engineering problems. Mr. Stenstrom (F).

254A. Aquatic Chemistry. (Formerly numbered 254.) Lecture, four hours; outside study, eight hours. Prerequisite: course 155 or consent of instructor. Chemistry 119, Mathematics 33B. Chemistry of natural waters and wastewaters, including acid/base, complexation, precipitation/dissolution, oxidation/reduction, and adsorption reactions. Emphasis on prediction of equilibrium constants of chemical reactions in aquatic systems. Introduction to kinetics of chemical reactions in aqueous solutions. Ms. Hering (F).

254B. Chemical Kinetics and Process Dynamics In Aquatic Systems. Lecture, four hours; outside study, eight hours. Prerequisite: course 254A. Principles of chemical kinetics with specific applications to air/water/soil environments. Topics include fundamentals, data analysis, reaction mechanisms, transport considerations, kinetics of aqueous reactions under environmental conditions, current research on chemical kinetics in natural and engineered systems. Ms. Hering (W).

254C. Aquatic Surface Chemistry. Lecture, four hours; outside study, eight hours. Prerequisite: course 254A. Principles of surface chemistry as applied to geochemistry of natural waters, soils, and sediments and to water and wastewater technology; adsorption and desorption; precipitation and dissolution; surface catalysis. Ms. Hering (W).

255A. Physical and Chemical Processes for Water and Wastewater Treatment. Lecture, four hours; outside study, eight hours. Prerequisites: courses 155 and 245A, or consent of instructor. Review of momentum, heat, and mass transfer evolution; coagulation and flocculation, granular filtrations, sedimentation, carbon adsorption, gas transfer, disinfection, oxidation, and membrane processes. Mr. Elimelech (W).

255B. Biological Processes for Water and Wastewater Treatment. Lecture, four hours; outside study, eight hours. Prerequisites: courses 254A and 255A, or consent of instructor. Fundamentals of environmental engineering microbiology; microbial physiology and biological oxidation; applications for activated sludge, gas transfer, fixed-film processes, aerobic and anaerobic digestion, sludge disposal, and biological nutrient removal. Mr. Stenstrom (Sp).

255B. Membrane Separations in Aquatic Systems. Prerequisite: course 254A. Applications of membrane separations to desalination, water reclamation, brine disposal, and ultrapurp water systems. Discussion of reverse osmosis, ultrafiltration, electro-dialysis, and ion exchange technologies from both practical and theoretical standpoints. Mr. Elimelech (Sp).

259B. Selected Topics in Environmental Engineering (2 to 4 units). (Formerly numbered 259B.) Lecture, four hours; outside study, eight hours. Prerequisite: consent of instructor. Review of recent research and developments in environmental engineering, Water and wastewater treatment, non-point pollution, multimedia impacts. May be taken for a maximum of four units. S/U or letter grading. Mr. Stenstrom (F).

260. Advanced Topics in Hydrology and Water Resources. Lecture, four hours; other, eight hours. Prerequisites: courses 250A, 250B, and 251, or consent of instructor. Current research topics in inverse problem of parameter estimation, experimental design, conjunctive use of surface and groundwater, multiblock water resources planning, and optimization of water resources system. Topic may vary from term to term. Mr. Yeh (F).

261. Colloidal Phenomena in Aquatic Systems. (Formerly numbered 259CC.) Lecture, four hours; outside study, eight hours. Prerequisites: courses 250A and 255A, or consent of instructor. Colloidal interactions, colloidal stability, colloidal hydrodynamics, surface chemistry, adsorption of pollutants on colloidal surfaces, transport of colloids in porous media, coagulation, and particle deposition. Consideration of applications to colloidal processes in aquatic environments. Mr. Elimelech (Sp).

M252A. Introduction to Atmospheric Chemistry. (Same as Atmospheric Sciences M252A.) Lecture, three hours. Prerequisite: undergraduate Chemistry 11C. Principles of chemical kinetics, thermochromy, spectroscopy, and photochemistry; chemical composition and history of Earth's atmosphere; biogeochemical cycles of key atmospheric constituents; basic photochemistry of troposphere and stratosphere, upper atmospheric chemical processes; air pollution; chemistry and meteorology of air pollution. Mr. Elimelech (Sp).

M252B. Atmospheric Diffusion and Air Pollution. (Same as Atmospheric Sciences M252B.) Lecture, three hours. Nature and sources of atmospheric pollution; diffusion from point to line, and area sources; pollution dispersion in urban complexes; meteorology of atmospheric processes in urban areas; meteorological and topographical aspects of air pollution. 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. Mr. Yeh (W).

255A. Mass Transfer in Environmental Systems. (Formerly numbered 265.) Lecture, four hours; computer applications, two hours; outside study, eight hours. Prerequisite: graduate standing in civil engineering, consent of instructor. Phase equilibrium concepts; mass transfer in natural and engineered flow; mass transfer to particles and at air/water interface; molecular diffusion and dispersion in porous solids; transport phenomena. Mr. Harmon (F).

256B. Contaminant Transport in Soils and Groundwater. Lecture, four hours; computer applications, two hours; outside study, six hours. Prerequisites: courses 250B, and 265A or consent of instructor. Principles of mass transfer to soil and groundwater, independent estimation of transport model parameters; remediating hazardous waste sites. Mr. Harmon (Sp).


296A-296Z. Advanced Topics in Civil Engineering (2 to 4 units). Prerequisite: consent of instructor. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading. (F,W,Sp).

297A-297ZZ. Seminars: Current Topics in Civil Engineering (2 to 12 units each). (Formerly numbered 296AA-296ZZ.) Prerequisite: consent of instructor. Lectures, discussions, and student presentations and projects in areas of current interest in civil engineering. May be repeated for credit. S/U grading. (F,W,Sp).

298. Seminar: Engineering (2 to 4 units). Prerequisites: graduate standing in civil engineering, consent of instructor. Seminars may be organized in advanced technical fields. If appropriate, field trips may be arranged. May be repeated with topic change.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice practicum provides student with active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading. (F,W,Sp).

495. Teaching Assistant Training Seminar (2 units). Prerequisite: 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; instructional use of visual aids; grading, advising, and rapport with students. S/U grading. (F,W,Sp).

496. Directed Individual or Tutorial Studies (2 to 12 units). Prerequisite: graduate or undergraduate standing in civil engineering, consent of instructor. Petition forms to receive permission from a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading. (F,W,Sp).

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate or undergraduate standing in civil engineering, consent of instructor. Petition forms to receive permission from a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading. (F,W,Sp).

597A-597B. Independent Study (2 to 4 units each). Prerequisite: consent of instructor. Independent study under the general direction of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading. (F,W,Sp).
Computer Science

3713 Boelter Hall, (310) 825-3886

Professors
Aligidas A. Avizienis, Ph.D.
Alfonso F. Cardenas, Ph.D.
Jack W. Carlyle, Ph.D.
Wesley W. Chu, Ph.D.
Joseph J. DiStefano III, Ph.D.
Michael G. Dyer, Ph.D.
Milo D. Ercegovac, Ph.D.
Mario Gerla, Ph.D.
Sheila A. Greibach, Ph.D.
Walter J. Karplus, Ph.D.,
Alfred Inselberg, Ph.D.

Adjunct Professors
David A. Rennels, Ph.D.
Boris Kogan, Ph.D.

Associate Professors
Alfred Inselberg, Ph.D.
Boris Kogan, Ph.D.
Gerald J. Popek, Ph.D.

Scope and Objectives

Computer science is concerned with the modeling, analysis, design, 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 strongly related studies of subjects in artificial intelligence, computer science theory, computer system architecture, computer network modeling and analysis, distributed computer systems, programming languages and systems, and scientific computing.

The undergraduate and graduate studies and research projects in computer science are supported by extensive computing resources. In addition to the departmental computing facility, there are nearly a dozen laboratories specializing in areas such as computer communications, VLSI systems, VLSI CAD, and artificial intelligence. The Cognitive Systems Laboratory is engaged in studying computer systems which emulate or support human reasoning. The Biocomputers Laboratory is devoted to multidisciplinary research involving the application of engineering and computer science methods to problems in biology and medicine.

The Bachelor of Science degree may be attained either through the computer science and engineering major or through the computer science major described below.

The School of Engineering and Applied Science 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 which enables students to obtain the M.S. in Computer Science and the M.B.A. (Master of Business Administration).

Bachelor of Science in Computer Science and Engineering

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. This curriculum has major components from the Computer Science and Electrical Engineering Departments. Within the curriculum students study all aspects of computer systems from electronic design, based on solid-state physics concepts, through logic design, integrated circuit selection and design, MSI, LSI, and VLSI concepts and device utilization, machine language design, implementation and programming, operating system concepts, system programming, networking fundamentals, higher-level language skills, and application of these systems. Students are prepared for employment in the high-technology industries which interface with information and digital systems.

The Major

Course requirements are as follows (180 minimum units required):

(1) Five core courses: Computer Science 21, 22, 23, 24, 51A.

(2) Computer Science 111, 112, 118, 131, 151B, 180, 181, Electrical Engineering 16, 102, 110, Statistics 154A; four laboratory units (Computer Science 152A, 152B); one course from Computer Science 161, 163, 168; two computer science/electrical engineering electives (excluding Electrical Engineering 100) and two computer science/electrical engineering laboratories; Computer Science M196B or Electrical Engineering 103.

(3) Two upper division elective courses from the Computer Science Department, one of which must be from 132, 171, 172, 173, 174, M196B. Course 199 may normally be taken only as a free elective; however, you may petition for exceptions in extraordinary situations.

(4) Chemistry and Biochemistry 11A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61; Physics 8A/8AL, 8B/8BL, 8C/8CL.

(5) SEAS general education (GE) course requirements — see "Curricular Requirements" (item 4) earlier in this chapter for details.

(6) One free elective course.

Bachelor of Science in Computer Science

The computer science curriculum is designed to accommodate students who want full professional preparation in computer science but do not necessarily have a strong interest in computer systems hardware. The curriculum consists of major 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, you 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 Major

Course requirements are as follows (180 minimum units required):

(1) Five core courses: Computer Science 21, 22, 23, 24, 51A.

(2) Computer Science 111, 112, 118, 131, 132, 151B, 180, 181, Statistics 154A; one course from Computer Science 161, 163, 168; course M196B or Mathematics 141A or Electrical Engineering 103; four laboratory units (Computer Science 152A, 152B).

(3) One elective upper division computer science course.
(4) A minor or technical support area composed of a coherent group of three upper division courses selected from astronomy, atmospheric sciences, biology, chemical engineering, chemistry and biochemistry, civil and environmental engineering, Earth and space sciences, economics, electrical engineering, library and information science, linguistics, management, materials science and engineering, mathematics, mechanical, aerospace, and nuclear engineering, molecular biology, physics.

(5) Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61; Physics 8A/8AL, 8B/8BL, 8C/8CL.

(6) SEAS general education (GE) course requirements — see “Curricular Requirements” (item 4) earlier in this chapter for details. Computer science students must also select two additional humanities/social sciences courses and one additional life sciences course. Chemistry 11A may be substituted for one of the life sciences courses.

(7) Two free elective courses.

Graduate Study

For information on graduate admission to the computer science program and requirements for the M.S. and Ph.D. degrees, see “Graduate Study” at the beginning of this chapter.

Computer Science Breadth Requirement

Candidates for the M.S. or Ph.D. degree in Computer Science must satisfy the computer science breadth requirement by the end of the fourth term in graduate residence at UCLA. This requirement is satisfied by mastering the contents of six undergraduate courses in computer science selected from the following two groups:

Group 1 (four required courses or equivalent)
- Computer Science 23 or 143 or 180, 51A, 151B, 181.

Group 2 (two required courses or equivalent)
- Computer Science 111, 112 or 118, 131 or 132, 161 or 163 or 168, 171 or 174, 172 or 173 or 270A.

Competence in any or all courses may be demonstrated by one of three methods:

(1) Satisfactory completion of the course at UCLA with a grade of B— or better.

(2) Satisfactory completion of an equivalent course at another university with a grade of B— or better.

(3) Satisfactory completion of a final examination in the courses at UCLA.

In addition, for each degree student must complete at least three consecutive terms of Computer Science 201 with grades of Satisfactory.

M.B.A./M.S.-Computer Science

The Department of Computer Science and the John E. Anderson Graduate School of Management offer a concurrent degree program which enables students to complete requirements for the M.S. in Computer Science and the M.B.A. (Master of Business Administration) in three academic years. Students should request application materials from both the M.B.A. Admissions Office, John E. Anderson Graduate School of Management, and the Department of Computer Science, School of Engineering and Applied Science.

Lower Division Courses

1. Principles of Computer Science. Lecture, four hours; laboratory, two hours; other, six hours. Not open for credit to computer science majors. Introduction to fundamental scientific principles of computation. Programming in LISP: Systems software, including interpreters, and operating systems. Computer hardware design and implementation. Theory of computation, including computability and complexity. Applications, including artificial intelligence and scientific computing. Mr. Dyer

2. Great Ideas in Computer Science. (Formerly numbered 98.) Lecture, four hours; outside study, eight hours. Broad coverage for liberal arts and social sciences students of computer science theory, technology, and implications, including artificial and neural machine intelligence, computability limits, virtual reality, cellular automata, artificial life, programming languages survey, and philosophical and societal implications. Mr. Dyer, Mr. Jefferson

10C. Introduction to Programming/PASCAL. Lecture, four hours; discussion, two hours. Exposure to computer organization and capabilities. Basic principles of programming (using PASCAL as example language): algorithmic, procedural problem solving. Program design and development. Control structures and data structures. Character strings and word processing. Mr. Gerla

10F. Introduction to Programming/FORTRAN. Lecture, four hours; discussion, two hours. Open to mathematics and computer science majors; open to graduate students on S/U grading basis only. Description and use of FORTRAN programming language. Selected topics in programming techniques. Programming and running of several problems. Mr. Gerla

11. Introduction to PASCAL. Lecture, four hours; discussion, two hours; other, six hours. Limited to majors in computer science and engineering and computer science majors. Open to graduate students on S/U grading basis only. Not open to students with credit for course 10C, 10F, or Program in Computing 10A. Human factors in programming and program design. Exposure to computer organization and capabilities, data representation, professional ethics. Principles of programming (using PASCAL as example language): algorithm design and procedural abstraction. Program design and development. Control structures and data structures. Mr. Martin

21. Introduction to Computer Science I. Lecture, four hours; discussion, two hours; outside study, six hours. Enforced requisite: course 11. Importance of specification. Turing machines as formal specifications of procedures. Formal systems. Propositional and predicate logic and Horn logic. Set theory, relations, functions, and sequences. Practical examples of specification. Mr. Gaifni, Mr. Parker

22. Introduction to Computer Science II. (Formerly numbered 12.) Lecture, four hours; recitation, two hours. Enforced requisite: course 21. Limited to students in computer science and engineering major. Open to graduate students on S/U grading basis only. Higher-level programming languages, control flow statements, object-oriented programming (using SCHEME programming language), coroutines, syntactic abstraction. Mr. Dyer, Mr. Korf

23. Introduction to Computer Science III. (Formerly numbered 13.) Lecture, four hours; recitation, two hours. Enforced requisites: courses 21, 22. Design and specification of algorithmic solutions. Design and specification of data structures, complexity analysis of algorithms and data structures. Implementation of algorithms and data structures in C programming language. Performance analysis of computer programs.

Mr. Greibach, Mr. Kahng


Mr. Muntz, Mr. Rennels

51A. Logic Design of Digital Systems. (Formerly numbered 151A.) Lecture, four hours; recitation, two hours; outside study, six hours. Enforced requisite: Physics 8C. Introduction to digital systems. Specification and implementation of combinational and sequential systems. Standard logic modules and programmable logic arrays. Specification and implementation of algorithmic systems: data and control sections. Number systems and arithmetic algorithms. Error control codes for digital information.

Mr. Avizienis, Mr. Ercogevac

Upper Division Courses

111. Operating Systems Principles. Lecture, four hours; laboratory, two hours. Prerequisites: courses 23 or equivalent, 24. Introduction to design and performance evaluations of modern operating systems. Mapping and binding of addresses. Organization of multi-programming and multiprocessing systems; interrupts, process model, and interlocks. Resource allocation models and problem of deadlocks. Scheduling, synchronization. Memory management, virtual memory, I/O control, file systems.

Mr. Jefferson, Mr. Muntz

112. Computer System Modeling Fundamentals. Lecture, four hours; outside study, eight hours. Prerequisites: upper division computer science or Statistics 154A. Limited to students in computer science and engineering majors. Consent of instructor. Basic tools necessary for performance evaluation and design of distributed computer systems, including such topics as combinatorics, generating functions, probability theory, transforms, Markov chains, baby queueing theory. Presentation of this set of tools in a fashion that is rich with examples from computer systems field.

Mr. Kleinnock

118. Computer Network Fundamentals. Lecture, four hours; discussion, two hours. Prerequisite: upper division standing in one of the courses 154A or 154B. Introduction to computer communications networks. Development of methodology for implementing these functions in procedures called protocols. Organization around ISO/OSI seven-layer architecture, with review of each layer. Specific functions defined and available protocols briefly surveyed. Presentation of several applications and case studies based on existing public and private networks.

Mr. Gerla, Mr. Kleinnock

130. Software Engineering. Lecture, four hours; laboratory, two hours. Prerequisites: courses 22, 23. Structured programming, program specification, program proving, modularity, abstract data types, composite design, software tools, software control systems, program testing, team programming.

Mr. Cardenas
131. Programming Languages. Lecture, four hours; laboratory, two hours. Prerequisite: courses 24, 31A. Study, comparison, and evaluation of alternative strategies for language specification, data description, data control, program modularity, instruction sequencing, and language implementation. Use of the programming lan-
guages selected from FORTRAN 77, ADA, SNOBOL 4, LISP, MODULA 2, and PROLOG to illustrate par-
ticular implementations of some of above features.

Mr. Bagrodia, Mr. Jefferson (F,W)

132. Compiler Construction. Lecture, four hours; discussion, two hours. Prerequisites: courses 23 or equivalent, 131, 181. Compiler structure; lexical and syntactic analysis; semantic analysis and code generation; theory of parsing.

Mr. Bagrodia, Mr. Martin (W)

141. Basic Methods of Data Organization. Lecture, four hours; laboratory, two hours. Prerequisites: courses 22 and 23, or consent of instructor. Fundamental techniques for organizing and manipulating data, stressing relationships to performance, time, storage trade-offs. Sequential and linked storage allocation for linear lists, multilinked structures, trees; implementation, traversals, mathematical properties. Graphs and networks; memory representation, algorithms. Dynamic storage allocation. External storage devices. Database concepts and architectures. Topics include sorting, searching, algorithmic analysis, graph theory, concepts underlying file management systems.

Mr. Cardenas, Mr. Gerla

143. Introduction to Database Systems. Lecture, four hours; discussion, two hours; laboratory, two hours; outside study, six hours. Prerequisites: courses 22 and 23, or consent of instructor. Information systems and database systems in enterprises. File organization and secondary storage structures. Rela-
tional model and relational database systems. CODASYL and other data management approaches. Database design principles. Transactions, concur-
rency, and recovery. Integrity and authorization.

Mr. Cardenas, Mr. Zaniolo (F,Sp)

151B. Computer Systems Architecture. Lecture, four hours; discussion, two hours; laboratory, two hours; outside study, six hours. Prerequisite: course 51A. Recommended: courses 24, 152A. Machine organization and design, formal descriptions, comparative study of machine instruction sets and formats, data representation and floating point, addressing structures, mechanization of procedure calls, memory organization and management, microprogramming, I/O processing and interrupts, and reliability aspects.

Mr. Cong, Mr. Rennels, Mr. Tamir (F,W)


Mr. Acampac (W, odd years)

152A. Introductory Digital Design Laboratory (2 units). Laboratory, four hours. Prerequisite: course 51A. 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 pro-
grammed array logic, design projects.

Mr. Rennels (F,Sp; W)

152B. Computer Design and Hardware Testing Laboratory (2 units). Laboratory, four hours. Prerequisite: course 151B. Design and implementation of comput-
er I/O interfaces and devices controllers, implement-

161. Fundamentals of Artificial Intelligence. Lec-
ture, four hours; laboratory, two hours. Prerequisites: course 23 or equivalent. Introduction to fundamental problem solving and knowledge representation para-
digms of artificial intelligence. Introduction to LISP with regular programming assignments. Core-structures and problem reduction methods, brute-force and heuristic search, planning techniques, two-player games. Knowl-
edge structures including predicate logic, production systems, semantic nets and primitives, frames, scripts. Special topics in connection with a few of the recent AI programs.

Mr. Dyer, Mr. Korf (F,Sp)

163. Introduction to Natural Language Processing. Lecture, four hours; discussion, two hours; laboratory, six hours. Prerequisite: course 130 or 131 or consent of instructor. Role of syntax, semantics, and pragmatics in human language processing by computers. Natural language generators and parsers, inference, and conceptual analysis. Mod-
cing conceptual processes and representing semantic knowledge by means of computer programs.

Mr. Dyer (W)

168. Vision in Man and Machine. Lecture, four hours; discussion, two hours. Prerequisite: course 161. Students involved in supervised research. Computer vision applied to data processing.

Mr. Carlyle, Mr. Skrzypek (W)

168L. Computer Vision Laboratory (2 to 4 units). Laboratory, eight hours. Prerequisites: course 168, senior standing, consent of instructor. Image acquisi-
tion, image representation, visual pattern recognition, and implementation of algorithms for low-level vision. Experiments in motion, texture, color, edge detection, binary and gray-level images. Scheme-based personal computer vision station.

Mr. Carlyle, Mr. Skrzypek

170A. Introduction to Scientific Computing. Lecture, four hours; laboratory, two hours; outside study, six hours. Prerequisite: senior standing in computer science or consent of instructor. Introduction to scient-
ific computing and programming, using the very high-
level computer languages MATHEMATICA and MA-
PLE. Extensive coverage of programming in MATH-
EMATICA, with applications involving engineering modeling; simulation term project required.

Mr. Vidal (Sp)

171. Real-Time Computer Systems. Prerequisite: senior standing or consent of instructor. Survey of fundamentals, emphasis on hardware and sys-
tems concepts. Adapting digital computers to inter-
faces, including multiprocessing, bus structure, inter-
rupt, and time-sharing considerations. Digital com-
munication, software, and firmware systems, sampling, quantizing, multiplexing, analog-digital conversion, and data re-
construction.

Mr. Carlyle, Mr. Karpis (F)

171L. Real-Time Systems Laboratory (2 to 4 units). Laboratory, four to eight hours. Prerequisites: senior standing, consent of instructor. Introduction to scientific computing and programming, using the very high-level computer languages MATHEMATICA and MAPLE. Extensive coverage of programming in MATH-
EMATICA, with applications involving engineering modeling; simulation term project required.

Mr. Carlyle, Mr. Karpis (F)

176. Bayesian Methods. Lecture, four hours; laboratory, four hours. Prerequisite: course 130. Introduction to Bayesian methods: one statistical model, its parameters, prior distributions, posterior distributions, and Bayes rule. Use of Markov Chain Monte Carlo methods: rejection sampling, Gibbs sampling, and Metropolis-Hastings algorithm. Sequential Monte Carlo sampling.

Mr. DiStefano (F)

176L. Computer Simulation Laboratory. Lecture, four hours; laboratory, four hours. Prerequisite: course 176. Introduction to computer simulation using the experimental program GPSS. Models and input/output analysis. Use of simulation software: GPSS. Students working with a few of the recent AI programs. Application of the program to the study of scheduling, data acquisition, and data processing.

Mr. Vitkai, Mr. Karpis, Mr. McNamee (W)

181. Introduction to Formal Languages and Autom-
amata Theory. Lecture, four hours; recitation, two hours; outside study, six hours. Prerequisites: courses 23, 24, 31A. Introduction to finite-state automata, pushdown automata. Unrestricted rewriting systems, recursively enumerable and recursive languages, and Turing ma-
achines. Closure properties, pumping lemmas, and deci-
sion algorithms. Introduction to computability.

Mr. Carlyle, Ms. Greibach (F,Sp)

190. Computer Science Design Project. Lecture, four hours; outside study, eight hours. Prerequisite: senior standing with adequate background in hard-
ware, software, and computer science. Recommended to majors in computer science and engineering and computer science majors. Basic concepts of design of projects in computer science, including interpre-
tation of specifications, subtasking, design of experi-
ments, data analysis, and performance evaluation. Cost engineering, reliability, and societal and safety considerations.

Mr. McNamee (Sp)

196A. Introduction to Bioengineering and Cyber-
netics. Lecture, four hours; laboratory, two hours; discussion, two hours; outside study, eight hours. Prerequisite: course 23 or equivalent. Introduction to classical and modern systems and modeling and simulation methods for studying biological systems. Multicompartamental modeling, multi-extremal curve fitting, and simulation laboratory projects. Applications in physiology, medicine, and engineering. Projects should be of interest to students interested in the area of the course. Laboratory projects include labo-
atory tours. P/NP grading.

Mr. DiStefano (F)

M196B. Modeling and Simulation of Biological Sys-
tems. (Same as Medicine M196B.) Lecture, four hours; laboratory, three hours; outside study, eight hours. Prerequisite: course M196B or consent of instructor. Special labo-
atory techniques and experience in biocybernetics research. Laboratory instruments, their use, design, and operation for research in life sciences. Spe-
cial measuring devices, time-sharing and asynchronous control equipment. Use of simulation in experimental laboratory. Laboratory au-
tomation and safety. Comprehensive experiment design. Radioactive isotopes and kinetic studies. Ex-
perienced instructor, optional credit. Enrollment request forms available in the office of Mr. McNamee.

Mr. DiStefano (F)

C196L. Biomedical Systems/Biocybernetics Re-
search Laboratory. Lecture, one hour; laboratory, two hours. Prerequisite: senior standing, consent of instructor. Selected laboratory techniques and experience in biocybernetics research. Laboratory instruments, their use, design, and operation for research in life sciences. Special measuring devices, time-sharing and asynchronous control equipment. Use of simulation in experimental laboratory. Laboratory au-
tomation and safety. Comprehensive experiment design. Radioactive isotopes and kinetic studies. Ex-
perienced instructor, optional credit. Enrollment request forms available in the office of Mr. McNamee.

Mr. DiStefano (F)

199. Special Studies (2 to 8 units). Prerequisites: upper division standing, consent of instructor. Individual investigation of selected topic to be arranged with a faculty member. Enrollment request forms available in department office. Occasional field trips may be arranged. May be repeated for credit.

(F,Sp)

Mr. Skrzypek

268CN. Computational Neuroscience. Lecture, four hours; discussion, two hours; outside study, eight hours. Prerequisites: course 271A or equivalent. Computational neuroscience as a paradigm of formal analysis and demonstrations of how to correctly interpret sensory data by discovering constraints from the natural world. Neural networks and connections. Systems characterized by ordinary and partial differential equations. Survey of integration algorithms; computational complexity and general theory of algorithms; algorithms for particular applications. Subtitles of some current sections: Principles of Design and Analysis (280A); Distributed Algorithms (280D); Graphs and Networks (280G). May be repeated for credit with topic change.

F.W.Sp.

280A-280Z. Algorithms. Lecture, four hours; outside study, eight hours. Prerequisites: course 180 or equivalent, consent of instructor, additional prerequisites for each offering as announced in advance by department. Selections from families of formal languages, automata, and computational complexity. Emphasis on concepts pertinent to modeling and simulation and the applicability of contemporary developments in numerical software. Computer exercises.

Ms. Greibach, Mr. Parker (F)


Mr. Karplus (W)


Mr. Karplus (W)

271C. Seminar: Advanced Simulation Methods (2 units). Prerequisite: course 271A or equivalent. Discussion of advanced topics in simulation of systems characterized by partial differential equations. Topics include (among others) ordinary differential equations, dataflow, machine operators, and advanced mathematical modeling techniques. Topics vary each term. May be repeated for credit. S/U grading.

Mr. Skrzypek

272. Advanced Discrete Event Simulation and Modeling Techniques. Lecture, four hours; outside study, eight hours. Prerequisite: course 172 or consent of instructor. Techniques of discrete event simulation and modeling techniques, including building valid and credible simulation models, output analysis of systems, comparisons of alternative simulation configurations. Variance reduction techniques, simulation models of computer systems and manufacturing systems.

Mr. McNamie (Sp)


276A. Pattern Analysis and Machine Intelligence. Prerequisites: graduate standing, consent of instructor. Fundamentals of pattern recognition; feature extraction and selection, autonomous learning, clustering, and machine intelligence.

Mr. Klinger

276B. Structured Computer Systems. Prerequisites: graduate standing, consent of instructor. Methods for computer architecture and design of hardware and software for parallel and concurrent systems; emphasis on computer and application to problem of vision, multimodal sensory simulation, and robotics. May be repeated for credit. S/U grading.

Mr. Skrzypek (W)

285N. Seminar: Current Topics in Artificial Intelligence (2 to 4 units). Prerequisite: consent of instructor. Review of current literature and research pracctum 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.

Mr. Skrzypek

270A. Computer Methodology: Advanced Numerical Methods. Prerequisites: graduate standing in computer science or engineering, course 103 or Mathematics 141B or comparable experience with numerical computing. Principles of computer treatment of selected numerical problems in algebraic and differential systems. Transforms and a computer program for integrating, discrepancy and reduction; emphasis on concepts pertinent to modeling and simulation and the applicability of contemporary developments in numerical software. Computer exercises.

Mr. Carlyle, Mr. Karplus (F)

281A. Computability and Complexity. Prerequisite, course 181 or comparable background. Concepts fundamental to study of discrete information systems and theory of computing, with emphasis on regular sets of strings, context-free languages, Turing machines, and computational complexity. Discussion of advanced topics and current research in such areas as algorithms and complexity. Development of techniques for designing optimal experiments for developing and quantifying models, with special focus on data sampling schedule design. Exploration in PC laboratory of algorithms and software for model building and optimal experiment design.

Mr. DiStefano (F)

279A. Modeling and Simulation of Lumped Parameter Systems. Lecture, four hours; laboratory, one hour; outside study, eight hours. Prerequisite: course 171A, 171C, or equivalent. Development of special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change.

F.W.Sp.

288S. Seminar: Theoretical Computer Science (2 units). Prerequisites: courses 280A, 281A, consent of instructor. Intended for students studying research topics. Discussion of advanced topics and current research in such areas as algorithms and complexity models for parallel and concurrent computation, and formal language and automata theory. May be repeated for credit. S/U grading.

Mr. Greibach (F.W.Sp)

289A-289Z. Current Topics in Computer Theory (2 to 12 units each). Prerequisite: consent of instructor. Review of current literature in an area of computer theory in which instructor has developed special proficiency as a consequence of research interests. Students report on selected topics.

Mr. Skrzypek

289A. Modeling Methodology for Biomedical Systems. (Same as Biomedical Sciences 270C.) Lecture, four hours; laboratory, one hour; outside study, eight hours. Recommended (but not prerequisite) course M196B, some intermediate knowledge of linear systems analysis or linear algebra (e.g., Mathematics 115A, Electrical Engineering 141, 142, Mechanical, Aerospace, and Nuclear Engineering 171A, 171C, or equivalent). Development of dynamic systems modeling methodology for physiological, biomedical, pharmacological, chemical, and related systems, including dynamic system experimentation, numerical computation, non-compartmental, and input/output models, linear and nonlinear. Emphasis on model applications, limitations, and relevance in biomedical sciences and other life sciences environments. Problem solving in PC laboratory.

Mr. DiStefano (F)

289B. Optimal Parameter Estimation and Experiment Design for Biomedical Systems. (Same as Biomedical Sciences 270D.) Lecture, four hours; laboratory, one hour; outside study, eight hours. Prerequisite: course M296A or consent of instructor. Estimation methodology and model parameter estimation algorithms for quantifying (fitting) dynamic systems model parameters and algorithms for designing optimal experiments for developing and quantifying models, with special focus on data sampling schedule design. Exploration in PC laboratory of applications software for model building and optimal experiment design.

Mr. DiStefano (F)

289C. Advanced Topics and Research in Biomedical Systems Modeling and Computing. (Same as Medicine 270E.) Lecture, four hours; outside study, eight hours. Prerequisite: course 289A or consent of instructor. Research techniques and experience on special topics involving models, modeling methods, and modeling/computing in biological and medical sciences. Development of special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change.

Mr. DiStefano (F)

289D. Current Topics in Computer Science: Methodology. (2 to 12 units each). Lecture, four hours. Prerequisite: course 181. Fundamental concepts of current literature in an area of computer science methodology 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.

F.W.Sp.

288A-288Z. Algorithms. Lecture, four hours; outside study, eight hours. Prerequisites: course 180 or equivalent, consent of instructor, additional prerequisites for each offering as announced in advance by department. Selections from families of formal languages, automata, and computational complexity. Emphasis on concepts pertinent to modeling and simulation and the applicability of contemporary developments in numerical software. Computer exercises.

Ms. Greibach (F.W.Sp)

281A. Computability and Complexity. Prerequisite, course 181 or comparable background. Concepts fundamental to study of discrete information systems and theory of computing, with emphasis on regular sets of strings, context-free languages, Turing machines, and computational complexity. Discussion of advanced topics and current research in such areas as algorithms and complexity. Development of techniques for designing optimal experiments for developing and quantifying models, with special focus on data sampling schedule design. Exploration in PC laboratory of algorithms and software for model building and optimal experiment design.

Mr. DiStefano (F)

C296L. Biomedical Systems/Biocybernetics Research Laboratory. Lecture, one hour; laboratory, three hours; outside study, eight hours. Prerequisite: course M196B or consent of instructor. Special laboratory techniques and experience in biocybernetics research. Laboratory instruments, their use, design, and/or modification for research in life sciences. Special research hardware, firmware, software. Use of simulation in experimental laboratory. Laboratory automation and safety. Comprehensive experimental design. Radiocative isolopes and kinetic studies. Experimental animals. Controls. Concurrently scheduled with course C196L.

Mr. DiStefano (F)

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: graduate standing in computer science, status as a teaching assistant, associate, or fellow. Teaching apprentice practicum under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the School of Engineering and Computer Science Department. Seminar on communication of technical material, presentation, organization of material, preparation, use of visual aids, grading, advising, and rapport with students. S/U grading.

Mr. Karplus (F.W.Sp)

495. Teaching Assistant Training Seminar (2 units). Prerequisite: graduate standing in Computer Science Department. Seminar on communication of technical material, presentation, organization of material, preparation, use of visual aids, grading, advising, and rapport with students. S/U grading.

SCHOOL OF ENGINEERING AND APPLIED SCIENCE / Computer Science / 409
Bachelor of Science Degree

The ABET-accredited electrical engineering curriculum gives an excellent background for either graduate study or employment. The two main objectives are to provide (1) a deep and fundamental education in electrical engineering as well as in basic sciences and mathematics and (2) specialized education in one branch of electrical engineering so that the student develops expertise in it.

The Major

Course requirements are as follows (186 minimum units required):

(1) Five core courses: Electrical Engineering 101, 102, 103, and two courses from Civil and Environmental Engineering 108, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 103, M105A (or Chemical Engineering M105A), 105D.


(3) Any five major field elective courses (20 units) selected from those offered by the Electrical Engineering Department. With approval of the advisor, two may be selected from courses related to electrical engineering in other departments.

(4) Chemistry and Biochemistry 11A, 11B/11BL; Electrical Engineering 5C; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL.

(5) SEAS general education (GE) course requirements — see “Curricular Requirements” (item 4) earlier in this chapter for details.

Graduate Study

For information on graduate admission to the electrical engineering program and requirements for the M.S. and Ph.D. degrees, see “Graduate Study” at the beginning of this chapter.

Lower Division Courses

2. Principles and Advances in Electrical Engineering. Lecture, three hours; outside study, nine hours. Open to freshmen and sophomores outside the School of Electrical and Applied Sciences. Particularly intended for students in humanities and arts. Topics include elementary treatment of fundamental concepts and advances in electrical engineering. P/NP option. Mr. Viswanathan (FI).

5C. Introduction to UNIX and C. (Formerly numbered 5.) Lecture, three hours; recitation, one hour; laboratory, five hours; outside study, three hours. Introduction to UNIX environment and C programming language. UNIX basics: file structure and manipulation. TECHNICAL DOCUMENT PREPARATION. C-shel programing. Elementary C language concepts: input-output, variable types, operators, statements, arrays, and functions. Mr. Pister, Mr. Villasenor (FW).
Upper Division Courses

100. Electrical and Electronic Circuits Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: Mathematics 33A, 33B, Physics 8C. Electronic quantities, linear circuit elements, circuit principles, transient and steady state circuit behavior, semiconductor devices and transistors, small signal models, and operational amplifiers. Mr. Samueli (F,Sp)

101. Engineering Electromagnetics Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: Physics 8C, Mathematics 32B, 32A, 33A, and 33B. Electromagnetic field concepts, Maxwell equations, static and quasi-static electric and magnetic fields, energy flow and Poynting vector, waves in unbounded media, reflection and transmission of plane waves, radiation and antennae. Mr. Alexopoulos, Mr. Rahmat-Samii (F)

102. Systems and Signals Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: Mathematics 33A, 33B, Physics 8C. Fourier series, Fourier integrals, Laplace transforms, differential equations, and operations on signals. Mr. Bambos (W,Sp)

103. Applied Numerical Computing Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: course 5C or Computer Science 10C or 10F. Mathematics 33A, 33B. Introduction to numerical analysis, one of: root finding, matrix computations for systems of linear equations, systems of nonlinear equations, numerical methods for ordinary differential equations, least squares, eigenvalue/vector problems, applications to engineering problems. Mr. Levan (F,Sp)

110. Circuit Analysis II Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 10 or 100. Experiments with basic circuits containing resistors, capacitors, inductors, and op-amps. Ohm’s law, voltage and current division, Thévenin and Norton equivalent circuits, superposition, transient and steady state analysis, and frequency response principles. Mr. Samueli (F,Sp)

113L. Digital Signal Processing Laboratory (2 units). Laboratory, four hours; outside study, two hours. Prerequisite: course 113. Recommended: Computer Science 151B. Introduction to digital signal processing algorithms on digital computer chips. Experiments involving A/D and D/A conversion, aliasing, digital filtering, sinusoidal oscillators, Fourier transforms, and finite wordlength effects. Ms. Alwan, Mr. Villasenor (F,Sp)

113U. Digital Signal Processing Laboratory (2 units). Laboratory, four hours; outside study, two hours. Prerequisite: course 113. Recommended: Computer Science 151B. Introduction to digital signal processing algorithms on digital computer chips. Experiments involving A/D and D/A conversion, aliasing, digital filtering, sinusoidal oscillators, Fourier transforms, and finite wordlength effects. Ms. Alwan, Mr. Villasenor (F,Sp)

114. Introduction to Speech and Image Processing Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 113. Ba
cic principles of speech and image analysis and design, compression techniques, transform extraction, transm
tions. Acoustic theory of speech production, speech analysis techniques, and modeling perceptual mechanisms in first half of course; image representation and basic image processing techniques in second half. Lecture supplemented by computer laboratory assignments. Ms. Alwan, Mr. Villasenor (W)

115A. Analog Electronic Circuits I Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 110. Equivalent circuit modeling of electronic devices. Device/circuit/environment interactions. Design of single-stage amplifiers. Introduction to cascaded stages, coupling problems, and frequency response. Mr. Abidi (F,Sp)

115AL. Analog Electronics Laboratory I (2 units). Laboratory, four hours; outside study, two hours. Prerequisite: course 110L. Recommended: course 115A. Experimental determination of device characteristics, relationship of circuit behaviors, simulation of coupled symmetrical p-n junction, feedback circuits, and frequency response of single-stage amplifiers. Mr. Abidi (F,Sp)

115B. Analog Electronic Circuits II Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 110. Equivalent circuit modeling of electronic devices. Device/circuit/environment interactions. Design of single-stage amplifiers. Tuned amplifier considerations. Nonlinear systems situations requiring graphical method of solution. Emphasis on design techniques, including stability, feedback, and limiting. Mr. Abidi (F,Sp)

115BL. Analog Electronics Laboratory II Laboratory, four hours; outside study, eight hours. Prerequisite: course 115AL. Recommended: course 115B. Experimental and computer studies of multistage, wideband, tuned, and power amplifiers, and multiradio feedback amplifiers. Introduction to thick film hybrid circuit analysis and design techniques. Mr. Abidi (F,Sp)

115C. Digital Electronic Circuits Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: courses 115A, 115B, Computer Science 51A, Bipolar and MOS device characteristics, circuit analysis and design techniques, modern logic families (TTL, PLA, ECL, CMOS), IC layout, MSI digital circuits (flipflops, registers, counters, PLAs, etc.), computer-aided simulation. Mr. Abidi (F,Sp)


116. Communication Circuits (3 units). Lecture, three hours; outside study, six hours. Prerequisites: courses 113B, 115B. Review of analog and digital radio communication techniques. Noise, nonlinear distortion, automatic gain control, data transmission filters and amplifiers. Analog and digital oscillators and phase-locked loops. Basic modulation and demodulation techniques. Mr. Abidi (F,Sp)

116. Integrated Circuit Components Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: courses 115B, 121B. Realization of active and passive components in integrated circuits. Design. Passive components: resistors, capacitors, metal interconnections. Active devices: NPN and PNP BJTs, design rules, FET devices. Device interactions and layout rules. Mr. Abidi (F)

121A. Physical Principles of Semiconductor Devices. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: Materials Science 31A, 32A, Physics 8E. Introduction to physics of semiconductors; survey of minority and nonequilibrium electronic processes in semiconductors; principles of operation and design of p-n junction devices. Fabrication of semiconductor devices. Mr. Viswanath (F,Sp)

121B. Principles of Semiconductor Device Design. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 121A Introduction to principles of operation of bipolar and MOS transistors, equivalent circuits, high-frequency behavior, voltage limitations. Mr. Viswanath (W,Sp)

122AL. Semiconductor Devices Laboratory. Lecture, one hour; laboratory, six hours; outside study, five hours. Prerequisites: courses 121A, 121B (may be taken concurrently). Design fabrication and characterization of p-n junction and transistors. Students perform various processing tasks such as wafer preparation, oxidation, diffusion, metallization, and photolithography. Mr. Wool (F,Sp)

123A. Fundamentals of Solid-State I Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: courses 121A, 121B. Principles of operation of bipolar and MOS transistors, equivalent circuits, high-frequency behavior, voltage limitations. Mr. Viswanath (W,Sp)

123B. Fundamentals of Solid-State II Lecture, three hours; outside study, nine hours. Prerequisite: course 123A. Discussion of solid-state properties, lattice vibrations, thermal properties, dielectric, magnetic, and superconducting properties. Mr. Stafudd (W)

124. Semiconductor Physical Electronics. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: course 121A. Band structure of semiconductors, experimental probes of basic band parameters, statistics of carriers, carrier transport properties at low fields, excess carrier transport properties, carrier recombination mechanisms, and recombination properties. Mr. Pan (Sp)

131A. Probability. Lecture, four hours; recitation, one hour; outside study, 10 hours. Prerequisites: course 102, Mathematics 32B, 32A. Introduction to basic concepts of probability, including random variables and vectors, one-dimensional random variables, probability moments, characteristic functions, and limit theorems. Applications to communication, control, and signal processing. Introduction to computer simulation and generation of random events. Mr. Rubin (F)

131B. Introduction to Stochastic Processes (5 units). Lecture, four hours; outside study, 11 hours. Prerequisite: 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 estimation. Applications to communication, control, and signal processing. Introduction to computer simulation and analysis of stochastic processes. Mr. Yao (Sp)

132B. Data Communications and Telecommunication Networks (5 units). Lecture, four hours; recitation, one hour; outside study, 10 hours. Prerequisite: course 131A. Layered communications architectures. Queueing system modeling and analysis. Error control, flow and congestion control. Packet switching, link switching, and routing. Network performance analysis and design. Multiple-access communications: TDMA, FDMA, polling, random access. Local, metropolitan, wide area, integrated services networking.

Mr. Rubin (W)

136. Introduction to Engineering Optimization Techniques. Lecture, four hours; recitation, one hour; outside study, seven hours. Prerequisites: course 130, Mathematics 22A, and 33A, or consent of instructor. Introduction to optimization techniques for engineering and science students. Minimization of unconstrained functions of several variables: steepest descent, Newton/Raphson, conjugate gradient, and quasi-Newton methods. Rates of convergence. Methods for constrained minimization: introduction to linear programming and gradient projection methods. Lagrangian multipliers. Students expected to use SEASnet computers.

Mr. Jacobsen (W)

141. Principles of Feedback Control. Lecture, three hours; recitation, one hour; laboratory, one hour; outside study, 10 hours. Prerequisite: course 102 or consent of instructor. Classical methods of stability and design of feedback control systems as applied to problems selected from engineering, biology, and related areas.

(F,Sp)

142. Linear Systems: State-Space Approach. Lecture, four hours; laboratory, one hour; outside study, 10 hours. Prerequisite: course 102. State-space methods of linear system analysis and design, with application to problems in networks, control, and system identification.

W)

161. Electromagnetic Waves. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 101. Transmission line theory, guided waves in enclosed waveguides, Smith chart, phase and group velocity, cavity resonators, waves in composite media.

Mr. Rahmat-Samii (F,Sp)

162A. Antenna Design I. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 161. Radiation properties of basic antenna elements. Reactivity, directivity, gain, radiation pattern, and sidelobe level of antenna patterns. Design of linear arrays. Design of antenna excitation networks. Array design including mutual coupling.

Mr. Alexopoulos (F,Sp)

162B. Antenna Design II. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 162A. Radiation patterns of horns, slots, dipoles, and microstrip antennas. Equivalent source representation and gain difference between real and different paraboloids. Dolphi/Chebychev excitation. Design of slot arrays with mutual coupling. Design of traveling wave antennas, reflectors, and lenses.

Mr. Alexopoulos (F,Sp)

163A. Introductory Microwave Circuits. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 161. Transmission lines, description of waveguides, impedance transformers, power dividers, directional couplers, filters, hybrid junctions, and mixed circuits.

W)

163B. Microwave and Millimeter Wave Active Circuits. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 161. Oscillator theory, transistor, FET, IMPATT, Gunn, oscillators, microwave amplifiers, recirculation, one hour; outside study, eight hours. Prerequisites: courses 115A and 161. Theory of design and operation of microwave amplifiers, IMPATT diodes, Gunn oscillators, microwave transistors, and other devices.

Mr. Alexopoulos (F,Sp)

163C. Microwave Amplifiers. Lecture, three hours; outside study, nine hours. Prerequisites: courses 115A and 161. Theory and design of FET and bipolar transistor amplifiers; stability, noise, distortion. Broadband and MMIC amplifier design.

Mr. Itoh, Mr. Kolner (W)

164AL. Active Microwave Circuit Design Laboratory. Lecture, two hours; laboratory, four hours; outside study, six hours. Prerequisite: course 164AL. Application of contemporary analytic design techniques to development of microwave amplifiers, including microwave transistors (silicon bipolar and GaAs MESFET).

Mr. Itoh, Mr. Kolner (Sp)

172. Introduction to Lasers and Quantum Electrodynamics. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 101 or equivalent or consent of instructor. Physical applications and principles of lasers, Gaussian optics, resonant cavities, atomic resonance, laser oscillation and amplification, cw and pulsed lasers.

Mr. Joshi, Mr. Stafsudd (F)

172L. Laser Laboratory. Laboratory, four hours; outside study, eight hours. Prerequisite or corequisite: course 172 or consent of instructor. Properties of lasers, including saturation, mode-locking, and relaxation effects. Laser applications, including optics, modulation, communication, holography, interferometry, and nonlinear effects.

Mr. Joshi, Mr. Stafsudd (F)

173. Photonic Devices. Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 101 or consent of instructor. Introduction to basic principles of photonic devices, including LEDs, lasers, detectors, and amplifiers; fiber-optic fundamentals and measurement of fiber systems. Optical modulation via Pockels, Kerr magnetic optic, and acousto-optic effects.

Mr. Stafsudd (W)

174. Semiconductor Optoelectronics (3 units). Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisite: course 172 or consent of instructor. Introduction to semiconductor optoelectronic devices for optical communications, interconnections, and signal processing. Basic optical properties of semiconductors, photodiodes, avalanche photodiode devices, power modulators, photodetectors, and typical applications.

Mr. Petterson, Mr. Wu (Sp)

175. Fourier Optics. (Formerly numbered 165B.) Lecture, three hours; recitation, one hour; outside study, eight hours. Prerequisites: courses 102, 161. Two-dimensional linear systems and Fourier transform. Introduction to classical optics. Analysis of optical imaging systems. Spatial filtering and optical information processing. Wavefront reconstruction and holography.

M185. Plasma Physics. (Same as Physics M122.) Lecture, four hours; outside study, eight hours. Prerequisite: course 101 or Physics 110A. Senior-level introduction to course of plasmas and ionized gases and fundamentals of controlled fusion. Particle motion in magnetic fields; fluid behavior, plasma waves; resistivity and transport; equilibrium and stability; kinetic effects. Discussion of illustrative laboratory experiments.

Mr. Franzen (F, even years)

199. Special Studies (2 to 8 units). Prerequisites: senior standing; consent of instructor. Individual investigation of selected topic to be arranged with a faculty member. Enrollment request forms available in department office. Only two units toward degree. Only two units must be approved by petition and can be used only as a replacement for a regular electrical engineering laboratory course. Students may take additional 199 courses, but they may not be applied toward degree.

Mr. Jain (Sp)

Graduate Courses


Mr. Gibson (F, W)


Mr. Gibson, Mr. Levan (W, Sp)


Mr. Balakrishnan, Mr. Levan (Sp)

211A. Digital Image Processing I. Lecture, three hours; laboratory, four hours; outside study, five hours. Prerequisites: course 113. Computer programming experience. Fundamentals of digital image processing theory and techniques. Topics include two-dimensional linear system theory, image transforms, and enhancement. Concepts covered in lecture applied in computer laboratory assignments.

Mr. Villasenor (F)

211B. Digital Image Processing II. Lecture, three hours; laboratory, four hours; outside study, five hours. Prerequisites: course 113. 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.

Mr. Villasenor (F)


Mr. Samuel (F)

212B. Multirate Systems and Filter Banks. Lecture, three hours; outside study, nine hours. Prerequisites: course 212A. Fundamentals of multirate systems; polyphase representation; multistage implementations; applications of multirate systems; maximally decimated filter banks; perfect reconstruction systems; parallel filter banks; wavelet transform and its relation to multirate filter banks.

Mr. Willson (W)

213A. Advanced Digital Signal Processing Circuit Design. Lecture, three hours; outside study, nine hours. Prerequisites: courses 212A, 2126A. Digital filter design and optimization tools, architectures for digital signal processing circuits, circuits for digital signal processing; programmable signal processors; CAD tools and cell libraries for application-specific IC design; case studies of speech and image processing circuits.

Mr. Jain (Sp)
238C. Optimization Methods for Large-Scale Systems. Prerequisite: course 238B. Theory and computational procedures for decomposing large-scale mathematical programming problems. Generalized linear programming, decomposition algorithms, column generation, and dynamic programming. Application to stochastic and optimal control. Topics in nonlinear programming; minimizing concave functions on convex polyhedra, reverse convex programming. Mr. Jacobsen (Sp)

237. Dynamic Programming. Prerequisite: course 232A. Introduction to mathematical analysis of sequential decision processes. Finite horizon model in both deterministic and stochastic cases. Finite-state infinite horizon model. Methods of solution. Detailed examples from inventory theory, finance, and transportation systems. Mr. Jacobsen (W)


239AB. Topics in Communication. Prerequisite: consent of instructor. Treatment of one or more selected topics from areas such as integer programming, communication network design, scheduling, routing, location, and design problems; implementation considerations for mathematical programming algorithms; stochastic programming; application of advanced computer software in economics. May be repeated for credit with topic change.

239BS. Topics in Operations Research. Prerequisite: consent of instructor. Treatment of one or more selected topics from areas such as integer programming, communication network design, scheduling, routing, location, and design problems; implementation considerations for mathematical programming algorithms; stochastic programming; application of advanced computer software in economics. May be repeated for credit with topic change.

240A. Linear Dynamic Systems. Prerequisite: course 142 or equivalent. State-space description of dynamic systems. Deduction of state spaces from input-output data. Observability and controllability. Stability and state feedback stabilizability; state observer. Mr. Balakrishnan (F)

240B. Linear Optimal Control. Prerequisites: courses 141 or equivalent and 240A, or consent of instructor. Feedback and optimal control. Methods of solution on detailed study of LQR, or linear regulator. Design of optimal controllers for linear systems. Optimum designs for rectangular and circular apertures; arbitrary side lobe topography; discrete arrays. Measurement techniques. Mr. Rahmat-Samii (W, even years)

240C. Optimal Control. Prerequisite: course 240B. Techniques for studying nonlinear control systems, with emphasis on their stability. Liapunov direct method; input-output stability; Popov method; linearization. Mr. P.K.C. Wang (W)

242. Nonlinear Control. Prerequisite: course 240B. Techniques for studying nonlinear control systems, with emphasis on their stability; Liapunov direct method; input-output stability; Popov method; linearization. Mr. P.K.C. Wang (W)

M243. Biological Control Systems. (Same as Anesthesiology M222.) Prerequisite: course 141 or equivalent. Introduction to application of control theory to modeling and analysis of biological control systems, such as respiratory control and neuroendocrine systems. Emphasis on solving problems of current interest in biomedical science.

249S. Topics in Control. Prerequisite: consent of instructor. Treats 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, robotics, process control, and medical problems. May be repeated for credit with topic change.

260A-260B. Advanced Engineering Electrodynamics. Prerequisites: courses 161, 162A. Advanced treatment of concepts in electrodynamics and their application to modern engineering problems. Waves in anisotropic, inhomogeneous, and dispersive media. Guided waves in the bounded and unbounded regions. Stability and radiation, including optical phenomena. Partially coherent waves. Mr. Alexopoulos, Mr. Rahmat-Samii (F; 260A, 260B)

261. Microwave and Millimeter Wave Circuits. Prerequisite: course 261A or consent of instructor. Rectangular and circular waveguides, microstrip, stripline, line, and dielectric waveguide distributed circuits, with applications to microwave and millimeter wave integrated circuits. Stability and waveguide surface wave phenomena. Analytical methods for discontinuity effects. Design of passive microwave and millimeter wave circuits. Mr. Alexopoulos, Mr. Itin (Sp)


264. Computational Methods for Electromagnetics. Prerequisites: courses 162A, 162B. 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. Mr. Itin (W)

265. Microwave and Millimeter Wave Circuits. Lecture, four hours; outside study, eight hours. Prerequisites: courses 161, 163A. Advanced microwave device modeling, design, and analysis, on-line estimation and colored noise. Likelihood ratio, Gaussian signals in Gaussian noise.

Mr. Balakrishnan (W)


Mr. Yao (F)


Mr. Balakrishnan (W)

241C. Stochastic Control. Prerequisites: courses 240A, 241A. Estimation and control of linear systems with state and time continuous-time stochastic systems; separation theorem and applications; Kalman filtering.

Mr. Balakrishnan (Sp)

242. Nonlinear Control. Prerequisite: course 240B. Techniques for studying nonlinear control systems, with emphasis on their stability; Liapunov direct method; input-output stability; Popov method; linearization. Mr. P.K.C. Wang (W)

272. Dynamics of Lasers. Lecture, four hours; outside study, eight hours. Prerequisite: course 271 or consent of instructor. Ultrashort laser pulse characteristics, generation, and measurement. Gain switching, cavity dumping, active and passive mode locking. Pulse compression and soliton pulse formation. Nonlinear pulse generation: soliton laser, additive-pulse mode locking, and parametric oscillators. Pulse measurement techniques. Mr. Liu (Sp)

273. Nonlinear Optics. Lecture, four hours; outside study, eight hours. Prerequisites: courses 172 and 270, or consent of instructor. Nonlinear optical effects and applications such as optical crystal optics, electro-optics, and magnetooptics. Sum- and difference-frequency generation. Harmonic and parametric generation. Stimulated Raman and Brillouin scattering. Four-wave mixing and phase conjugation. Field-induced index changes and self-phase modulation. Mr. Liu (W)

279S. Special Topics in Quantum Electronics. Lecture, four hours; outside study, eight hours. Prerequisite: consent of instructor. Special topics in quantum electronics, lasers, nonlinear optics, optoelectronics, ultrafast phenomena, fiber optics, and lightwave technology. May be repeated for credit. S/U grading. Mr. Liu (F, W, Sp)

285A. Plasma Waves and Instabilities. Lecture, four hours; outside study, eight hours. Prerequisites: courses 101, and M185 or Physics M222. Wave phenomena in plasmas described by macroscopic fluid equations. Microwave propagation, plasma oscillations, ion acoustic waves, cyclotron waves, hydrogenic waves, drift waves. RayleighTaylor, Kelvin-Helmoltz, universal, and streaming instabilities. Application to experiments in fully and partially ionized gases. Mr. Luhmann (W)

285B. Advanced Plasma Waves and Instabilities. Prerequisites: courses M185, and 285A or Physics M222. Interaction of intense electromagnetic waves with plasmas: waves in inhomogeneous and bounded plasmas, nonlinear wave coupling and damping, parametric instabilities, anomalous resistivity, shock waves, microinstabilities, laser heating. Emphasis on experimental considerations and techniques. Mr. Luhmann (Sp)


298A-298ZZ. Seminars: Research Topics in Electrical Engineering. (2 units each.) Lecture, two hours. Research topics in electrical engineering. Consent of instructor. Seminars may be organized in advanced technical fields. If appropriate, field trips may be arranged. May be repeated with topic change.
Environmental Science and Engineering (Interdepartmental)

This interdisciplinary graduate program, which leads to the Doctor of Environmental Science and Engineering (D.Env.) degree, provides scientific training and the enlightened management of the environment through a broad range of environmental disciplines. For details on this program, see Chapter 17 on the School of Public Health.

Materials Science and Engineering

5731 Boelter Hall (6532 Boelter Hall in early 1995), (310) 825-5534

Professors
Alain J. Ardell, Ph.D.
Bruce S. Dunn, Ph.D.
John D. Mackenzie, Ph.D. (Nippon Sheet Glass Company Professor of Materials Science); Associate Dean

Karen Ono, Ph.D., Chair
Aly H. Shabalik, Ph.D.
King-Ning Tu, Ph.D.

Professors Emeriti
Roinan F. Bunsah, D.Sc.
David L. Douglass, Ph.D.
William Klement, Jr., Ph.D.
John H. Lyman, Ph.D.
George H. Sines, Ph.D.
Christian N.J. Wagner, Drer.nat.
Alfred S. Yue, Ph.D.

Associate Professor
Jenn-Ming Yang, Ph.D.

Assistant Professor
Mark S. Goorsky, Ph.D.

Adjunct Professors
John J. Gilman, Ph.D.
Ryoichi Kikuchi, Ph.D.

Adjunct Associate Professors
Marek A. Przystupa, Ph.D.
Aban Sarkar, Ph.D.

Scope and Objectives

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, on the other hand, is concerned with the design, fabrication, and nondestructive testing of engineering materials. Such materials must fulfill simultaneously dimensional, property, quality control, and economic requirements. Several manufacturing steps may be involved: (1) primary fabrication, such as solidification or vapor deposition of homogeneous or composite materials; (2) secondary fabrication, including shaping and microstructural control by operations such as mechanical working, machining, sintering, joining, and heat treatments; and (3) nondestructive testing, which measures the degree of reliability of a processed part.

The department also has a program in electronic materials which 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). Several courses in the undergraduate curriculum also play an important role in one of the options of the manufacturing engineering program.

The graduate program allows for specialization in one of the following fields: materials science, metallurgy and metals processing, mechanical metallurgy, and ceramics and ceramics processing.

Bachelor of Science in Materials Engineering

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.

The Major

Course requirements are as follows (180 minimum units required):

(1) Six core courses: Chemical Engineering M105A (or Mechanical, Aerospace, and Nuclear Engineering M105A), Civil and Environmental Engineering 108, Electrical Engineering 100, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 105D.

(2) Materials Science and Engineering 110, 120, 130, 131, 132, 150, 150, 190; 131 Land 120, 130, 131, 132, 150, 150, 190; 131L and 161L, plus two additional laboratory units from 111 (one unit of lab credit), 143L, 191L; Mechanical, Aerospace, and Nuclear Engineering 191A or 192A (satisfies the mathematics requirement); Civil and Environmental Engineering 106A (satisfies the engineering economics requirement).

(3) Four elective courses from Chemical Engineering C114, Civil and Environmental Engineering 135A, Electrical Engineering 121A, 123A, 123B, 124, Materials Science and Engineering 111, 121, 122, 143A, 143B, 147B, 151, 161, 162, Mechanical, Aerospace, and Nuclear Engineering 156B (the design content of the elective courses and the elective laboratory must total eight units).

(4) Chemistry and Biochemistry 11A, 11B/ 11BL; Civil and Environmental Engineering 15A and 15B or Electrical Engineering SC or Mechanical, Aerospace, and Nuclear Engineering 20; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL.

(5) SEAS general education (GE) course requirements — see "Curricular Requirements" (item 4) earlier in this chapter for details.

(6) One free elective course.

191L. Computer Methods and Instrumentation in Materials Science (2 units). Prerequisites: upper division standing in materials science and engineering, knowledge of BASIC or C or assembly language. Interface and control techniques, real-time data acquisition and processing, computer-aided testing.

Mr. Yang (W)

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor. Individual investigations of postgraduate topics in areas of interest to a faculty member. Enrollment request forms available in department office. Occasional field trips may be arranged. May be repeated for credit. (F,W,Sp)

Graduate Courses

221. Science of Electronic Materials. Lecture, four hours; outside study, eight hours. Prerequisite: course 120 or equivalent. Emphasis on chemical principles affecting properties and performance of semiconductor materials. Topics include bonding, carrier statistics, band-gap engineering, optical and transport properties, novel materials systems and characterizations.

Mr. Goorsky (Sp)

222. Growth and Processing of Electronic Materials. Lecture, four hours; outside study, eight hours. Prerequisites: courses 120, 130, 131, or equivalent. Thermodynamics of growth and device processing. Particular emphasis on fundamentals of growth (bulk and epitaxial), heteroepitaxy, implantation, oxidation.

Mr. Goorsky (Sp)


Mr. Kikuchi (W)

240B. Principles of Materials Science B (Structure of Materials). Prerequisite: course 120 or equivalent. Atomic, electronic, and crystalline structure of materials; particles and waves, free electron model, binding in solids; crystal structure, real and reciprocal lattices; amorphous solids, kinematical theory of scattering, electrons in periodic potential, pseudopotentials, conduction of electrons in solids.

Mr. Dunn (F)

241. Oxidation of Metals. Prerequisite: course 130 or equivalent or consent of instructor. Kinetics and mechanism of gas-solid reactions. Absorption and phase-boundary reactions. Nucleation of reaction products, defect structure of oxides, crystal structure and morphology of oxide films, influencing adherence of surface films.

Mr. Douglass (W)


Mr. Shabaik (F, odd years)

242B. Material Removal Processes. Prerequisite: course 147B. Theoretical and experimental material removal processes; single-point, multipoint, and abrasive material removal operations; mechanics of orthogonal and oblique machining; stress, strain, strain rate, and temperature analyses; tool wear, tool life, and tool materials; optimization; automation; and NC machine.

Mr. Shabaik (F, even years)

243A. Fracture of Structural Materials. Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 156B or equivalent. Engineering and scientific aspects of fracture, mechanisms of brittle and ductile fracture, and unstable fracture. Fracture mechanics, dislocation models, fatigue, fracture in reactive environments, alloy development, fracture-safe design.

Mr. Kikuchi (W, even years)


Mr. Ardell (W, odd years)

243C. Dislocations and Strengthening Mechanisms in Solids. Prerequisite: course 143A or Mechanical, Aerospace, and Nuclear Engineering 156B. Elastic and plastic behavior of crystals, geometry, mechanics, and interaction of dislocations, mechanisms of yielding, work hardening, and other strengthening.

Mr. Ardell (F, odd years)

244. Electron Microscopy. Prerequisite: course 110 or equivalent. Fundamentals of electron microscopy, geometry of electron diffraction, kinematical and dynamical theories of electron diffraction, including anomalous absorption, applications of theory to defects in crystals. Moire fringes, direct lattice resolution, Lorentz microscopy, laboratory applications of contrast theory.

Mr. Ardell (Sp, even years)

245C. Diffraction Methods in Science of Materials. Prerequisite: course 110 or equivalent. Theory of diffraction of waves (X-rays, electrons, and neutrons) in crystals 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.

Mr. Goorsky (Sp, odd years)

246A. Mechanical Properties of Nonmetallic Crystalline Solids. Prerequisite: course 160. Material and environmental factors affecting mechanical properties of nonmetallic crystalline solids, including atomic bonding and structure, atomic-scale defects, microstructural features, residual stresses, temperature, stress state, strain rate, size, and surface conditions. Methods for evaluating mechanical properties.

Mr. Dunn (W, even years)

246B. Structure and Properties of Glass. Prerequisite: course 160. Structure of amorphous solids and glasses. Conditions of glass formation and theories of glass structure. Mechanical, electrical, and optical properties of glass and relationships to structure.

Mr. Dunn (W, even years)


Mr. Dunn (Sp, even years)


Mr. Ardell (Sp, odd years)

248A. Experimental Methods in Materials Synthesis. Prerequisite: bachelor’s degree in chemistry, physics, or engineering. Techniques used in materials synthesis temperature measurements, vacuum techniques, methods of heating and quenching, consolidation and refinement of metals, crystal growth, thin film deposition and characterization, and liquid phase deposition. Laboratory applications to structures and demonstrations.

Mr. Bunshah (F)

249A-249AZ. Seminars: Materials Science and Engineering (2 units each). Lectures on current research topics in materials science and engineering. May be repeated for credit. S/U grading. (F,W,Sp)

250A. Analysis and Design of Composite Materials. Prerequisites: course 151 and one course from 143A, Electrical Engineering 175, Mechanical, Aerospace, and Nuclear Engineering 156A, or 156B. Mechanical, thermal, and structural characteristics of composite materials, including fibers and matrixes.

Mr. Shabaik (F, even years)

250B. Advanced Composite Materials. Prerequisites: course 151, B.S. in Materials Science and Engineering or equivalent. Fabrication methods, structure and properties of advanced composite materials. Fibers, metal and ceramic-matrix composites. Physical, mechanical, and nondestructive characterization techniques.

Mr. Ono (W, odd years)

298. Seminar: Engineering (2 to 4 units). Prerequisite: graduate standing in materials science and engineering or equivalent. Students may be organized in advanced technical fields. If appropriate, field trips may be arranged. May be repeated with topic change.

375. Teaching Apprenticeship Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

(F,W,Sp)

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Petition form 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 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (2 to 16 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examination (2 to 16 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. 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 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. 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 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.

Mechanical, Aerospace, and Nuclear Engineering

48-121 Engineering IV, (S10) 825-2281

Professors

Mohamed A. Abdou, Ph.D.
George E. Apostolakis, Ph.D.
Ivan Catton, Ph.D.
Robert W. Conn, Ph.D.
Electronic Materials Option
Course requirements are as follows (190 minimum units required):

(1) Six core courses: Chemical Engineering M105A (or Mechanical, Aerospace, and Nuclear Engineering M105A), Electrical Engineering 10, 101, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, and Civil and Environmental Engineering 108 or Mechanical, Aerospace, and Nuclear Engineering 105D.

(2) Materials Science and Engineering 110, 121, 122, 130, 131, 131L, 190; Electrical Engineering 121A, 121B, 122BL, 123A, 123B, and two courses from Materials Science and Engineering 132, 150, 160; Mechanical, Aerospace, and Nuclear Engineering 191A or 192A.

(3) Four elective courses from Materials Science and Engineering 111, 143A, 182, Electrical Engineering 110, 124, 172; two laboratory courses from Materials Science and Engineering 161L, 191L, 199; Electrical Engineering 122AL, 172L.

(4) Chemistry and Biochemistry 11A, 11B/11BL; Civil and Environmental Engineering 15A and 15B or Electrical Engineering 5C or Mechanical, Aerospace, and Nuclear Engineering 20; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL.

(5) SEAS general education (GE) course requirements — see "Curricular Requirements" (item 4) earlier in this chapter for details.

Graduate Study
For information on graduate admission to the materials science and engineering program and requirements for the M.S. and Ph.D. degrees, see "Graduate Study" at the beginning of this chapter.

Lower Division Courses

14. Science of Engineering Materials. Lecture, three hours; demonstration, one hour; recitation, one hour. Enforced requisites: Chemistry 11A, 11B/11BL; Physics 8A, 8B. Physics 8C may be taken concurrently. 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.

Mr. Dunn (F,W,Sp)

88. Freshman Seminar: New Materials. Lecture, two hours; recitation, one hour; laboratory, one hour; outside study, nine hours. Preparation: high school chemistry and physics. Not open to students with credit for course 14. Engineering or chemistry/materials science majors expected to use course only as free elective. 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.

Mr. Ono (F)

Upper Division Courses

110. Introduction to Materials Characterization A (Crystal Structure and X-Ray Diffraction of Materials). Lecture, two hours; recitation, one hour. Prerequisite: course 14. Modern methods of materials characterization; fundamentals of crystallography, properties of X rays, X-ray diffraction; powder method, Laue method; determination of crystal structure; phase diagram determination; X-ray stress measurements; X-ray spectroscopy; design of materials characterization procedures.

Mr. Goorsky (F)

111. Introduction to Materials Characterization B (Electron Microscopy). Lecture, three hours; laboratory, two hours. Prerequisites: courses 14, 110. Characterization of microstructure and microchemistry of materials; transmission electron microscopy; reciprocal lattice, extinction, stereographic projection, direct observation of defects in crystals, replicas; scanning electron microscopy; emissive and reflective modes; chemical analysis; electron optics of both instruments.

Mr. Ardelean (W)


Mr. Dunn (W)

121. Materials Science of Semiconductors. Prerequisite: course 120. Structure and properties of elemental and compound semiconductors. Electrical and optical properties, defect chemistry, and doping. Electronic materials analysis and characterization, including electrical, optical, and ion-beam techniques. Heterostructures, band-gap engineering, development of new materials for optoelectronic applications. 2 units.

Mr. Dunn (Sp)

122. Principles of Electronic Materials Processing: Prerequisite: course 14 or equivalent. Processing: device material preparation; preparation and characterization of silicon, III-V compounds, and films. Discussion of principles of CVD, MOCVD, LPE, and MBE; microelectronics.

Mr. Coorsky (W)

130. Phase Relations in Solids. Prerequisites: course 14, Chemical Engineering M105A or Mechanical, Aerospace, and Nuclear Engineering M105A. Summary of thermodynamic laws, equilibrium criteria, solution thermodynamics, mass-action law, binary and ternary phase diagrams, glass transitions.

Mr. Goorsky (Sp)

131. Diffusion and Diffusion-Controlled Reactions. Prerequisite: course 130. Diffusion in materials and its effects on properties of solids; precipitation 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.

Mr. Tu (W)

131L. Diffusion and Diffusion-Controlled Reactions Laboratory (2 units). Corequisite: course 131. Design of heat-treating cycles; performing experiments to study interdiffusion, growth of intermediate phases, recrystallization, and grain growth in metals. Analysis of data. Comparison of results with theory.

Mr. Tu (W)


Mr. Ono (Sp)

143A. Mechanical Behavior of Materials. Prerequisite: course 14 or equivalent. Recommended: Civil Engineering 108. Plastic flow of metals under simple and combined loading; stress and temperature effects, dislocations, fracture, microstructural effects, mechanical and thermal treatment of steel for engineering applications.

Mr. Ardelean (W)

143B. Failure Analysis of Metals. Prerequisite: course 131. Analysis and prevention of failure based on design deficiencies, material selection, metallurgical defects, processing and fabrication errors, improper service conditions. Relationship to heat treatment, corrosion, joining technology, and mechanical behavior. Engineering and legal aspects. Case histories.

Mr. Ono (W,Sp)

143L. Mechanical Testing Laboratory (2 units). Laboratory, four hours. Prerequisite or corequisite course 143A. Experimental techniques for measurements of mechanical properties of engineering materials. Elastic constants, tensile, compression and bending test, fracture toughness, fatigue, and creep testing.

Mr. Ono (W,Sp)


Mr. Shabaik (F)

147L. Manufacturing Processes Laboratory, Laboratory, eight hours. Prerequisite: course 147B. Experimental investigation, analysis, and design of metal forming processes (forging, extrusion, drawing, and rolling). Force measurements and energy calculations in metal cutting. Experimental investigation of hot and cold forming processes.

Mr. Shabaik (Sp)

159. Introduction to Polymers. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Polymerization mechanisms, molecular weight and distribution, chemical structure and bonding, structure crystals, and morphology and their effects on physical properties. Glassy polymers, springy polymers, elastomers, adhesives. Fiber forming polymers, polymer processing technology, plasticization.

Mr. Yang (W)


Mr. Ono (Sp)

160. Introduction to Ceramics and Glasses. Prerequisite: course 14 or equivalent. 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.

Mr. Dunn (F)

161. Processing of Ceramics and Glasses. Lecture, four hours; discussion, one hour. Prerequisite: 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, glaze melting. Microstructure properties relations in ceramics. Fracture analysis and design with ceramics.

Mr. Dunn (W, even years)

161L. Laboratory in Ceramics (2 units). Laboratory, four hours. Prerequisite: course 160 or equivalent. Recommended corequisite: course 161. Processing of common ceramics and glasses. Attainment of specific properties of materials to design and engineer as required. Quantitative characterization and selection of raw materials. Slip casting and extrusion of clay bodies. Sintering of powders. Glass melting and fabrication. Determination of chemical and physical properties.

Mr. Dunn (Sp)

162. Electronic Ceramics. Prerequisites: course 14, Electrical Engineering 100, or equivalent. Utilization of ceramics in microelectronics; thick film and thin film resistors, capacitors, integrated circuit design and production. Ceramic electronic ceramics and packaging; magnetic ceramics; ferroelectric ceramics and electro-optic devices; optical wave guide applications and designs.

Mr. Dunn (W, odd years)
The Mechanical, Aerospace, and Nuclear 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 the undergraduate and graduate levels, while nuclear engineering is a graduate program. The Gorman Report ranked UCLA's mechanical engineering program tenth in the nation for undergraduate programs.

Because of the scope of the department, faculty 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, mechanical design, control and guidance of aircraft and spacecraft, helicopter dynamics and aeromechanics, and dynamics and control of large space structures. Studies in structural mechanics range from fracture mechanics and wave propagation, structural dynamics and aerelasticity of helicopters and jet engine blades, computational transonic aerelasticity 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; societal risk management; 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, preliminary design, dynamics and control, or structures and space technology, while the latter includes opportunity to emphasize mechanical systems—design and control; power systems and thermal design; manufacturing processes; or fluids engineering.

At the graduate level, the department offers programs leading to M.S. and Ph.D. degrees in Mechanical Engineering, Aerospace Engineering, and Nuclear Engineering. An M.S. in Manufacturing Engineering is also offered.

Bachelor of Science in Aerospace Engineering

The ABET-accredited aerospace engineering program is designed to provide a basic knowledge in thermodynamics, fluid mechanics, heat transfer, solid mechanics, mechanical design, dynamics, control, mechanical systems, manufacturing, and materials. The program includes fundamental subjects important to all mechanical engineers, with an option in mechanical systems—design and control; power systems and thermal design; manufacturing processes; or fluids engineering.

The Major

Course requirements are as follows (190 minimum units required):

(1) Ten department core courses: Civil and Environmental Engineering 108, Electrical Engineering 100, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 20, 102, 103, M105A, 105D, 157, 192A.

(2) Twelve aerospace engineering core courses:

(3) Sixteen technical elective units (which should contain enough design units to satisfy the overall program requirement of at least 24 design units) selected from Mechanical, Aerospace, and Nuclear Engineering 131A/131AL, 132A, 133A (thermodynamics, heat, and mass transfer); 153A (acoustics); 155, 163A, 164, 169A*; Civil and Environmental Engineering 137T, Electrical Engineering 142 (dynamics and control); Mechanical, Aerospace, and Nuclear Engineering 161A*, 161B, 161C, 161D (space technology); 156B, 166C, 168, Civil and Environmental Engineering 130F (structural and solid mechanics); Mechanical, Aerospace, and Nuclear Engineering 162A, 162C, M192F (design and mechanisms); Materials Science and Engineering 143A, 143L, 147B.

(4) Chemistry and Biochemistry 11A, 11B/11BL; Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL.

(5) SEAS general education (GE) course requirements—see “Curricular Requirements” (item 4) earlier in this chapter for details.

Bachelor of Science in Mechanical Engineering

The ABET-accredited mechanical engineering program is designed to provide a basic knowledge in thermodynamics, fluid mechanics, heat transfer, solid mechanics, mechanical design, dynamics, control, mechanical systems, manufacturing, and materials. The program includes fundamental subjects important to all mechanical engineers, with an option in mechanical systems—design and control; power systems and thermal design; manufacturing processes; or fluids engineering.

The Major

Course requirements are as follows (192 minimum units required):

(1) Ten department core courses: Civil and Environmental Engineering 108, Electrical Engineering 100 (also 110L — see item 2 below), Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 20, 102, 103, M105A, 105D, 157, 192A.
(2) Ten mechanical engineering core courses:
Electrical Engineering 110L (may be taken concurrently with 100), Materials Science and Engineering 147B, Mechanical, Aerospace, and Nuclear Engineering 131A, 133A, 156A, 162A, 162B, 162M, 169A, 171A.

(3) Twenty technical elective units, of which at least four should be laboratory units, to be selected from one of the subject areas listed below; no more than eight units may be taken from any one of subgroups a, b, c:
Fluids Engineering —
(a) Mechanical, Aerospace, and Nuclear Engineering 157A.
(b) Electrical Engineering 103, Mechanical, Aerospace, and Nuclear Engineering 150A, 150B, 153A, 192B, 192C.
(c) Mechanical, Aerospace, and Nuclear Engineering 136, 150P, 151, 161A, 161B.

Manufacturing Processes —
(b) Materials Science and Engineering 143A, Mechanical, Aerospace, and Nuclear Engineering 163A, 164.
(c) Civil and Environmental Engineering 175, Mechanical, Aerospace, and Nuclear Engineering 155, 174, 194.

Mechanical Systems — Design and Control —
(c) Materials Science and Engineering 143A, Mechanical, Aerospace, and Nuclear Engineering 163A, 168.

Power Systems and Thermal Design —
(a) Mechanical, Aerospace, and Nuclear Engineering 131AL.
(b) Electrical Engineering 103, Mechanical, Aerospace, and Nuclear Engineering 132A, 135, 150A, 192B, 192C.
(4) Chemistry and Biochemistry 11A, 11B/11BL; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Mechanical, Aerospace, and Nuclear Engineering 94; Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL.

(5) SEAS general education (GE) course requirements — see "Curricular Requirements" (item 4) earlier in this chapter for details.

(6) Four free technical elective units selected from upper division courses offered by the department; you are strongly encouraged to consult your adviser.

Graduate Study
For information on graduate admission to the mechanical, aerospace, and nuclear engineering programs and requirements for the M.S. and Ph.D. degrees, see "Graduate Study" at the beginning of this chapter.

Lower Division Courses

1. Energy: Resources, Conversion, Utilization, and the Environment. Lecture, three hours; laboratory, one hour; outside study, eight hours. Intended for students interested in energy. Topics include resources, conversion and utilization using fossil and nuclear fuels, solar, geothermal, and biomass. Conservation, sociopolitical aspects, and the environment. Ms. Lavine (F, W, Sp).

2. Toxic Waste Control. Lecture, three hours; discussion, one hour. Intended for students interested in toxic wastes. Topics include sources of toxic substances, effects on public health and environment, technological solutions, public policy, and risk assessment. Mr. Kastenberg (W).

20. FORTRAN Programming with Numerical Methods. Applications. Lecture, three hours; laboratory, two hours; outside study, seven hours. Enforced requisites: Mathematics 31A, 31B. Introduction to programming with FORTRAN. Applications to numerical methods used in engineering. Ms. Lavine (F, W, Sp).

94. Introduction to Computer-Aided Design and Drafting. 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 on-line computer systems to design and display various objects. Mr. Yang (F, W).

Upper Division Courses

102. Mechanics of Particles and Rigid Bodies. Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 33A, Physics 8A. Newtonian mechanics (statics and dynamics) of particles and rigid bodies. Fundamental concepts of mechanics. Statics, kinematics, and kinetics of particles and rigid bodies. Impulse/momentum and work/energy relationships. Applications. Mr. Kastenberg (F).

103. Elementary Fluid Mechanics. Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 32B, 33A, Physics 8B. Introductory course dealing with application of principles of mechanics to flow of compressible and incompressible fluids. Mr. Kelly (F, W, Sp).

M105A. Introduction to Engineering Thermodynamics. (Same as Chemical Engineering M105A.) Lecture, four hours; recitation, one hour. Prerequisites: Mathematics 32B, Physics 8B. 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. Mr. Dhir (F, W, Sp).


131AL. Thermodynamics and Heat Transfer Laboratory. Laboratory, eight hours; other, four hours. Prerequisites: courses 131A, 157. Experimental study of physical properties and engineering systems using modern data acquisition and processing techniques. Experiments include studies of heat transfer phenomena and testing of a cooling tower, heat exchanger, and internal combustion engine. Students take and analyze data and discuss physical phenomena. Mr. Mills (Sp).

132A. Mass Transfer. Lecture, four hours; other, eight hours. Prerequisites: courses 105D, 131A. Principles of mass transfer by diffusion. Mass transfer by convection in laminar and turbulent flows. Simultaneous heat and mass transfer. Applications including combustion of solids and volatile fuels, evaporation and condensation, ablation and transpiration cooling, gas absorption and catalysis. Mr. Kelly (W).

133A. Engineering Thermodynamics. Lecture, four hours; other, eight hours. Prerequisites: courses 103, M105A, 105D. Applications of thermodynamic principles to engineering processes. Energy conversion systems, Rankine cycle and other cycles, refrigeration, psychrometry, reactive and nonreactive fluid flow systems. Mr. Dhir (F, Sp).

134B. Solar Energy Use and Control. Lecture, four hours; other, eight hours. Prerequisites: course 105D or equivalent or consent of instructor. Nature and availability of solar radiation; review of selected heat transfer topics pertinent to solar energy collection and use; design analysis of nonfocusing solar energy collector-converters and methods of energy storage; selected applications. Mr. Mills.

135. Fundamentals of Nuclear Power. Prerequisite: junior standing. Introduction to nuclear engineering; nuclear physics, neutron cross sections, nuclear fission and fusion; elementary analysis and design of reactors. Criticality, one-group neutron diffusion theory, heat removal, and heterogeneous effects. Mr. Caution (F).

136. Thermal Hydraulic Design of Nuclear and Other Power Systems. Prerequisite: senior standing. Thermal hydraulic design of nuclear and other power systems, power generation and heat removal, power cycle, thermal hydraulic component design, overall plant design, steady state and transient operation. Mr. Dhir (W).

137. Introduction to Fusion Engineering and Reactor Design. Prerequisite: course 136 or consent of instructor. Fusion reactions, fuel cycle, and operating conditions. Magnetic and inertial confinement, including tokamaks, magnetic mirrors, laser fusion, and selected others. Concepts for and subsystems of fusion reactors. Design of reactors and key subsystems. Application of fusion reactor systems for electricity, fissile separable fuel, and/or chemical fuel production. Mr. Conn.


150B. Aerodynamics. Prerequisites: courses 103, 150A, or equivalent. Advanced aspects of potential flow theory. Incompressible flow around thin airfoils (C0, C0) and wings (lift, induced drag). Gas dynamics: oblique shocks, Prandtl-Meyer expansion. Laminar, subsonic and supersonic flow around thin airfoils and wings. Wave drag. Transonic flow. Mr. Kelly (Sp).
150P. Jet Propulsion Systems. Lecture, four hours; laboratory, two hours. Prerequisites: courses M156A, M156B, or equivalent. Thermodynamic properties of gases, aircraft jet engine components and cycle analysis, combustion systems, performance of rocket vehicles.

Mr. Karagopian (F)

151. Performance of Vehicles. Lecture, four hours; other, eight hours. Prerequisites: courses 103, M105A. Transportation systems and their characteristics in terms of speed, range, payload, efficiency, etc. Engines: power available. Vehicles, including automobiles, aircraft, and space vehicles: power required. Engine-vehicle mission matching. Mr. Kelly (W)

153A. Engineering Acoustics. Prerequisite: upper division standing in engineering or consent of instructor. Fundamental course in acoustics: instabilities of sound, sources of sound. Design of field measurements. Estimation of jet and blade noise with design aspects. Mr. Meecham (W)

154A. Preliminary Design of Aircraft. Prerequisite: course 154S. Classical preliminary design of an aircraft, including weight estimation, performance and stability and control consideration. Term assignment consists of preliminary design of a low-speed aircraft.

Mr. Friedmann (M, F)


Mr. Bendis, Mr. Friedmann (Sp)

154S. Flight Mechanics, Stability, and Control of Aircraft. Prerequisites: courses 150A, 150B. Aircraft performance, flight mechanics, stability, and control; some basic ingredients needed for design of an aircraft. Effects of airplane flexibility on stability derivatives.

Mr. Mr. (F)

155. Intermediate Dynamics. Lecture, four hours; other, eight hours. Prerequisite: course 102 or equivalent. Axioms of Newtonian mechanics, generalized coordinates, Lagrange equations, variational principles, central force motion, kinematics and dynamics of a rigid body. Euler equations, motion of rotating bodies, oscillatory motion, normal coordinates, orthogonality relations.

Mr. Sun (Sp)

156A. Strength of Materials. Lecture, four hours; outside study, eight hours. Prerequisite: Civil Engineering 108 or equivalent. Concepts of stress and material behavior. Stresses in loaded beams with symmetric and asymmetric cross section, tension of thin rods and thick-walled cylinders, shear flow. Stresses in pressure vessels, press-fit and shrink-fit problems, rotating and shafts. Curved beams. Contact stresses. Strength and failure, plastic deformation, fatigue, elastic-plastic behavior. Mr. Mei (F, Sp)

156B. Introduction to Elasticity. (Formerly numbered 156A.) Lecture, four hours; outside study, eight hours. Prerequisite: course 156A or equivalent. Kinematics of deformation, displacement relations. Balance laws, stress tensor, principal stresses, equilibrium equations. Conservation of energy, strain energy function. Generalized Hook's law, thermoplasticity and viscoelasticity, creep and relaxation, plane and axisymmetric problems. Plane elasticity, Airy stress function. Stress concentration problems at holes, corners, and crack tips. Mr. Mal (F)

157. Basic Mechanical Engineering Laboratory. Laboratory, eight hours; outside study, eight hours. Prerequisites: courses 103, M105A, 105D, Civil Engineering 108. Methods of measurement of basic quantities and performance of basic experiments in heat transfer, fluid mechanics, and thermodynamics. Primary sensors, transducers, recording equipment, signal processing, and data analysis.

Mr. Mills (F, W, Sp)

157A. Fluid Mechanics/Aerodynamics Laboratory. Laboratory, eight hours. Prerequisites: courses 103, 150A, 150B, and 157, or consent of instructor. Experimental observation of important physical phenomena in area of fluid mechanics/aerodynamics, as well as hands-on experience with design of experimental programs and use of modern experimental tools and techniques in the field. Mr. Monorkewitz (Sp)

161A. Introduction to Astronautics. Prerequisite: course 102. 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 rotation on orbital transfer.

Mr. Gibson (Sp)

161B. Introduction to Space Technology. Lecture, four hours; other, eight hours. Recommended (but not prerequisite): courses 102, 105D, 150P, 161A. Propulsion requirements for typical space missions, thermodynamics of propellants, internal ballistics, regenerative cooling, liquid propellant feed systems, POGO instability, Electric propulsion, Multistage rockets, reentry dynamics. Satellite structures and materials, loads and vibrations. Thermal control of spacecraft.

Mr. Mingori (W)

161C. Spacecraft Design. Lecture, four hours; other, eight hours. Prerequisite: course 161B. Coverage of preliminary design, by students, of a small spacecraft carrying a lightweight scientific payload with modest requirements for electric power, life, and attitude stability. Students work in groups of three or four, with each student responsible primarily for a subsystem and for integration with the other students. Mr. Bendisken, Mr. Meyer (Sp)

161D. Space Technology Hardware Design (2 units). Lecture, one hour; laboratory, two hours; outside study, three hours. Prerequisite or corequisite: course 150A. Design of hardware with limitations of space applications to space technology. Best designs are then built by professional machine shop and tested by the students. May be taken in Winter or Spring Quarter, or twice with different projects in each term.

Mr. Meyer (W, Sp)


162B. Mechanical Product Design. Lecture, three hours; discussion, one hour; laboratory, two hours; outside study, six hours. Prerequisites: courses 156A, 162A. 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 total product design project.

Mr. Yang (F, W)

162C. Electromechanical System Design Laboratory. Lecture, one hour; laboratory, eight hours; other, three hours. Prerequisite: course 128B. Laboratory and design course consisting of design, development, construction, and testing of complex mechanical and electromechanical systems. The assembled machine is instrumented and monitored for operational characteristics.

Mr. Yang (Sp)

162M. Senior Mechanical Engineering Design. Lecture, one hour; laboratory, six hours; other, five hours. Prerequisites: course 162B, Civil Engineering 106A. Must be taken in last two academic terms of students' programs. Analytical design course of a large engineering system culminating in its computer simulation. Design factors include efficiency, economics, safety, reliability, and social impact. Final report of engineering specifications and drawings to be presented to design teams.

Mr. Yang (W, Sp)

163A. Introduction to Computer-Controlled Machines. Prerequisite: course 171A (may be taken concurrently). Modeling of computer-controlled machines, including electrical and electronic components, mechanisms, actuators, sensors, and overall electromechanical systems. Motion and command generation, servo-controller design, and computer-machine interfacing.

Mr. Yang (F)

163B. Interfacing of Computer-Controlled Machines. Laboratory, eight hours. Prerequisite: course 171A. Recommended: courses 162B, 163A, 163C. Hands-on experience with computer-controlled electromechanical systems, with special emphasis on real-time programming and interfacing techniques of microprocessors and their integration with sensors and actuators. Final design project required.

Mr. Miu (Sp)

163C. Robotics and Motion Control Laboratory. Laboratory, eight hours; outside study, four hours. Prerequisite: course 171A or consent of instructor. Hands-on experience with robotic devices and articulated machines, with emphasis on motion planning and control. Design and implementation of servo control of DC motors, gears, multiaxes coordination, programming of industrial robots. Final project required.

Mr. Miu (Sp)


Mr. Mingori (Sp)

166A. Analysis of Flight Structures. Prerequisite: Civil Engineering 108. 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; combined bending torsion of thin-walled, stiffened structures used in aerospace vehicles; elements of plate theory; buckling of columns.

Mr. Friedmann (F)

166C. Design of Composite Structures. Prerequisite: course 156A or 166A. History of composites, stress-strain relations for composite materials, bending and extension of symmetric laminates, failure analysis, design examples and design studies, buckling of composite components, nonsymmetric laminates, micromechanics of composites.

Mr. Friedmann (W)

166. Introduction to Finite Element Technology. Lecture, four hours; laboratory, four hours; other, four hours. Prerequisites: Civil Engineering 108, Computer Science 10F. Mathematics 33A. Recommended: courses 94 or 194, 166A. Introduction to finite element method (FEM) and its matrix formulation; computer implementation of FEM concepts; practical use of FEM codes. Preprocessing and postprocessing techniques; graphics display capabilities; geometric and analysis modeling; interactive engineering systems; links with computer-aided design. Recent trends in FEM technology; design optimization. Term projects using FEM computer codes.

Mr. Yang (Sp)

166A. Introduction to Mechanical Vibrations. (Formerly numbered M169A.) Lecture, four hours; other, eight hours. Prerequisites: course 102, Civil Engineering 108. Fundamentals of vibration theory and applications: free, forced, and damped vibrations of one and two degrees of freedom systems, including damping, Normal modes, coupling, and normal coordinates. Vibration isolation devices, vibrations of continuous systems.

Mr. Bindiksen (F, W)

171A. Introduction to Feedback and Control Systems: Dynamic Systems Control I. Prerequisite: course 191A or 192A or Electrical Engineering 102 or equivalent. Introduction to feedback principles, control systems design, and system stability. Modeling of physical systems in engineering and other fields; transform methods; controller design using Nyquist, Bode, and root locus methods; compensation; computer-aided analysis and design.

Mr. Mingori (F, W)
17IC. Dynamic Systems Control II. Recommended (but not prerequisite): course 171A or Electrical Engineering 141. State-space models of continuous and discrete-time linear systems; eigenvalues, eigenvectors, characteristic roots, and node portraits. Transfer functions of linear systems; system poles and zeros. Effects of system parameters on system behavior. Time-domain and frequency-domain analysis of linear systems; stability, controllability, and observability of systems; state transition matrices; canonical forms; stability. Controllability and observability. State representation of nonlinear systems; linearization. Emphasis on modeling concepts, applications, and computer-aided model solution techniques.

Mr. Spery

174. Probability and Its Applications to Risk, Reliability, and Quality Control. Lecture, four hours; outside study, four hours. Prerequisite: course 411. 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 by variables and by attributes; acceptance sampling. Mr. Apostolakis (Fall)

175. Applications of Probabilistic Risk Analysis. Prerequisite: consent of instructor. Applications of probabilistic models for failure of components, sub-systems, and systems. Derivation and application of models for source terms, dispersion, dose-response relationships, and cost/benefit relationships. Emphasis on several case studies (e.g., hazardous waste control, energy systems, and high-level radioactive waste). Mr. Kastenberg

180A. Environmental Biotechnology. Prerequisite: consent of instructor. Physical, physiological, and psychological aspects of interaction between man and the environment. Review of microbial agents and energies in the environment. Biological and physical requirements for engineering control of the environment; applications to complex systems. Mr. Meacham


192D. Introduction to Random Processes. (Formerly numbered 193A.) Lecture, four hours; outside study, eight hours. Recommended (but not prerequisite): course 174 or equivalent. Elements of probability, random variables, random processes, time-series, probability density function (PDF), averages, characteristics function; joint PDF, correlation function, and energy density function; Gaussian distributions, white noise process, random walk, least-square linear smoothing.

Mr. Meacham (Winter, alternate years)


Mr. Yang (Spring)

194. Introduction to CAD/CAM Systems: Design and Implementation. (Formerly numbered 194A, 194B.) Laboratory, eight hours; outside study, four hours. Prerequisite: course 94 or consent of instructor. Introduction to CAD/CAM programming language. Hands-on experience with CAD/CAM systems design and implementation, with special emphasis on theory of parametric curves and surfaces for design and manufacturing and their computer interactive graphics implementation.

Mr. Yang (Spring)

195. Computer Numerical Control and Applications. (Formerly numbered 195A.) Laboratory, eight hours; outside study, four hours. Prerequisite: upper division standing. Fundamentals of numerical control (NC) technology. Programming of computer numerical control (CNC) machines in NC codes and APT language and with CAD/CAM systems. NC postprocessors and distributed numerical control. Operation of CNC lathes and milling machines. Machine programming and machining of complex engineering parts.

Mr. Chang (Spring)

199. Special Studies (2 to 8 units). Prerequisite: consent of instructor. Individual investigation of selected topic to be arranged with a faculty member. Enrollment request forms available in department office. Occasional field trips may be arranged. May be repeated for credit.

(Fall, Winter, Spring)

Graduate Courses

201. Mechanical, Aerospace, and Nuclear Engineering Seminar (2 units). Prerequisite: graduate standing in engineering. Lectures on current research topics in mechanics and structures. May be repeated for credit. SU grading.

Mr. Spery


Mr. Yang

231A. Convective Heat Transfer Theory. Prerequisite: course 131A. Conservation equations for flow of real fluids. Analytical solutions in laminar and turbulent, incompressible and compressible, internal and external flows; free convection. Variable wall temperature; effects of variable fluid properties. Analogies among convective transfer processes.

Mr. Lavie (Winter)


Mr. Pomraning (Fall)


Mr. Dhir (Winter)

231D. Application of Numerical Methods to Transport Phenomena. Prerequisite: course 132A or consent of instructor. Numerical techniques for solving selected problems in heat, mass, and momentum transport. Applications include free convection, boundary layer flow, two-phase flow, separated flow, flow in porous media. Effects of concentration and temperature gradients, chemical reactions, radiation, electric and magnetic fields.

Mr. Catton (Spring)


231F. Advanced Heat Transfer. Prerequisite: course 231A. Advanced topics in heat transfer from current literature. Linear and nonlinear theories of thermal and hydrodynamic instability; variational methods in transport phenomena; phenomenological theories of turbulent heat and mass transfer.

Mr. Catton (Spring)

233B. Advanced Mechanics of Fluids. Prerequisites: courses 131A, 132A. Formulation of general convective heat and mass transfer problem, including equilibrium and nonequilibrium chemistry. Similar and nonsimilar solutions for flow and heat transfer; solution procedures for turbulent flows. Multicomponent diffusion. Application to hypersonic boundary layer, ablation and transpiration, cooling combustion.

Mr. Mills (Winter)


234A. Topics in Thermal Design. Prerequisites: courses 131A, 132A. Consideration of thermal design problems selected from applications such as heat exchangers, heat shields, heat pipes, thermal environmental control, spacecraft temperature control, and solar thermal conversion. Presentations made by the staff and occasionally by invited off-campus specialists. Mr. Mills

235A. Nuclear Reactor Theory. Prerequisites: courses 135, 192A. Underlying physics and mathematics of nuclear reactor (fission) core design. Diffusion theory, reactor kinetics, shielding concepts, reactor thermalization, multiphase methods, introduction to transport theory.

Mr. Pomraning


Mr. Dhir

236A. Nuclear Materials Engineering. Prerequisites: courses 135 and Materials Science 143A, or consent of instructor. Materials requirements for nuclear technologies; radiation effects on mechanical properties, void swelling and creep, fuel and solute blistering; swelling and restructuring, gas release, computer codes for swelling and gas release, structural analysis of fission and fusion materials including radiation effects.

Mr. Fan

236B. Radiation Effects and Applications in Advanced Technologies. Prerequisites: courses 135 and 192A, or consent of instructor. Fundamentals of radiation damage; atomic theory; chemical reaction, energy loss of charged ions; fuel element swelling, and core applications. Analysis of specific accidents; anticipated transients without scram, loss-of-coolant accidents, and reactivity transients.

Mr. Kastenberg (Sp, alternate years)
25A. Advanced Problems in Reactor Design. Prerequisites: at least four courses from 235A, 235B, 236A, 236B, 236C, 274, 275. Methods of attack and solution for advanced problems in reactor design, including fuel elements, power reactor cores, pulse reactors, tokamak and tandem-mirror plasma layers, and reactor designs. Mr. Kangesten


237C. Fusion Reactor Technology and Design. (Formerly numbered M237C.) Prerequisites: courses 135, 137. Magnetic fusion reactor concepts and technological components, solid and liquid breeder blankets, neutrons, fuel cycles, in-vessel components, radiation shielding, magnets, system design and optimization. Mr. Abdou (W)

239BA-239BZ. Seminars: Current Topics in Transport Phenomena (2 to 4 units each). Prerequisite: consent of instructor. Lectures, discussions, student presentations, and projects in areas of current interest in transport phenomena. May be repeated for credit. S/U grading.

239BA-239DZ. Seminars: Current Topics in Nuclear Engineering (2 to 4 units each). Prerequisite: consent of instructor. Lectures, discussions, student presentations, and projects in areas of current interest in nuclear engineering. May be repeated for credit. S/U grading.

239FA-239FZ. Special Topics in Transport Phenomena (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as announced by department. 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 measurement techniques. May be repeated for credit with topic change.

239GA-239GZ. Special Topics in Nuclear Engineering (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as announced by department. Advanced and current study in areas of current interest in nuclear engineering, such as reactor safety, risk-benefit trade-offs, nuclear materials, and reactor design. May be repeated for credit with topic change.

250A. Foundations of Fluid Dynamics. Lecture, four hours; outside study, eight hours. Prerequisite: course 150A or consent of instructor. Development and application of fundamental principles of fluid mechanics at graduate level, with emphasis on pre-Maxwell hydrodynamic flows, convection equations, constitutive relations, exact solutions on the Navier-Stokes equations, vortex dynamics, decomposition of flow fields, potential flow. Mr. Kelly (F)

250B. Viscous and Turbulent Flows. Prerequisites: course 250A or consent of instructor. Fundamental principles of fluid dynamics applied to study of fluid resistance. States of fluid motion discussed in order of advancing Reynolds number; wakes, boundary layers, instability, two-dimensional and turbulent shear flows.

Mr. Meecham, Mr. Monkeiwitz (W)

250C. Compressible Flows. Prerequisites: courses 150A, 150B, or equivalent. Effects of compressibility in viscous and inviscid flows. Stability of inviscid supersonic and subsonic flows; method of characteristics; small disturbance theories (linearized and hypersonic); shock dynamics.

Ms. Karagozian (Sp)

250D. Computational Aerodynamics. Lecture, eight hours. Prerequisites: courses 150A, 150B or equivalent, 192C. Introduction to useful methods for computation of aerodynamic flow fields. Coverage of potential, Euler, and Navier-Stokes equation. Subsonic and supersonic flows.

Mr. Zhong (W)

251A. Stratified and Rotating Fluids. Prerequisite: course 150A or equivalent or consent of instructor. Fundamentals of fluid flows with density variations or rotation, illustrated by examples with environmental, geophysical, or technical importance. Linear and finite amplitude wave motion. Flow past bodies; blocking phenomena. Viscous effects. Instabilities. Turbulent shear flows, wakes, plumes, and gravity currents.

Mr. Kelly (F, even years)

251B. Marine Hydrodynamics. Prerequisite: course 250A or equivalent or consent of instructor. Application of advanced aspects of potential flow theory to calculate forces and moments on bodies: added mass, force on two-dimensional hydrofoils, drag due to ship waves, response of a body to wave excitation.

Mr. Kelly

252A. Stability of Fluid Motion. Prerequisite: course 150A or equivalent or consent of instructor. Mechanisms by which fluid flow becomes unstable and lead to turbulence of secondary motions. Linear stability theory; thermal, centrifugal, and shear instabilities; boundary layer instability. Nonlinear aspects: sufficient criteria for stability, subcritical instabilities, supercritical states, transition to turbulence.

Mr. Kelly (W, odd years)

252B. Statistical Theory of Turbulence. Prerequisite: course 150A or consent of instructor. Development of statistical methods of wide utility in engineering applied to turbulent flows. Topics include stochastic processes, kinematics of turbulence, energy decay. Kaimohorov similarity, analytical theories, and origins of Reynolds stress. Mr. Meecham (Sp)


Ms. Karagozian (W)

253A. Advanced Engineering Acoustics. Advanced studies in engineering acoustics, including theories of wave propagation in bounded media; Ray acoustics; attenuation mechanisms in fluids. Mr. Meecham


Mr. Meecham

254A. Special Topics in Aerodynamics. Prerequisites: courses 150A, 150B, 192A, 192B, and 192C, or equivalent, or consent of instructor. Special topics of current interest in advanced aerodynamics. Examples include: transonic flow, hypersonic flow, sonic booms, and unsteady aerodynamics. Mr. Zhong

254B. Helicopter Engineering. Prerequisites: course 250A, Civil Engineering 106. Recommended: courses 166A, 166A. Introduction to helicopter engineering covering basic areas of helicopter design; aerodynamics, performance, stability and control, fatigue, and elements of rotor dynamic analysis. Class problem covering preliminary design of a helicopter is central part of course. Mr. Friedman

255A. Advanced Dynamics. Prerequisites: courses 155 and 166A, or consent of instructor. Variational principles and Lagrange equations. Kinematics and dynamics of rigid bodies; procession and nutation of spinning bodies. Mr. Mingori (F)

255B. Mathematical Methods in Dynamics. Prerequisite: course 255A. Concepts of stability; state-space interpretation; stability determination by simulation, linearization, and Liapunov direct method; the Hamiltonian as a Liapunov function; nonautonomous systems; averaging and perturbation methods of nonlinear analysis; parametric excitation and nonlinear resonance. Application to mechanical systems.

Mr. Meecham (W, odd years)

256A. Mechanics of Deformable Solids. Prerequisites: courses 155B and 166A, or consent of instructor. Kinematics of deformation, strain, tensors, invariance, compatibility, conservation laws, stress tensors; equilibrium of simple boundary conditions; constitutive equations: general theory, linearization, anisotropy; reciprocity linear isotropic elastic problems, plane and generalized plane problems; dynamic problems.

Mr. Mal (F)

256B. Elasticity. (Same as Civil Engineering 250B.) Lecture, four hours; outside study, eight hours. Prerequisite: course 256A or consent of instructor. Equations of linear elasticity; uniqueness of solution; Betti/Reayleigh principle; Saint-Venant's condition; simple problems involving spheres and cylinders; special techniques for plane problems. Airy stress function, complex variable method, transform method; three-dimensional problems, torsion, entire space and half-space problems; boundary integral equations.

Mr. Dong, Mr. Mal (W)

256C. Plasticity, Creep, and Thermal Stresses. Prerequisite: course 254A or 166A or consent of instructor. Advanced topics on stress-strain-rate similarities. Stress-strain-time relations commonly used in structural analysis. Unified treatment of plastic strain, creep strain, and thermal strain. Elastic-plastic, and creep analyses of beams, columns, shafts, frames, plates.

Mr. Mal


Mr. Mal (Sp)

M257A. Elasticodynamics. (Same as Earth and Space Sciences M224A.) Lecture, four hours; outside study, eight hours. Prerequisites: courses 256A and M256B, or consent of instructor. Equations of linear elastodynamics. Cauchy equations of motion, constitutive relations, boundary and initial conditions, principle of energy. Sources and waves in unbounded isotropic, anisotropic, and dissipative solids. Half-space problems. Guided waves in layered media. Applications to geologic fracture, and design of confined water reservoirs (NDCE) and mechanics of earthquakes. Mr. Mal

M257B. Elastic Wave Propagation II. (Same as Earth and Space Sciences M224B.) Lecture, four hours; outside study, eight hours. Prerequisites: courses 256A, 256B, or consent of instructor. Theory of scattering of elastic waves by cracks and inclusions; normal mode theories for vibration of finite elastic bodies; dynamic theories of fracture; representative applications in engineering and seismology. Mr. Mal
263C. Advanced Robotics. Lecture, four hours; out-
side study, eight hours. Recommended (but not prereq-
tuises): courses 155, 163C, 171A, 263C. Motion plan-
nling and control of articulated dynamic systems; non-
liner control problems; estimation and optimal control; and
multi-axis coordination, multi-body dynamics, trajec-
tory planning, motion optimization, dynamic perform-
ance and manipulator design, kinematic redundan-
cies, planning of manipulators and singularity obsta-
icle avoidance. 

Mr. Shiller (Sp)

M267A. Optimum Structural Design. (Same as Civil Engineering M240.) Prerequisite: course 261A or Civil Engineering 235A or consent of instructor. System level design and optimization as basis of problem definition, formulation, and methodology. Topics include: problem definition, formulation, and optimization; and optimization and simulation applications to aerospace and civil structures. 

Mr. Feilin, Mr. Friedrich (W)

268B. Failure of Structural Systems. Lecture, four hours; other, eight hours. Prerequisite: Civil Engineering 135B. Exploration of a current area of research in depth. 

Mr. Friedmann (W)

M269A. Dynamics of Structures. (Same as Civil Engineering M257A.) Prerequisite: course 169A. Principles of dynamic system analysis, structural analysis methods and computer-aided analysis of structures. 

Mr. Bendiksenn, Mr. Friedmann (W)

269B. Advanced Dynamics of Structures. Prerequisites: course M269A. Analysis of linear and nonlinear response of structures to dynamic loads. 

Mr. Friedrich (Sp)

M293C. Introduction to Probabilistic Dynamics. (Same as Civil Engineering M237C.) Prerequisite: course 169A. Probabilistic analysis of structural systems. Random variables, random processes, and random fields. 

Mr. Apostolakis (W, odd years)

270C. Advanced Mechanics of Fluids and Thermal Science. Prerequisite: consent of instructor. Survey of wind tunnels and other facilities for research in fluid mechanics. Development of a unified view of the heat transfer equation; and analysis of their critical design features. Modern sensors, instruments, and measurement techniques. Signal processing and storage with analog and digital computer systems. 

Mr. Monteith (Sp)

295A. Seminar: Advanced Topics in Fluid Me-
chanics. Prerequisite: consent of instructor. Advance-
ment study in various fields of subjects in fluid me-
nchanics on topics which may vary from term to term. Topics in-
clude stability, plasticity, and wave load response of structures to dynamic loadings. 

Mr. Mal

200A-200Z. Seminars: Current Topics In Me-
chanical Engineering (2 to 4 units each). Prerequi-
site: consent of instructor. Lectures, discussions, and student presentations and projects in areas of current interest in mechanical engineering. May be repeated to a maximum of six credit hours. 

261A. Energy and Variational Principles in Struc-
tural Mechanics. Prerequisite: course 150A or 156B or 166A. Theory of linear elasticity. Calculus of variations. Principles of minimum potential energy and complementary energy. Stationary variational prin-
ciples. Energy theorems. Matrix methods of structural analysis, with application to truss and frame prob-
lems. Variational principles as basis of finite element methods. 

Mr. Bendiksen (F)

262. Mechanics of Intelligent Material Systems. Lecture, four hours; outside study, eight hours. Prerequisite: course 156B or equivalent. Recommended: course 186C. Constitutive relations for electro-mag-
eto- and piezoelectric materials. 

Mr. Carman

263A. Electromechanics of Computer-Controlled Machinery. Lecture, four hours; other, eight hours. Prerequisite: course 171A. Recommended: courses 163A, 165B, 163C. Mechanics and computer problems of com-
puter-controlled electromechanical systems, with special emphasis on analysis of energy flow between me-
chanical, electrical, and control components when ap-
died to electromagnetic and piezoelectric actuators and control systems with mechanical flexibilities. 

Mr. Yang (W)

263B. Topics in Modeling and Dynamics of Aero-
space Vehicles. Prerequisites: courses 171A, 255A. Recommended courses 154A, 255B, 259A. Model-
ing, dynamics, and stability of aerospace vehicles; im-
provement of performance using active control; applica-
tions to spinning and dual-spin spacecraft, space structures, and space manipulators. 

Mr. Friedman, Mr. Mingori (Sp, even years)

263C. Mechanics and Trajectory Planning of In-
dustrial Robots. Lecture, four hours; other, eight hours. Prerequisite: course 163A or consent of in-
structor. Theory and implementation of industrial ro-
bots. Design considerations. Kinematic structure mod-
ing, trajectory planning, and problems of static and dyn-
a
erent motion and static forces. Individual student study projects. 

Mr. Yang (W)

271B. Dynamic Systems Stochastic Estimation and Control. Prerequisites: courses 171C, 192D, and 271A, or consent of instructor. Applied treatment of optimal state estimation and stochastic control problems for continuous and discrete-time dynamic models with state-space descriptions. Kalman filter-
ing, smoothing, and prediction algorithms. Stochastic optimal controllers; separation principle. 

Mr. Gibson, Mr. Mingori (F)

271C. Dynamic Systems Identification, Stability, and Adaptive Control. Prerequisites: course 217A or consent of instructor. Recommended: course 271B. Nonlinear system stability. Dynamic systems modeling, identification, and parameter estimation tech-
niques. Control and identification of linear and self-
adapting control. 

Mr. Speyer (Sp)

271D. Seminar: Special Topics in Dynamic Sys-
tems Control. Prerequisite: consent of instructor. Seminar on current research topics in dynamic sys-
tems modeling and control, and applications. Topics se-
lected from recent publications on differential equations, non-
linear estimation, adaptive filtering, and aerospace applications, etc. 

Mr. Speyer

274. Methods of Probabilistic Safety Assessment. (Formerly numbered 236D.) Lecture, four hours; outside study, eight hours. Prerequisite: courses 174 and 274, or consent of instructor. Considerations regarding balancing of so-
ociety's resources: risk/benefit, values/impact, and risk management. Methodological problems and ap-
proaches. Risk-based decision theory, aspects of risk management; criteria and standards, uncertainty, per-
cise value of information. 

Mr. Kastenberg, Sp, odd years

280. Introduction to Micromachining. Lecture, four hours; outside study, eight hours. Prerequisite: Materials Science 14 or equivalent. Introduction to micro-
structures and MEMS. basics of IC manufacturing: bulk micromachining; directional etching and etch-
stop; surface micromachining: deposition, selective wet etching, and dry etching; mechanical behavior of thin films. 

Mr. Kastenberg, Mr. Yang (W)

M291A. Advanced Methods of Engineering I. (Same as Electrical Engineering M208A.) Prerequi-
tusite: Mathematics 131A, 132. Application of abstract mathematical methods to engineering problems. Re-
view of elements of measure and integration, L2 the-
ory — linear spaces and operators. Eigenvalue prob-
lems. Introduction to spectral theory — elementary distribution theory. Applications to problems in engi-
neering. 

Mr. Gibson (W)


Mr. Gibson (W)

291C. Integral Equations in Engineering. Prerequi-
tusite: Mathematics 250B. Introduction to generalized function theory and Green's functions. Conversion of partial differential equations to integral equations and classification of integral equations. Solution to integral equa-
tions with degenerate kernels; evaluations of succes-
sive approximations and Fredholm and Volterra, 

Mr. Mal

291D. Methods of Probabilistic Safety Assessment. Lecture, four hours; outside study, eight hours. 

Mr. Feilin, Mr. Friedrich (W)

293. Quality Engineering in Design and Manufac-
turing. Lecture, four hours; outside study, eight hours. Prerequisite: course 174 or consent of instructor. Overview of modern methods to engineering problems. Review of spectral theory. Green's functions and eigenvalue problems for second order differential equations and their adjoints. 

Mr. Mal

294. Advanced CAD/CAM Systems. Lecture, four hours; outside study, eight hours. 

Mr. Speyer (Sp, even years)
Schoolwide Fields, Programs, Courses, and Faculty

6426 Boelter Hall, (310) 825-2826

Bachelor of Science in Engineering

Bioengineering Major Field

The bioengineering major field is an interdisciplinary program leading to a Bachelor of Science degree in engineering that may soon be replaced by several new programs in this area. Therefore, applicants may not be admitted to this major but may have an opportunity to pursue one of the new alternatives. For further information, contact the Associate Dean, Academic and Student Affairs, 6426 Boelter Hall.

Graduate Study

For information on graduate admission to the schoolwide engineering programs and requirements for the M.S., Engineer, and Ph.D. degrees and certificate of specialization, see "Graduate Study" at the beginning of this chapter.

M.S. and Ph.D. in Engineering

Schoolwide programs, which may admit a limited number of applicants, are available in biocybernetics and man/machine/environment systems.

M.A.-Latin American Studies/
M.S.-Engineering

The school and the Latin American Studies Program have established an articulated degree program through which students may complete requirements for the M.S. in Engineering and the interdepartmental M.A. in Latin American Studies. After successful completion of the program, students are awarded both degrees simultaneously. Articulated programs do not allow course credit to be applied toward more than one degree.

Lower Division Course

97. Introduction to Engineering Disciplines. (Formerly numbered 98.) Lecture, four hours; discussion, four hours; outside study, four hours. Introduction to engineering as a professional opportunity for fresh- man students by exploring difference between engineering disciplines and functions engineers perform. Development skills and techniques for academic excellence through the team process. Investigation of national need underlying current effort to increase participation of historically underrepresented groups in the U.S. technological work force. P/NP grading.

Graduate Courses

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice/teacher under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

470A-470D. The Engineer in the Technical Environment (3 units each). Limited to students in Engineering Executive Program. Theory and application of quantitative methods in analysis and synthesis of engineering systems for purposes of management decisions. Optimization of outputs with respect to dollar costs, time, material, energy, information, and manpower. Case studies and individual projects.


472A-472D. The Engineer in the Business Environment (3 units each, 1½ units). Limited to students in Engineering Executive Program. Language of business for the engineering executive. Accounting, finance, business economics, business law, and marketing. Laboratory in organization and management problem solving. Analysis of actual business problems of firm, community, and nation, provided through cooperation and participation with California business corporations and government agencies. In Progress grading (credit to be given on completion of courses 472A and 472D).

473A-473B. Analysis and Synthesis of a Large Scale System (3 units each). Recitation, two and one-half hours. Limited to students in Engineering Executive Program. Problem area of modern industry or government is selected as class project, and its solution is synthesized using quantitative tools and methods. Project also serves as laboratory in organizational for a goal-oriented technical group. In Progress grading.

495. Teaching Assistant Training Seminar. Prerequisites: graduate standing in engineering, appointment as a teaching assistant. Seminar on communication of engineering principles, concepts, and methods, preparation, organization of material, presentation, use of visual aids, grading, advising, and rapport with students. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: 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.

Schoolwide Engineering Faculty

Professors Emeriti

Edward P. Coleman, Ph.D.
J. Morley English, Ph.D.
Alfred C. Ingersoll, Ph.D.
Herbert S. Nolte, Ph.D.
Allen B. Rosensten, Ph.D.
Bonham Spence-Campbell, E.E.
In recent years Los Angeles has emerged as a dominant and growing center of finance and trade, reflecting the continued shift of the national agenda west to the Pacific Rim and south toward Mexico and Latin America. This growth of intense commercial activity has been linked to important developments in the arts, sciences, and communications, producing a regional culture of great ethnic diversity, energy, and momentum. The UCLA Graduate School of Architecture and Urban Planning (GSAUP) draws from the many resources of this diverse environment.

Professional education and research are the central concerns of GSAUP within a context of rapid professional change and experimentation. Developed as a small school with an enrollment of 350, GSAUP encourages close interaction between faculty and students to maximize the educational experience. Our belief is that a curriculum in architecture and urban planning responsive to the emerging needs of this important region can make a significant contribution to professional development. GSAUP's Lewis Center for Regional Policy Studies and the recently established Institute of Transportation Studies provide students with academic and policy-oriented research opportunities. A noted regular faculty is supplemented by distinguished visitors. Public lectures, conferences, and various exhibits are scheduled throughout the year, facilitating an active relationship between the public and professional communities and the school.
The Graduate School of Architecture and Urban Planning (GSARP) at UCLA offers programs of study leading to the degrees of Master of Architecture (M.Arch.), M.A. in Architecture, M.A. in Urban Planning, Ph.D. in Architecture, and Ph.D. in Urban Planning. Currently, the school offers educational opportunities for a broad spectrum of careers, including a number of paths that are not yet common in practice, which reflect emerging social needs. It offers a choice of two major programs: Architecture and Urban Design, and Urban Planning.

**Architecture and Urban Design**

B315 Perloff Hall, (310) 825-0525, 825-7857

**Lecturers**
- Berge Aran, Ph.D.
- Thom Magne, M.Arch.

**Adjunct Professors**
- Charles Jencks, Ph.D.
- Robert J. Yudell, M.Arch.
- Judith Shaine, M.Arch.
- Roger Sherman, M.Arch.

**Adjunct Assistant Professors**
- Daniel Libeskind, M.Arch.
- Dana Cuff, Ph.D.
- F. Eugene Kupper, M.Arch., Emeritus

**Associate Professors**
- Diane Favro, Ph.D.
- Franklin Israel, M.Arch.
- George Rand, Ph.D.
- Ben Refuerzo, M.Arch.

**Assistant Professors**
- Sylvia Lavín, Ph.D.
- Dagmar Richter, M.A. (Diplom.)

**Scope and Objectives**

The Department of Architecture and Urban Design at UCLA offers four degree programs tailored to the needs of different groups of students: M.Arch. I, M.Arch. II, M.A., and Ph.D. M.Arch. I is a three-year first professional degree program which is accredited by the National Architectural Accrediting Board (NAAB). It does not assume any prior background in architecture. Students who do have some prior architecture background (e.g., a four-year undergraduate degree) may also enter the program and may petition to waive certain required courses and substitute more advanced electives in their place. M.Arch. I graduates normally pursue professional careers in architectural practice.

M.Arch. II is an advanced professional degree program for students who already hold a first professional degree in architecture. It provides opportunities for intensive concentration in a variety of areas of professional specialization. The M.A. and Ph.D. degree programs provide opportunities to pursue research and scholarship in the field of architecture. Graduates typically pursue academic or applied research and consulting careers.

**Master of Architecture I**

**Admission**

The M.Arch. I program is open to students holding a bachelor's degree (or its equivalent) comparable in standards and content to a bachelor's degree from the University of California. Applications are accepted from students with a variety of backgrounds. No academic or experiential training in architecture is required, although some students have had experience in the field prior to admission.

Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, and a "creative" portfolio. No admission tests are required. In addition to the application for graduate admission, applicants should submit the "Departmental Supplement," available from the Admissions Office, Graduate School of Architecture and Urban Planning, B102 Perloff Hall, UCLA, Los Angeles, CA 90024-1467.

For information on the proficiency in English requirements for international graduate students, refer to "Graduate Admission" in Chapter 3.

**Major Fields or Subdisciplines**

No in-depth specialization is required within the context of the M.Arch. I program. However, you are required to concentrate several elective courses within a single curricular area. A minimum of three elective courses must be taken within this curricular area, including two courses in theory and one studio application, during the second year of study.

Specializations are currently available in the following areas: (1) urban policy and design, (2) architectural technology, (3) design and computation, (4) history and theories of architecture, and (5) policy, programming, and evaluation.

**Course Requirements**

You must complete a minimum of 29 courses, at least 26 of which must be four-unit courses at the graduate level (200 and 400 series). The total number of units required is 116. The required courses, listed below, must be taken in the sequence indicated. Some of the studios are taken in conjunction with associated two-unit support courses.

**First Year**
- Fall: Courses 411, 421, 420, 41A, 41B
- Winter: Courses 412, 422, 431, 436
- Spring: Courses 413, 423, 432, 442

**Second Year**
- Fall: Courses 414, 424, 433, elective (in sequence)
- Winter: Courses 415 or 401 or 402, 425, 441, elective (in sequence)
- Spring: Courses 401 or 402 or 403 or M404, professional practice, elective
The third year
Fall: Courses 416, 426, 291, elective
Winter: Courses 415 or 401 or 402, elective, 498
Spring: Elective, course 597A or 598A
You are required to take at least 20 units of elective coursework, including the history and theory courses in the elective sequence. In some areas of concentration an additional eight units of elective coursework may be necessary to fulfill the total unit requirement of 116. At least 16 units must be taken within the Graduate School of Architecture and Urban Planning.

You are encouraged to complete an elective sequence consisting of at least three related courses, terminating in a 402 or 403 advanced studio (normally in Spring Quarter of your second year). The elective sequence is intended to allow you to gain in-depth knowledge of a chosen area of specialization and to apply that knowledge in a design studio. Elective sequences are offered in the following areas: (1) urban policy and design, (2) architectural technology, (3) design and computation, (4) history and theories of architecture, (5) policy, programming, and evaluation. Details of currently available and approved elective sequences may be obtained from the graduate adviser.

In addition to completing an elective sequence, you are expected to explore a variety of topics by taking additional elective courses in the five areas listed above, in the Urban Planning Department, or outside GSAUP. You must enroll in eight units of Architecture and Urban Design 597A, which may not be taken until all other required courses have been successfully completed. Students who opt to take the comprehensive examination in architectural design must enroll in four units of course 498, in addition to the eight units of course 597A.

You may also apply eight units of course 596A toward the elective course requirements for graduation. Eight of the 16 units may be applied toward the graduate course requirement. All independent 500-series work must be undertaken with the guidance and approval of a departmental faculty member.

If you can demonstrate that you already have adequate background in topics covered by specific required courses, you may petition to waive those courses and replace them with electives. This enables you to enroll in a larger number of electives and take part in the courses in the Advanced Graduate Studies Program. However, permission to waive required courses does not reduce the minimum number of 116 units required for the M.Arch. I degree nor does it reduce the nine-term residence requirement. The petition should be addressed to the faculty member responsible for that course and may be granted at the faculty member's discretion, possibly by means of a special examination. The petition should present evidence of adequate background in the specific topic of the course, preferably with a transcript and syllabus of the course taken.

Comprehensive Examination Plan
You are required to successfully complete a comprehensive examination in any one of the following areas: (1) architectural design, (2) urban policy and design, (3) architectural technology, (4) design and computation, (5) history and theories of architecture, (6) policy, programming, and evaluation. The examinations are administered by the appropriate curriculum area committees. Details of the comprehensive examination policies, established by each curriculum area committee, are available from the graduate adviser.

Master of Architecture II
Admission
The M.Arch. II program emphasizes advanced studies in architecture and requires that applicants hold a five-year B.Arch. degree or equivalent.

You must state your major area of specialization on the departmental application, as you are admitted to a specific concentration area and may change only by petition to the advanced graduate studies curriculum committee. A minimum of four academic terms in residence is required. This is a full-time program, and you are expected to remain continuously in residence until all academic work is completed, unless a leave of absence is granted.

If your native language is not English, you are required to score at least 580 on the Test of English as a Foreign Language (TOEFL). In addition, you must take the English as a Second Language Placement Examination (ESLPE) on arrival at UCLA and, beginning in your first term in residence, take any required English as a Second Language courses. Because such courses may not be applied toward the minimum course requirement, you should expect to spend additional time in residence. Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

Major Fields
You are required to select your major area at the time of application to the program and must take a minimum of 24 units of coursework in that area. The six major areas are (1) architectural design, (2) urban policy and design, (3) architectural technology, (4) design and computation, (5) history and theories of architecture, and (6) policy, programming, and evaluation.

Course Requirements
A minimum of 44 units of coursework (normally 11 four-unit courses) is required. At least 32 units must be at the graduate level; eight units of Architecture and Urban Design 597A or eight units of course 598A are to be included in the 32 units. The remaining 12 units may be either upper division or graduate courses. No more than eight units of course 596A may be applied toward the requirements for graduation.

Students in architectural design are required to complete at least 12 units of advanced design studio work plus 12 units of approved seminar courses.

Students in urban policy and design must complete at least 12 units of advanced design studio work plus 12 units of approved seminar courses.

Students in the other four major areas (architectural technology; design and computation; history and theories of architecture; and policy, programming, and evaluation) are required to complete an approved sequence of three core courses consisting of two lecture/seminar courses which establish substantive foundations and a project course (Architecture and Urban Design 403) which explores applications, plus 12 units of elective courses in the major area.

There may be more than one approved core sequence in each of the areas. The curriculum committee establishes and publishes a list of approved core sequences, which is reviewed and revised as necessary on a yearly basis. In special cases you may propose core sequences not on the list for approval by the committee.

Thesis Plan
Under this plan you may submit either a research project or a design project. A thesis committee must be established at least one term before presentation of the thesis, and you must take at least eight units of Architecture and Urban Design 598A. The thesis must be submitted within two years after entry into the program.

Comprehensive Examination Plan
Under this plan you are required to establish a comprehensive examination committee at least one term before taking the examination and to receive approval of an examination topic from that committee. You are then required to take at least eight units of Architecture and Urban Design 597A. The examination consists of a research project or design project on the approved topic. The examination must be submitted within two years after entry into the program.

Master of Arts in Architecture
Admission
This program offers an academic degree and prepares students to do specialized research or teaching in fields related to the architecture and urban design professions. Applicants are required to hold a bachelor's degree (or its equivalent) comparable in standards and content to a bachelor's degree from the University of California. They should possess the experience and knowledge that would allow them to do advanced research in whatever aspect of architecture they plan to explore within the context of the master's program.
Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, and a "creative" portfolio. No admission tests are required. In addition to the application for graduate admission, applicants should submit the "Departmental Supplement," available from the Admissions Office, Graduate School of Architecture and Urban Planning.

For information on the proficiency in English requirements for international graduate students, refer to "Graduate Admission" in Chapter 3.

**Major Fields or Subdisciplines**

There are four major areas of concentration: architectural technology; design and computation; history and theories of architecture; and policy, programming, and evaluation. In addition, you have the option of the open M.A. wherein you structure your own area of interest from the courses offered by the school.

**Degree Requirements**

1. Candidates for the M.A. are expected to be in residence at UCLA for at least two years and undertake six terms of study.
2. You must select and pursue one area of specialization.
3. A thesis or a comprehensive project is required. When the committee members have signed the thesis proposal, you may take at least four and no more than eight units of Architecture and Urban Design 598A and begin work on the thesis itself. The course should be taken at some point during your last year of study.
4. You are required to complete a minimum of 16 courses (64 units) of graduate or upper division work, at least five (20 units) of which must be 200-series courses and at least two (eight units) of which must be 500-series courses. No more than 20 units of 500-series courses may be applied toward the total unit requirement for the degree.
5. Up to seven courses may be taken from upper division or graduate courses offered campuswide.
6. The University of California minimum requirements for the Master of Arts degree must be completed.
7. You must enroll in at least four and no more than eight units of course 598A. You may also apply 12 units of course 596A toward the unit requirements for graduation.
8. Courses in the 400 series may not be applied toward the graduate course requirement for the M.A. degree, but a limited number may be applied toward the elective course requirements.

**Thesis or Comprehensive Examination Plan**

M.A. students can choose to present a design project as a comprehensive examination (see M.Arch. I) or to do a research thesis. They should make this determination at least three months prior to the anticipated date of graduation.

**Ph.D. in Architecture**

**Admission**

Applicants must hold a bachelor's degree from an accredited college or university. It is anticipated that most applicants will have completed a first professional degree in architecture (a five-year B.Arch. or a professional M.Arch. degree). Students with degrees in other fields are also encouraged to apply but may, at the discretion of the Ph.D. program committee, be required to complete specific coursework as a condition of admission.

Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, a proposed program of studies, a short biographical résumé, and examples of research and/or creative work. An interview may also be required.

Applicants whose native language is other than English are required to pass the Test of English as a Foreign Language (TOEFL) before entering. Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

Criteria considered for admission include (1) evidence of capacity for original scholarship and research in architecture, and ability to achieve eminence in the field, (2) an outstanding academic record, including grades (3.5 minimum GPA), Graduate Record Examination (GRE) scores, and references, (3) demonstration in the work submitted of adequate communication skills, particularly writing skills, and (4) presentation of a clear and realistic statement of purpose.

**Preliminary Evaluation of Research Skills**

Students who have any background deficiencies in research skills essential for work in their chosen areas of Ph.D. specialization (e.g., mathematics, statistics, or computing) are required to round out their knowledge early in their residence. The Ph.D. program committee conducts a formal evaluation of each student before the end of the first year in residence to assure adequate research skills. In order to undergo the evaluation you must have made up any background deficiencies and present a research paper or other evidence of capacity for original work.

If you are unable to satisfy the committee of the adequacy of your research skills, you will either be given specific advice on how to make up remaining deficiencies and be reevaluated at a later date, or else be advised to leave the program. If you do not satisfy the committee by the end of the sixth term, you are subject to termination from the program.

**Major Fields**

Students are required to undertake programs of study that include one major area selected from the following: architectural technology; design and computation; history and theories of architecture; and policy, programming, and evaluation.

Majors outside these areas, or combinations of some of them, may be undertaken, subject to the approval of the Ph.D. program committee if supported by qualified faculty members willing to provide the necessary instruction and guidance.

**Minor Field Requirement**

You are required to include in your program of study at least one minor field, which must be from outside the Architecture and Urban Design Department (i.e., outside the school or within the Urban Planning Department). The objectives of the minor field requirement are to assure adequate academic breadth in your preparation and to encourage participation in the general intellectual life of the University. Students planning their minor field courses are advised accordingly.

The normal method of demonstrating competence in the minor field is to complete at least 16 units of coursework, which represents a unified course of study in that field, with grades of B or better. If a qualified departmental faculty member is willing to provide the necessary supervision, the Ph.D. program committee may accept an alternative method of completing this requirement (e.g., a substantial research project).

**Mathematics, Computing, or Foreign Language Requirement**

You are expected to develop adequate skills in mathematics, computing, or foreign languages, as appropriate to your field of specialization, and are strongly advised to complete this requirement as early as possible. One of the following is required.

**Foreign Language Requirement**

You must fulfill one of the following, as approved by your adviser or advisory committee:

1. Satisfactory reading knowledge of two foreign languages relevant to your field of specialization as demonstrated by one of the following methods: (a) a Graduate School Foreign Language Test (GSFLT) score of 500 or better, (b) a passing grade on the examination given by the departmental language examination committee, or (c) taking and completing with grades of B or better two courses from French 5, German 3, Italian 3, Spanish 5.

2. Superior knowledge of one foreign language relevant to your field of specialization as demonstrated by one of the following methods: (a) a GSFLT score of 600 or better, (b) distinction on the examination given by the departmental language examination committee, or (c) taking and completing with a grade of B or better one course from French 5, German 6, Italian 5, Spanish 25.
their adviser and approved by the Ph.D. program committee.

Courses applied toward this requirement may not also be applied toward a major or minor field requirement.

Course Requirements

Generally you are required to take sufficient coursework to provide adequate preparation for the qualifying examination and the dissertation.

Each student is required to take a proseminar in architectural theory, normally in Fall Quarter of the first year. The proseminar is intended to establish a general orientation to the field of architecture that will ensure that you have an appropriate foundation for the acquisition of competence in the theory, methods, and history of architecture. In consultation with your adviser, you are expected to take whatever additional coursework is necessary to reach the required level.

holders of a professional degree in architecture before admission to the program must complete four terms in residence and 48 units of coursework in order to become eligible to take the qualifying examination. If you have an M.Arch I, M.Arch II, or M.A. degree in Architecture from UCLA, the Ph.D. program committee may, at its discretion, reduce these requirements to three terms in residence and 36 units of coursework. All other candidates are required to complete six terms in residence and 72 units of coursework.

Half of the units must be graduate courses in architecture and urban design, and an overall GPA of 3.0 or better must be maintained. In exceptional cases, and with prior approval of the Ph.D. program committee, upper division courses may be applied toward these requirements. At least 32 units must be in 200-series courses.

Each of the major field core sequences of three to five courses includes one project course (Architecture and Urban Design 403), which focuses on the practical application of research results to architectural problems and provides opportunity to explore interrelations between the research and professional concerns of the field.

Students who are admitted to the Ph.D. program without having the background of a professional degree in architecture are required to take, in addition to the other course requirements, at least 24 units of graduate-level courses in architecture as recommended by their adviser and approved by the Ph.D. program committee.

No more than eight units of course 596A may be applied toward degree requirements, but eight units of course 597A and as many units of course 599A as necessary may be applied.

Qualifying Examinations

After successful completion of (1) the preliminary evaluation of research skills, (2) the mathematics, computing, or foreign language requirements, and (3) the coursework requirements, you may apply to take the qualifying examinations. They consist of a comprehensive written examination in the major field, a written examination in the minor field (this may be waived under certain circumstances), and an oral examination focusing primarily on your proposed dissertation. The qualifying examinations should be completed in one term and must not extend over more than two terms.

The major and minor field examinations are conducted by a four-member examination committee.

The written examination in the major field is a substantial exercise followed by an oral presentation to the committee. The work must demonstrate your ability to teach an introductory course in the field and contribute to the progress of the field through scholarship and research.

The written examination in the minor field is a short exercise and may be waived for candidates who hold a recognized master's degree in the field in which the minor is located, or at the discretion of the examination committee on the basis of outstanding grades (at least two A grades out of the four minor field courses).

The University Oral Qualifying Examination, conducted by the doctoral committee, takes place after successful completion of the two written qualifying examinations. It explores your proposed dissertation topic and your ability to undertake the proposed work successfully.

After passing the oral examination, you are advanced to candidacy (the C.Phil. degree is not awarded) and may begin work on your dissertation.

Final Oral Examination

The examination involves a verbal defense of the completed dissertation before the doctoral committee.

Upper Division Courses

M190. Human Environment: Introduction to Architecture and Urban Planning. (Formerly numbered Architecture and Urban Planning 190.) (Same as Urban Planning M190.) Lecture, three hours; outside study, nine hours. Kinds of problems that arise in creating and maintaining an 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 the human-made to the natural environment. Students encouraged to comprehend major urban issues both as citizens and as potential technical experts. Mr. Rand

C191. Introduction to Sustainable Architecture and Community Planning. (Formerly numbered Architecture and Urban Planning C191.) Lecture, three hours. Emergence and relating resources-conscious design integration into architectural and urban design: passive, active, and photovoltaic solar systems and recycling of water, waste, and building materials at scale of buildings and communities. Concurrently scheduled with course C247A.

Mr. Schoen

C192. Modern and Postmodern Architecture. (Formerly numbered Architecture and Urban Planning C192.) Lecture, three hours. Exploration of 20th-century architecture from revolutionary concepts of modern movement, including manifesta-tions in international style, to current transcendence of that movement with postmodernism and a resurgence of modernism. Concurrently scheduled with course C282B.

Mr. Jencks

C193. City Studies. (Formerly numbered Architecture and Urban Planning C193.) Lecture, three hours. Design of cities from early times to the present, with special emphasis on great 19th- and 20th-century cities of Europe and America. Establishment of basic principles of good city design. Discussion of current theories and design. Concurrently scheduled with course C280.

Mr. Vreeland

199. Special Studies (2 to 8 units). (Formerly numbered Architecture and Urban Planning 199.) Prerequisite: consent of instructor. Independent research or investigation on a selected topic to be arranged with a faculty member. May be repeated for credit.

Graduate Courses

200. History of Architecture. (Formerly numbered Architecture and Urban Planning 200.) Lecture, three hours. Introduction to history of Western architecture and the urban environment from antiquity to the modern era. Lectures and readings on major architectural monuments and urban issues in relation to their theoretical, philosophical, and sociopolitical contexts.

Ms. Favro, Ms. Lavin

201A. Theory of Architecture (2 to 4 units). (Formerly numbered Architecture and Urban Planning 201A.) Lecture, 90 minutes; discussion, 90 minutes. Exploration of conceptual and historical structures that shape current issues in architectural theory. Readings in primary texts serve as framework for understanding the nature of speculative inquiry in an architectural context.

Ms. Lavin (F)

201B. Theory of Form (2 units). (Formerly numbered Architecture and Urban Planning 201B.) Lecture, 60 minutes. Exploration of theories of form and composition through lectures and exercises.

203. Decision Making in Planning and Design. (Formerly numbered Architecture and Urban Planning 203.) Lecture, three hours. Exploration of challenges of decision making in general and in the design professions, which have far-reaching effects not only on clients but also on professionals' own prospects. Psychological and mathematical approaches for improving decision quality.

Mr. Adelson

204. Imaging the Future. (Formerly numbered Architecture and Urban Planning 204.) Seminar, three hours. Introduction to social and technological forecasting, including nature and limitations of forecasting, ideology and values in forecasting, review of integrative forecasting techniques, and role of forecasting in environmental planning, design, and management processes.

Mr. Adelson

224A-224B. Formal Theory of Composition. (Formerly numbered Architecture and Urban Planning 224A-224B.) Lecture, three hours. Examination of design as a formal enterprise in which rules are adopted and then followed to compose, describe, and evaluate designs. Development in depth of such notions as historical, compositional, and new examples in architecture, painting, sculpture, and other fine and applied arts.

Ms. Knight (FW)
226A. Introduction to Computer-Aided Design. (Formerly numbered Architecture and Urban Planning 226A.) Lecture, three hours; laboratory, one hour. Introduction to various electronic graphic representations used in design; functionality and structure of modern CAD systems.

226B. Computer-Aided Design and Visualization. (Formerly numbered Architecture and Urban Planning 226B.) Lecture, three hours; laboratory, one hour. Prerequisite: course 226A or equivalent. Intermediate course on use of CAD tools in design, concepts of project organization, design development, with emphasis on three-dimensional representations; introduction to computer-based visualization techniques.

227A. Programming Computer Applications in Architecture and Urban Planning. (Formerly numbered Architecture and Urban Planning 227A.) Lecture, three hours. Prerequisite: course 227A or equivalent. Software algorithms and techniques for implementation of modern computer-aided design. Geometric description of shapes and their corresponding user interactions, such as urban temperature, wind field, solar energy flows, using one of the large energy analysis computer programs such as DOE 2.1B. Mr. Milne

227B. Geometric Modeling. (Formerly numbered Architecture and Urban Planning 227B.) Lecture, three hours. Prerequisite: course 227A or equivalent. Theory and implementation for computer modeling of three-dimensional shapes and volumes; various representations, transformations, surface modeling techniques. Mr. Eastman

227C. User Interaction Techniques in Design. (Formerly numbered Architecture and Urban Planning 227C.) Lecture, three hours. Prerequisite: course 227A or equivalent. Software algorithms and techniques for implementation of modern computer-aided design. Computational Foundations of Architectural Design. (Formerly numbered Architecture and Urban Planning 228A-228B-228C.) Lecture, three hours. Prerequisite: consent of instructor. Introduction to composition and description of architectural designs in algorithmic processes; alternative representations of shapes and their corresponding algorithms; shape grammars and languages of design description schemes. Mr. Stiny (F, W, Sp)

242. Climate Responsive Design. (Formerly numbered Architecture and Urban Planning 242.) Prerequisite: professional degree in architecture or consent of instructor. Theory and method of design of buildings which specifically respond to local climate; intensive course in building climatology for advanced graduate studies. Mr. Milne

243. Energy Modeling. (Formerly numbered Architecture and Urban Planning 243.) Prerequisites: one course in building climatology and one course in environmental controls. Geometric description of a building and computerized modeling of its instantaneous energy flows, using one of the large energy analysis computer programs such as DOE 2.1B. Mr. Milne

C247A. Introduction to Sustainable Architecture and Community Planning. (Formerly numbered Architecture and Urban Planning C247A.) Lecture, three hours. Energy and alternative resource-conscious design integration into architectural and urban design: passive, active, and photovoltaic solar systems and recycling of water, waste, and building materials at scale of buildings and communities. Concurrently scheduled with course 247B. Mr. Richman

247B. Energy/Resource-Conserving Solar Design and Practice. (Formerly numbered Architecture and Urban Planning 247B.) Lecture, three hours. Prerequisites: course 247A and one climatology course, or consent of instructor. Extension of concepts and sizing of integrated systems introduced in course 247A; stand-alone approaches particularly in developing countries; impacts of global warming, deforestation on architecture; recycling, programming for project 403B. Mr. Schoen


255A-255B. Climatic Issues in Urban Design. (Formerly numbered Architecture and Urban Planning 255A-255B.) Seminar, three hours. In-depth examination of impact of urban design (e.g., urban density, urban profile, public parks) on some aspect of urban climate, such as urban temperature, wind field, solar radiation availability, etc. Mr. Givoni

258. Urban Morphology. (Formerly numbered Architecture and Urban Planning 258.) Lecture, three hours. Exploration of urban space from structuralist perspective. Primary emphasis on relationships between socioeconomic, experiential, and formal structures of the urban environment. Mr. Aran

271. Elements of Urban Design. (Formerly numbered Architecture and Urban Planning 271.) Lecture, three hours. Introduction of basic knowledge of elements and methods of urban design. Multidisciplinary approach leading to understanding of political, economic, and technological framework of urban systems and its dynamic interrelations.

272. Design and Building Models. (Formerly numbered Architecture and Urban Planning 272.) Lecture, three hours. Prerequisite: consent of instructor. Development of knowledge and knowledge potentially used in design. Knowledge representation, abstractions, and constructs. Logical structure of design information. Development of knowledge used in areas of design, how it can be identified, analyzed, and structured. Mr. Eastman

278A-278B-278C. Computational Foundations of Architectural Design. (Formerly numbered Architecture and Urban Planning 278A-278B-278C.) Lecture, three hours. Prerequisite: consent of instructor. Theory and method of design of buildings which specifically respond to local climate; intensive course in building climatology for advanced graduate studies. Mr. Milne

289. Special Topics in Architecture and Urban Design (2 to 4 units). (Formerly numbered Architecture and Urban Planning 289.) Prerequisite: consent of instructor. Selected academic topics initiated by students, student teams, or faculty and directed by a faculty member. May be repeated for credit.

290. History and Theory of Landscape. (Formerly numbered Architecture and Urban Planning 290.) Lecture, three hours. Historical introduction to principles of landscape design. Focus on key issues through case studies of gardens, landscape architecture, and vernacular landscape. Mr. Phelps

291. Theory of Architectural Programming. (Formerly numbered Architecture and Urban Planning 291.) Lecture, three hours. Exploration of concepts and methods of architectural programming and its interrelation to design process; planning of design process; various techniques for determination of program content. Background is essential for understanding of third constraints; identification of solution types for given situations. Mr. Rand

292. Social Meaning of Space. (Formerly numbered Architecture and Urban Planning 292.) Discussion, three hours. Evolution of space from its origins in ritual and primitive social organizations, concentrating on the child's evolving conception of space, literature on perceptual development, and studies of adaptation to spatial order of the human-made environment. Mr. Rand

294A-294B. Environmental Psychology. (Formerly numbered Architecture and Urban Planning 294A-294B.) Lecture, three hours. Introduction to models, 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. Mr. Rand
411. Introductory Design Studio. (Formerly numbered Architecture and Urban Planning 411.) Studio, 12 hours. Prerequisite: consent of instructor. 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 then take a series of closely controlled exercises dealing with combining the elements. Design of a small building in which previously acquired knowledge is synthesized into a single design in later part of course. (F)

412. Building Design Studio. (Formerly numbered Architecture and Urban Planning 412.) Studio, 12 hours. Prerequisite: course 411. Design of project starts with exploration of architectural program in relation to design process and, particularly, implications of program on architectural forms and concepts. In second phase, structural elements are introduced to fulfill program requirements and to support and further develop intended forms and concepts. (F)

413. Building Design with Landscape Studio. (Formerly numbered Architecture and Urban Planning 413.) Studio, 12 hours. Prerequisite: course 412. Building design is studied in relation to water, landforms, and plants in natural landscape; special attention to natural light, heat, and ventilation. (W)

414. Major Building Design. (Formerly numbered Architecture and Urban Planning 414.) Studio, 12 hours. Prerequisite: second-year standing. Design projects which enable students to concentrate specifically on architectural issues, with emphasis either on treatment in breadth of large-scale projects or exploration in depth and detail of smaller-scale projects. Students learn to integrate structure, environmental control, physical context, and cultural environment in design of buildings and to present their ideas in graphic or model form. (F)

415. Major Building Design II. (Formerly numbered Architecture and Urban Planning 415.) Studio, 12 hours. Prerequisite: course 414. Design projects which enable students to concentrate on specific architectural issues, with emphasis either on treatment in breadth of large-scale projects or exploration in depth and detail of smaller-scale projects. Students learn to integrate structure, mechanical systems, physical context, and cultural environment in design of buildings and to present their ideas in graphic or model form. Special emphasis on integration of environmental control systems. (F)

416. Comprehensive Design Studio. (Formerly numbered Architecture and Urban Planning 416.) Studio, 12 hours. Prerequisite: completion of required coursework up to first term of third year; consent of instructor. Course completes regular required sequence of design work, preparing students for third-year thesis preparation. Comprehensive design projects are structured to test students on integration of structural aspects, mechanical systems, site planning, and climatic considerations within their design solutions. (F)

421. Studio Support (2 units). (Formerly numbered Architecture and Urban Planning 421.) Lecture/studio, 90 minutes. Prerequisite: consent of instructor. Introduction to structural beam and column compression. Tensile structures; cables, pneumatic structures. Slabs and shells and folded plates. (Sp)

422. Studio Support (2 units). (Formerly numbered Architecture and Urban Planning 422.) Lecture/studio, 90 minutes. Prerequisite: consent of instructor. Studio support course, related to course 412, which introduces sketching, drawing, drafting, perspectives, architectural composition, and computer-aided design through lectures, seminars, and independent or studio-related exercises. (F)

423. Studio Support (2 units). (Formerly numbered Architecture and Urban Planning 423.) Lecture/studio, 90 minutes. Prerequisite: consent of instructor. Studio support course, related to course 412, which introduces theoretical and technical issues such as site planning, urban design, landscape design, design of climate, and building typology, etc., through lectures, seminars, and independent or studio-related exercises. (W)

424. Studio Support (2 units). (Formerly numbered Architecture and Urban Planning 424.) Lecture/studio, 90 minutes. Prerequisite: consent of instructor. Studio support course, related to course 412, which introduces theoretical and technical issues such as programming and program manipulation, site planning, urban design, integration of technical systems, architectural expression, landscaping, and presentation, etc., through lectures, seminars, and independent or studio-related exercises. (W)

425. Studio Support (2 units). (Formerly numbered Architecture and Urban Planning 425.) Lecture/studio, 90 minutes. Prerequisite: consent of instructor. Design development of project initiated in preceding studio (usually course 414). One room or part of building is developed in detail, with integration of a range of technical and physical systems such as structures, mechanical systems, etc. (W)

428. Studio Support (2 units). (Formerly numbered Architecture and Urban Planning 428.) Lecture/studio, 90 minutes. Prerequisite: consent of instructor. Studio support course, related to course 418, which introduces theoretical and technical issues such as programming and program manipulation, site planning, urban design, integration of technical systems, architectural expression, landscaping, and presentation, etc., through lectures, seminars, and independent or studio-related exercises. (W)

429. Advanced Architectural Drawing. (Formerly numbered Architecture and Urban Planning 429.) Dis- cussion and studio, 90 minutes. Prerequisite: consent of instructor. Emphasis on exploration of interrelationship between drawing and design. Development of more advanced design strategies and modes of graphic exploration and presentation. (W)

431. Structure I. (Formerly numbered Architecture and Urban Planning 431.) Lecture, three hours. Prerequisites: basic algebra, geometry, trigonometry, consent of instructor. Introduction to structural behavior and structural statics. Operations with forces and factors, both algebraically and graphically. Equilibrium of force systems; polygon of forces and fuc- nicipal polygon. Iterative processes; axonometric principles, stability, and statics. Determinate frames. Plane truss and analysis and design. (W)


Mr. Schoen (W)

437. Construction Documents. (Formerly numbered Architecture and Urban Planning 437.) Studio, eight hours. Prerequisite: one course in basic building construction (such as 436) or consent of instructor. Office field communications explored through design of simple structure and creation of key working drawings and outline specifications. Introduction to CADD (computer-aided design and drafting) systems.

Mr. Schoen (Sp)


441. Environmental Control Systems. (Formerly numbered Architecture and Urban Planning 441.) Prerequisite: consent of instructor. Design of mechanical systems necessary for functioning of low-rise buildings: air handling, fire and life safety, plumbing, vertical and horizontal circulation, communication and power distribution, analysis of interaction of these systems and their integrated effects on architectural form of a building. (W)

442. Building Climatology. (Formerly numbered Architecture and Urban Planning 442.) Prerequisite: basic climatology. Details 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. Mr. Milne (Sp)

444. Light and the Visual Environment. (Formerly numbered Architecture and Urban Planning 444.) Prerequisite: one course in building climatology or consent of instructor. Exploration of extent to which physical form of a building controls the luminous environment of its occupants; design of naturally and artificially illuminated interior spaces; parameters of human visual comfort. Mr. Milne

445. Architectural Acoustics (2 to 4 units). (Formerly numbered Architecture and Urban Planning 445.) Lecture, three hours. Prerequisite: consent of instructor. Applied course in acoustical design in architecture, including design of partitions to provide good sound insulation. Acoustical materials. Acoustical design of auditoriums. Control of noise in HVAC systems.

448. Communication and Diffusion of Innovation. (Formerly numbered Architecture and Urban Planning 448.) Seminar, three hours. Innovation in the building industry and design professions. Successful creation and introduction of innovative products, processes, and technologies. Students expected to contribute to the ongoing literature of the field through case studies and projects. Visitors and field trips. Mr. Schoen


462. Special Projects in Architecture (2 to 8 units). (Formerly numbered Architecture and Urban Planning 462.) Prerequisite: consent of instructor. Projects initiated either by individual students or student teams and directed by a faculty member. May be repeated for credit.

471. Special Projects in Urban Design (2 to 8 units). (Formerly numbered Architecture and Urban Planning 471.) Prerequisite: consent of instructor. Projects initiated either by individual students or student teams and directed by a faculty member. May be repeated for credit.

487. Program Development (4 to 8 units). (Formerly numbered Architecture and Urban Planning 487.) Studio, six to 10 hours. Prerequisite: consent of instructor. Structural investigation of relationship between verbal description and architectural design. S/U grading.


597A. Preparation for Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). (Formerly numbered Architecture and Urban Planning 597A.) Prerequisite: consent of instructor. May be repeated for credit. S/U grading.

598A. Preparation in Architecture/Urban Design for Master's Thesis (2 to 8 units). (Formerly numbered Architecture and Urban Planning 598A.) Prerequisite: consent of instructor. May be repeated for credit. S/U grading.


Urban Planning

1118A Perloff Hall, (310) 825-8957, 825-7331

Professors

Leland S. Burns, Ph.D.
John Friedman, Ph.D.
Allan D. Heskin, Ph.D., LL.B.
Jacqueline Laveitt, Ph.D.
Robin Liggett, Ph.D. (Distinguished Teaching Award)
Donald Shoup, B.E.
Edward W. Soja, Ph.D.
Michael Storper, Ph.D.
Martin Wachs, Ph.D. (Distinguished Teaching Award)
Peter Karnitzel, M.R., M.Arch., Emeritus

Associate Professors

Dana Cuff, Ph.D.
Leobardo Estrada, Ph.D.
J. Eugene Glesby II, Ph.D.
Susanna B. Hecht, Ph.D.
Shirley Hune, Ph.D.
Paul Ong, Ph.D.

Assistant Professors

Raul Hinojosa-Qojet, Ph.D.
Antonia Jimenez-Siders, Ph.D.
Julie Roque, Ph.D.

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 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 a two-year Master of Arts degree and a Ph.D. 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, or an M.A. in Latin American Studies.

The department takes pride in its collegiate 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. A number of student organizations provide an interesting program of extracurricular activities.

Requirements for Graduate Degrees

Admission

The department admits students for Fall Quarter only, and you should begin the application process a year in advance.

Prospective applicants may obtain a detailed program statement and Graduate Division application to writing to Admissions Office, Graduate School of Architecture and Urban Planning, B102 Perloff Hall, UCLA, Los Angeles, CA 90024-1467.

A statement of purpose, letters of recommendation, grade-point averages, and relevant experience are all considered in the review process for admission. Applicants must submit transcripts from each college or university attended and are encouraged to submit Graduate Record Examination (GRE) scores. The Test of English as a Foreign Language (TOEFL) is required of applicants whose native language is not English, unless they have completed at least two years of university-level coursework at an English-language institution. A score of 600 on the TOEFL is expected; applicants with a score below 550 are not considered for admission. Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

Work samples (research papers and/or copy of the master's thesis) are required of doctoral applicants. Work samples (reports, research papers, slides, etc.) for master's applicants are optional. A maximum of two work samples may...
be submitted and will be returned only to applicants who enclose a self-addressed, stamped envelope.

Areas of Concentration
You should select an area of concentration by the end of your first term in the program. The areas of concentration distinguish between different kinds of issues and contexts in which planners characteristically become engaged as a professional career or a field of research. They are not meant to be mutually exclusive. The four areas of concentration are

Regional and International Development — This area of concentration concerns the interrelated problems of territorial or area development in highly industrialized and developing countries. Perspectives on area development include political economy, locational analysis and regional economics, and analysis of institutions. Industrialization, urbanization, rural development, patterns of regional growth and decline, and problems of marginalized populations are major focal points of interest. Within this area, you are expected to select an emphasis on either developing or advanced industrial economies.

Social Policy and Analysis — The analysis of social services includes questions of production and distribution — how efficiently are services provided, who pays, and who benefits? These questions lead to more fundamental ones about the functions of planning and social policy. Social policy comprises the whole context of social actions which together determine the distribution of goods, services, and opportunities between rich and poor, men and women, young and old, and people of different ethnic and social origins. You may specialize in transportation, housing and real estate development, social services and social policy, or information decision systems. Work in transportation planning can be taken in conjunction with any of the four areas of concentration.

Environmental Analysis and Policy — The natural environment is both the context within which all human activities take place and a social product of those activities. Environmental planning begins as an attempt to mitigate often unforeseen consequences of economic growth and expansion where these seem to threaten social well-being and continuing political consensus. A special feature of this area of concentration is its emphasis on problems arising from the intensive use of environmental resources, viewed from the perspective of political economy.

The Built Environment — This area of concentration represents a blending of urban planning, architecture, and the social sciences. It deals with the social and economic forces affecting the three-dimensional built environment on a neighborhood, urban, and regional scale. Within this area, you may select a specialization in community planning and development or physical development and public policy.

Additional Areas of Concentration — In special circumstances, you may devise your own area in consultation with appropriate faculty members. Final approval of the proposed additional area of concentration must be obtained from the department chair.

Master of Arts Degree
The M.A. degree is fully accredited by the Planning Accreditation Board, a joint undertaking of the American Institute of Certified Planners and the Association of Collegiate Schools of Planning.

Course Requirements
You must complete a minimum of 72 units. Students generally take 12 units per term, completing the program in two years.

Core Course Requirement — The core areas comprise knowledge common to all areas of planning, regardless of your specific focus. Six core courses (24 units) are required, including Urban Planning 207, 220A, 220B (waivers by examination), two core courses in theory and context, and one additional course selected from those remaining on the core course list in methods, theory and context, and/or practice. Substitutions must be approved by the department chair.

On entering the program, you must pass examinations indicating competence in basic mathematics and microeconomics before enrolling in courses 207 and 220A. Copies of sample examinations are mailed to applicants accepted into the program. An undergraduate course in college algebra or precalculus should provide suitable background to pass the basic mathematics examination. An undergraduate course in microeconomics should be sufficient preparation for the microeconomics examination.

You are strongly encouraged to prepare for the examinations before enrolling so you can take courses 207 and 220A (offered only once per year in Fall Quarter) during your first term of studies.

Area Course Requirement — You must select an area of concentration and are required to take at least six courses (24 units) from the approved list of courses within the area; two of the six are generally specified.

Fieldwork Requirement — Master's students who come to the program without substantial prior experience in planning or closely related activity are required to complete eight units (300 total hours) of fieldwork. Fieldwork is defined as an internship or "real world" experience with a planning office or a private organization involved in planning, a community development agency, or applied research within a practical or policy context (excluding conventional university-based research projects). Details on fulfilling this requirement are available from the graduate adviser.

You are encouraged to seek waivers for requirements which have been met in your previous education.

Thesis or Comprehensive Examination Plan
In partial fulfillment of the requirements for the M.A. degree, you are required to complete either a thesis or one of two comprehensive examination plans (Plan A or Plan B) during your second year of study. Each option has its own deadline for selection, and once a deadline has passed, you are limited to options with subsequent deadlines.

Thesis Plan — The master's thesis is intended to provide the opportunity for independent scholarly research and should be the length and quality of a publishable journal article. If you select this option, in order to meet established deadlines, you must begin thesis work no later than Fall Quarter of your second year. Academic credit for thesis preparation is given through Urban Planning 205 (four units required in Fall Quarter) and 598P (eight units over two terms).

Comprehensive Examination Plan A (Client-Oriented Project) — A client-oriented project is recommended for students who are more interested in practical application of what they have learned in their coursework than in scholarly research. The time span and magnitude of the final project approximate that of the thesis. Academic credit for project involvement is given through Urban Planning 597P (four units each in Winter and Spring Quarters of your second year of studies).

As an alternative under Plan A, you may take courses 217A-217B (group comprehensive project sequence), offered Winter and Spring Quarters, to fulfill the comprehensive examination requirement.

Comprehensive Examination Plan B (Two-Week Examination) — Examinations for all areas of concentration are normally offered during the break between Winter and Spring Quarters. A committee of faculty members (appointed by the area of concentration coordinator) offers, reads, and grades the examination. No course credit is received.

Concurrent Degree Programs
J.D./M.A.-Urban Planning
The Department of Urban Planning and the School of Law offer a concurrent plan of study providing an integrated curriculum for students planning to specialize in the legal aspects of urban problems. Education in planning offers an overview of theories and methods that permit identification and treatment of urban problems; education in law offers insight into the institutional causes and possibilities for treatment of these problems. Students pursue studies in both areas and receive both the J.D. and M.A. degrees at the end of four years.

Students interested in the program must apply and be admitted to the School of Law, the Urban Planning Department, and the Graduate Divi-
sion. For additional information, contact the graduate adviser in the Urban Planning Department.

M.A.-Latin American Studies/M.A.-Urban Planning

The Department of Urban Planning and the Latin American Studies Program offer a 2½- to 3-year concurrent plan of study leading to an M.A. degree in each program. Issues related to migration and settlement, comparative urbanization, human resources development and distribution, and rural economics are all of direct concern to planners and other policymakers working in Latin America. The degree program provides an integrated curriculum through which students can develop professional knowledge and skills while receiving advanced area studies and language training.

Students must apply to both programs. Further details may be obtained from the graduate adviser in the Urban Planning Department.

M.B.A./M.A.-Urban Planning

The Department of Urban Planning and the John E. Anderson Graduate School of Management offer a three-year concurrent degree program designed for students who seek careers which draw on general and specialized skills in urban planning and management. By providing knowledge of the workings of both the private and public sectors, the program enables individuals who have acquired these skills to move easily between careers in private industry and public service.

Students must contact both the M.B.A. Admissions Office, John E. Anderson Graduate School of Management, and the Department of Urban Planning. Further details may be obtained from the graduate adviser in the Urban Planning Department.

Ph.D. Degree

A more detailed description of the program is available from the graduate adviser.

Admission

Students admitted to the Ph.D. program must have a master's degree in planning or a closely related field and a minimum 3.5 grade-point average in all graduate work completed. Employment experience in planning or a closely related field is strongly recommended.

In your statement of purpose, you should address the following questions: (1) career plans and how a Ph.D. in planning will contribute to those plans, (2) your intended area of concentration, and (3) specific research interests and dissertation plans. Before you can be accepted into the program, two faculty members must agree to assume responsibility for guiding you in your studies.

Foreign Language Requirement

A foreign language is not required either for admission to or completion of the doctoral program. However, students who are expecting to do dissertation research abroad are strongly advised to acquire the necessary language skills prior to beginning such research.

Course Requirements and Qualifying Examinations

You must demonstrate a high level of competence in an area of concentration or major field and in planning theory and history as measured by coursework and doctoral examinations. In addition, you must satisfy certain requirements in research methods and studies outside of urban planning and are required to take Urban Planning 208 to aid in preparation of dissertation research and writing.

Planning Theory and History Requirement

Planning theory is concerned with the ways that philosophers and social scientists have examined the question of how scientific and technical knowledge is to be joined to practice and action, with particular emphasis on the field of urban and regional planning. Planning history looks at how planning has evolved in the U.S., Western Europe, and elsewhere in the world as a form of institutionalized practice.

Two advanced courses, Urban Planning 210B and 210C, are required during the first year and must be passed with grades of A or better. You may waive the two courses by satisfactorily completing a six-hour comprehensive written examination.

Area of Concentration Requirements/Examination

The area of concentration is defined as a subject in which you are prepared to teach a sequence of courses and to conduct advanced research. The area should be generally recognized by academics in other planning schools and should be substantially broader than a dissertation topic.

You must prepare for an area of concentration examination by submitting for approval a plan of study to your advisory committee and to the coordinator of doctoral studies, preferably no later than the beginning of Winter Quarter of your first year. The plan must include (1) a short description of the area selected for study, (2) an indication of your major focus of research, (3) a short bibliography, (4) a list of courses and research papers through which you propose to prepare for the area examination, and (5) a timetable that indicates your expected completion of examinations and other requirements for the degree. The list of courses must include a minimum of three from outside the department and three methods courses (see below). Once approved, the plan is filed with the graduate advisor. The normal time for completion of the area of concentration requirement is two academic years.

The examination has two parts — written and oral. Both examinations must be taken in the same term. You may receive academic credit to prepare for the examination by enrolling in Urban Planning 597P.

Research Methods Requirement

You must first demonstrate competence in statistical methods at the master's level (Urban Planning 220B or equivalent) either by completing course 220B with a grade of B+ or better or by submitting a waiver petition with appropriate documentation.

Additionally, as part of your plan of study, you must take a preapproved set of three advanced courses in research methods. These courses must be closely related to your area of concentration and must be completed with grades of B+ or better. You may petition to waive this requirement on the basis of prior coursework.

Oral Qualifying Examination

After successful completion of all requirements in planning theory and history, the area of concentration, research methods, and outside coursework, you are required to take the University Oral Qualifying Examination at which you defend your dissertation proposal. The examination is administered by your doctoral committee and should be taken no later than the end of your third year of doctoral study. To assist in the development of the proposal, you are required to complete Urban Planning 208, preferably by the end of your first year.

Dissertation/Final Oral Examination

The doctoral committee guides you in preparing the dissertation, which is to be a monograph representing an original contribution to planning knowledge.

The final oral examination, taken only at the discretion of the doctoral committee, involves a defense of the completed dissertation.

Upper Division Courses


M149. Transportation Geography. (Formerly numbered Architecture and Urban Planning M149.) (Same as Geography M149.) Prerequisite: consent of instructor. Study of geographical aspects of transportation, focusing on characteristics and functions of the various modes and on complexities of intra-urban transport.

179. Variable Topics in Urban Planning (2 to 8 units). (Formerly numbered Architecture and Urban Planning 179.) Lecture, three hours. Variable topics course in selected subjects in social policy and public services, urban and regional development, natural environment and resources, and the built environment. May be repeated for credit.
187. Planning and Designing Our Cities. (Formerly numbered Architecture and Urban Planning 157.) Introduction to urban planning and design, with emphasis on methods and tools used in practice. Overview of planning field; physical planning for redevelopment, for projects in expanding areas, and in new territories. Lectures (with illustrated examples), field visits, and guest speakers present student's own projects framework for expanding understanding of urban planning and design processes. Mr. Kamnitzer

CM189. Environmentalism: Past, Present, and Future (4 to 6 units). (Formerly numbered Architecture and Urban Planning CM189.) (Same as Geography M115.) Discussion, three hours; optional field study, five to 10 hours. Exploration of history, politics, and theories of environmental movements, dynamics of race, class, and gender in relation to environmental agendas, and potential role of environmentalism in reshaping our society. Readings, discussions, and research papers. Offered annually as a graduate research seminar and biannually as an undergraduate upper division lecture and field study program. Concurrently scheduled with course C265. P/NP or S/U grading. Mr. Heskin (W)

M190. Human Environment: Introduction to Architecture and Urban Planning. (Formerly numbered Architecture and Urban Planning 190.) (Same as Architecture and Urban Design M190.) Lecture, three hours; laboratory, one hour. Prerequisites: consent of instructor. Specific techniques useful in analysis of spatial data and modeling of spatial distributions.

197. Planning for Minority Communities. (Formerly numbered Architecture and Urban Planning 197.) Lecture, three hours. Introduction to inner-city policy issues on three separate levels: (1) each student develops a 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 class discussions that emphasize minority issues which affect implementation. Ms. Rand

199. Special Studies (2 to 8 units). (Formerly numbered Architecture and Urban Planning 199.) Lecture. Three hours. Independent research or investigation on a selected topic to be arranged in or following second year. Process of developing dissertation proposal; introduction and statistical concepts and methods with applications to urban planning problems. May be repeated for credit. Mr. Shoup (F)

Graduate Courses

M202A. Public Control of Land Development (3 to 6 units). (Formerly numbered Architecture and Urban Planning M202A.) (Same as Law M206.) 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, formulation of regulations and policies, role of land-use controls, eminent domain, taxation, urban development, environmental law, and negotiation. Theory and doctrine applied to case studies; research project paper and/or examination required. Mr. McGees (Sp)

M202B. Governance: State, Regional, and Local (3 to 6 units). (Formerly numbered Architecture and Urban Planning M202B.) (Same as Law M208.) Lecture, three hours. Examination of governance of local, regional, and state government in historical and institutional context: organization, finance, intergovernmental relations, role of judiciary, public service, law making, citizen participation through initiatives and referenda, and government tort liability.

M202C. Seminar: Urban Affairs (3 to 6 units). (Formerly numbered Architecture and Urban Planning M202C.) (Same as Law M526.) Seminar, two hours; field trips and final projects. Topics include housing law and policy, including current federal and state housing subsidies; remedies of housing consumers; impacts of market discrimination against characteristics. Prerequisites: two field trips. Discussion, three hours. May be repeated for credit. Mr. Burns (F)

M206A. Urban Data Analysis: Demographic Applications. (Formerly numbered Architecture and Urban Planning 206A.) Lecture, three hours; laboratory, one hour. Prerequisite: course 206B or equivalent. Advanced course in urban data analysis which builds on course 206B. Emphasis on demographic processes and applications. Topics include data sources and errors, mortality, fertility, age structure, and their effects on planning policy. Mr. Valenzuela (W)

M206B. Urban Data Analysis: Planning Models. (Formerly numbered Architecture and Urban Planning 206B.) Lecture, three hours; laboratory, one hour. Prerequisite: course 206A or equivalent. Advanced course in urban data analysis which builds on course 206B. Emphasis on demographic processes and applications. Topics include data sources and errors, mortality, fertility, age structure, and their effects on planning policy. Mr. Valenzuela (W)

M208. Public Resource Allocation. (Formerly numbered Architecture and Urban Planning 208.) Lecture, three hours. Prerequisite: consent of instructor. Required of Ph.D. students in or following second year. Process of developing dissertation proposal; introduction to alternative conceptions of science (or rigorous scholarship) now apparent in various social science paradigms. S/U grading. Mr. Shoup (F)

M209. Special Topics in Planning Theory (2 to 8 units). (Formerly numbered Architecture and Urban Planning 209.) Lecture, three hours. Seminar on topics in planning theory selected by faculty. May be repeated for credit. Ms. Sandercock (F)

M210A. Introduction to Planning Theory. (Formerly numbered Architecture and Urban Planning 210A.) Lecture, three hours. Historical introduction to major ideas and theories of planning, which have influenced its development from the early 19th century to the present. Ms. Sandercock (W)

M210B. Comparative History of Planning Practice. (Formerly numbered Architecture and Urban Planning 210B.) Lecture, three hours. Limited to Ph.D. and advanced M.A. students. History of city planning, its critics, and profession of planning through the 19th and 20th centuries. Comparison of evolution of the field in several countries, especially English-speaking countries. Ms. Sandercock (W)

M210C. Colloquium in Planning Theory. (Formerly numbered Architecture and Urban Planning 210C.) Lecture, one hour; discussion, two hours. Prerequisites: courses 210A and 210B. Discussion of some recent developments in the field and contribution of contemporary planning. Mr. Friedmann (Sp)

M211. Law and the Quality of Urban Life. (Formerly numbered Architecture and Urban Planning 211.) Lecture, three hours. Introduction to 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 a partial solution to urban problems. Mr. Heskin (W)

M214. Ethics in Planning. (Formerly numbered Architecture and Urban Planning 214.) Examination of ethical dimensions of planning at many levels, including issues of bribery and corruption, aspects of client/sponsor and employer/employee relationships, collection, use, and release of information, and ethical aspects of administrative discretion. Ethical aspects of planning methods, concept of environmental and evolution code of ethics in planning profession.

M215. Spatial Statistics. (Formerly numbered Architecture and Urban Planning M215.) (Same as Geography M272.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisite: consent of instructor. Specific techniques useful in analysis of spatial data and modeling of spatial distributions.

M216. Introduction to Nonprofit Development. (Formerly numbered Architecture and Urban Planning 216.) Discussion, 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 ways professionals "broker" debt and equity funding from private, government, and philanthropic sources. Use of client projects and negotiation exercises.


M218. Graphics and Urban Information. (Formerly numbered Architecture and Urban Planning 218B.) Lecture, two hours; studio, one hour. Presentation of basic graphic methods and tools for conceptualization, analysis, and documentation of the built environment. Development of fundamental skills of graphic ideation and communication. Ms. Kouloftou-Sidiras (F)

M219. Special Topics in the Built Environment (2 to 8 units). (Formerly numbered Architecture and Urban Planning 219.) Lecture, three hours. Seminar on topics in the built environment selected by the faculty. May be repeated for credit.

M220A. Quantitative Analysis in Urban Planning I. (Formerly numbered Architecture and Urban Planning 220A.) Lecture, three hours. Prerequisite: passing score on basic mathematics proficiency examination given first day of class. Introduction to mathematical and statistical concepts and methods with applications in urban planning. Review of basic mathematical concepts fundamental to planning methods; linear and nonlinear functions focusing on growth curves and mathematics of finance; data measurement and description; correlation and regression; decision making. Introduction to use of computer as a tool in analysis of planning-related data. Mr. Liggott (F)
220B. Quantitative Analysis in Urban Planning II. (Formerly numbered Architecture and Urban Planning 220B.) Lecture, three hours. Prerequisite: course 220A or equivalent (demonstrated by passing score on mathematics proficiency examination given during first week of class). 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 a tool in statistical analysis and modeling.

Ms. Liggett (W)

221. Evaluation Methods. (Formerly numbered Architecture and Urban Planning 221.) Lecture, three hours; discussion, 90 minutes. Prerequisites: courses 207, 220B. Examination of methods used to evaluate efficiency and effectiveness of government programs and investment projects. Theory and practice of evaluation, with emphasis on techniques of cost-effectiveness analysis, cost-benefit analysis, discounting, sensitivity analysis, target efficiency, fiscal audits, and evaluation design.

(Sp)

222. Introduction to the Planning Profession. (Formerly numbered Architecture and Urban Planning 222.) Lecture, three hours. Lecture/project course offering introduction to the planning profession and to Urban Planning Department at UCLA. Overview of history, practice overview, evaluation of various professional roles for planners. Planning education viewed as response to changing needs and as catalyst for emerging roles for professionals. Generally taken Fall Quarter of first year of M.A. program.

(F)

223. Professional Development Seminar. (Formerly numbered Architecture and Urban Planning 223.) Seminar on topics in planning methodology selected by faculty. May be repeated for credit.

M231. Urban Housing and Community Development (3 to 6 units). (Formerly numbered Architecture and Urban Planning 229.) Seminar on topics in planning methodology selected by faculty. May be repeated for credit.

W

229. Special Topics in Planning Methods (2 to 8 units). (Formerly numbered Architecture and Urban Planning 229.) Seminar on topics in planning methodology selected by faculty. May be repeated for credit.

M231. Urban Housing and Community Development (3 to 6 units). (Formerly numbered Architecture and Urban Planning 231.) Seminar on topics in planning methodology selected by faculty. May be repeated for credit.

W

232A. Introduction to Regional Planning. (Formerly numbered Architecture and Urban Planning 232A.) Lecture, three hours. Critical and historical survey of evolution of regional planning theory and practice, with particular emphasis on relationships of regional planning and developments within Western social and political philosophy. Major concepts include regions and regionalism, territorial community, and social production of space.

Ms. Soja (F)

232B. Spatial Politics: Regional and Interventionsal Development. (Formerly numbered Architecture and Urban Planning 232B.) Examination of theory and practice of spatial planning at regional, national, and international scales, including evaluation of role of spatial planning in national and international policy making, growth center concepts, and normative-ideological issues involved in international development planning. Generally taken in first year.

W

233. Political Economy of Urbanization. (Formerly numbered Architecture and Urban Planning 233.) Introduction to basic concepts and analytical approaches of urban political economy, with major emphasis on American urban problems. Topics include historical geography of urbanization, development and transformation of urban spatial structure, urbanization and metropolitan political fragmentation, urban fiscal crisis, and role of urban social movements.

Mr. Soja (Sp)

235A-235B. Urbanization and Rural Development in Third World Countries. (Formerly numbered Architecture and Urban Planning 235A-235B.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisite for course 235A: course 256 or consent of instructor; for course 235B: course 235A or consent of instructor. 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.

Mr. Friedmann (W,Sp)

235C. Research Seminar: Alternative Development. (Formerly numbered Architecture and Urban Planning 235C.) Discussion, three hours. Prerequisites: courses 235A-235B or 267A and 267B. Thesis and dissertation research seminar, consisting of review of major literature, preparation of research questions, and development of research design. Involves seminar on development of personnel needs for cities, with emphasis on practical applications.

Mr. Friedmann (F)

265A. Urban and Regional Economic Development I. (Formerly numbered Architecture and Urban Planning 265A.) Lecture, three hours. Introduction to industrial change and effect on urban and regional development theory and policy. Major topics include role of industrialization in economic development, explanations of regional industrial growth and decline, rise and fall of Fordism and its regional patterns, new forms of industrialization with particular emphasis on flexible production, and debates regarding political economy of industrialization.

Mr. Storper (W)

265B. Urban and Regional Economic Development II. (Formerly numbered Architecture and Urban Planning 265B.) Lecture, three hours. Prerequisite: course 265A. Examination of local economic development philosophy and theory associated with different public policies. Topics include changing patterns of employment, job creation, job retention, and forms of income redistribution aimed at stabilizing a region. Focus on particular concerns for women, minorities, and the poor.

Sp

265C. Urban and Regional Economic Development III. (Formerly numbered Architecture and Urban Planning 265C.) Discussion, three hours. Prerequisite: course 265B. Advanced seminar in community economic development, involving case study analysis, fieldwork, and individual student projects.

Ms. Haas (F)

238. Advanced Seminar: Urban and Regional Development. (Formerly numbered Architecture and Urban Planning 238.) Lecture, two hours; discussion, two hours. Prerequisite: doctoral standing or consent of instructor. 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.

Mr. Soja

239. Special Topics in Urban and Regional Development. (Formerly numbered Architecture and Urban Planning 239.) Lecture, three hours. Seminar on topics in urban and regional development policy selected by faculty. May be repeated for credit.

Mr. Soja

241A. Urban Transportation Planning I. (Formerly numbered Architecture and Urban Planning 241A.) Lecture, three hours. Historical development of urban transportation network, effects of political and administrative frameworks for planning: relationship between transportation systems and urban form, historical review of automobile and public transit systems, urban highway and transit planning programs; financing of urban transportation, environmental and social impacts of transportation systems; current policy dilemmas; controlling the automobile, promoting mass transit, energy issues.

Mr. Wachs (F)

241B. Urban Transportation Planning II. (Formerly numbered Architecture and Urban Planning 241B.) Prerequisites: courses 207, 220B, and 241A, or consent of instructor. Economic and social basis for travel; basic data sources for examining urban travel and transportation; techniques of forecasting and analyzing travel; mathematical models of travel; trip generation, trip distribution, modal split, traffic assignment, and route choice; uses of forecasts and approaches to transportation system and project evaluation.

W

241C. Urban Transportation Planning III. (Formerly numbered Architecture and Urban Planning 241C.) Lecture, three hours. Prerequisites: courses 207 and 220B, or consent of instructor. Financing street and highway systems; public transit finance, including fare and subsidy policy; transportation system management and transportation demand management; planning for regional transportation programs to meet the needs of elderly and disabled.

Sp

M242A. Topics in Asian American Studies: Asian Migration to the U.S. (Formerly numbered Architecture and Urban Planning 242A.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Emphasis on Asia as major regional source for international migrants. Topics include patterns and theories of international migration and their relevance to the Asian American experience, sending and receiving country perspectives, research and policy issues. S/U or letter grading.

M242B. Topics in Asian American Studies: Urbanization in Asia — Policy Issues and Problems. (Formerly numbered Architecture and Urban Planning 242B.) (Same as Asian American Studies M297B.) Prerequisite: graduate standing or consent of instructor. Emphasis on Asia with specific reference to its peculiar features and characteristics, and relationship of urbanization to the development process. Topics include urbanization, city planning, and planning policy determinants of urbanization, urban policy and strategies, and country case studies. S/U or letter grading.

M244. Housing Markets. (Formerly numbered Architecture and Urban Planning 244.) Lecture, three hours. Ways that housing markets should but sometimes do not work in developed economies. Interaction of demand factors such as population distribution, household formation, income, and credit, as well as their particular impacts on groups of the population. Topics include housing, real estate, and direct taxes; housing finance; public housing; public investment; national housing policies; regional housing policies; housing as a commodity; social and political significance of housing; housing policy; housing reform; urban neighborhood revitalization; and affordable housing.

Mr. Budish (F)

245. Urban Public Finance. (Formerly numbered Architecture and Urban Planning 245.) Lecture, three hours. Prerequisites: courses 207 and 220A, or consent of instructor. Theory and practice of urban public finance, with emphasis on tools used to fund urban public infrastructure. Topics include fiscal impact analysis of real estate development, effects of taxes on land-use decisions, benefit assessments to finance neighborhood public investment, and intergovernmental contracting as method of supplying urban public services, tax increment finance for urban redevelopment, and municipal bond market.

Mr. Shoup
245. Housing in Social and Economic Development Policy. (Formerly numbered Architecture and Urban Planning 244.) Lecture, three hours. Seminar on provision of housing in national and regional development strategies, with focus on policies for Third World nations. Topics include nature of housing needs, evolution of housing policy, theory of intervention, alternative policies for increasing housing supply. Numerous case studies.

Mr. Burns

247. Race, Gender, Culture, and Cities. (Formerly numbered Architecture and Urban Planning 249.) Discussion, three hours. Exploration of multicultural context of contemporary U.S. cities, with focus on changing social and spatial relations of ethnic communities and their policy implications. Topics relate the new diversity and gender with global restructuring, new urban economy, and policies of workplace, housing, schools, and government.

Ms. Hune

249. Special Topics in Social Policy and Analysis (2 to 8 units). (Formerly numbered Architecture and Urban Planning 249.) Lecture, three hours. Seminar on topics in social policy and analysis selected by faculty. May be repeated for credit.

250. Introduction to Social Policy. (Formerly numbered Architecture and Urban Planning 250.) Lecture, three hours. Analysis of demographic changes, history, needs, and ideological debates which affect development of social policy in the U.S., compared with other nations. (Western Historical Seminars 250.) Ms. Hecht (Sp)

251. Planning for Multiple Publics. (Formerly numbered Architecture and Urban Planning 251.) 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.

Mr. Grigsby


254. Survey Methods in Planning. (Formerly numbered Architecture and Urban Planning 254.) Lecture, three hours. Prerequisite: course 220B or equivalent. Use of surveys in planning. Conducting of a small area survey, with emphasis on methods to obtain quality data appropriate for planning: questionnaire development, sample design, interviewing, data processing, and analysis. Presentation of survey to planners or public agencies.

256. Social Impact Analysis. (Formerly numbered Architecture and Urban Planning 256.) Lecture, three hours. Exploration of ways of assessing and determining social impacts on communities resulting from large-scale planning projects. Students develop mitigation measures to address identified adverse consequences.

Mr. Grigsby

260A. Political Economy and the Environment. (Formerly numbered Architecture and Urban Planning 260A.) Lecture, three hours. Debate about environmental policy is increasingly couched in economic terms. Environmental issues have become questions of political economy, as they influence international and domestic policy and reflect on functioning of market system. Examination of assumptions and implications of alternative approaches to political economy, as they pertain to questions of environmental policy.

Mr. Araiza

260B. Politics, Institutions, and the Environment. (Formerly numbered Architecture and Urban Planning 260B.) Lecture, three hours. This course introduces important dilemmas in designing institutions and policies intended to correct or prevent disruptions of the environment. Introduction to these problems, focusing on essential questions for each, is coupled with a discussion of the methods that have been addressed in attempts to control environmental problems in our society. Review of recent developments in environmental policy in light of growing environmental movements; development of environmental problems, considering their institutional forms and epistemological foundations.

Ms. Roque (Sp)


M262A. Toxics Reduction: Science, Engineering, and Policy. (Formerly numbered Architecture and Urban Planning M262A.) (Same as Chemical Engineering M290U and Environmental Health Sciences M249.) Lecture, three hours. Prerequisites: courses 260A and 260B, or consent of instructor. Public policy on hazardous chemicals is being asked to assess risks biologically active chemicals present and to take such risks into account in planning process. Examination of potential for toxics reduction and current state of government and industry activities in this area.

Mr. Friones, Ms. Roque

262B. Urban Environmental Problems: Water Resources. (Formerly numbered Architecture and Urban Planning 262B.) Lecture, three hours. Prerequisites: consent of instructor. Analysis of water uses in urban settings, focusing on water quality issues. Examination of the role of water in urban planning.

Mr. Gottlieb

M262C. Pollution Prevention Forum Series (2 units). (Formerly numbered Architecture and Urban Planning M262C.) 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.

Mr. Friones, Ms. Roque

263. Natural Resource Conservation. (Formerly numbered Architecture and Urban Planning 263.) Lecture, three hours. Prerequisites: courses 260A and 260B, or consent of instructor. Exploration, through reading, discussion, and student presentations, of meaning of resource management, its desirability, and ways of achieving it. Emphasis on integrated management of public lands, though students may attend particularity to specific resource (minerals, water, timber, etc.).

M264. Environmental Law (3 to 6 units). (Formerly numbered Architecture and Urban Planning M264.) (Same as Law M290.) Lecture, three to three and one-half hours. Examination of the field of environmental law through analysis of various federal, state, 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 framing policy issues underlying the field.

Mr. Araiza (Sp)

265. Environmentalism: Past, Present, and Future (3 to 4 units). (Formerly numbered Architecture and Urban Planning 265.) Lecture, three hours. The course includes an optional field study, five to 10 hours. Exploration of history, politics, and theories of environmental movements, dynamics of race, class, and gender in relation to environmental agendas, and the role of environmentalism in reshaping our society. Readings, discussion, and research papers. Offered annually as a graduate research seminar and biannually as an undergraduate upper division lecture and field studies program. Consent to schedule in course CM189. S/U or letter grading. Ms. Gottlieb (W)

266. City and Countryside in the Third World. (Formerly numbered Architecture and Urban Planning 266.) Lecture, three hours. Seminar on basic material and schools of thought on development theory through analysis of impacts of mercantilism, colonialism, capitalism, and socialism in urban and rural social and economic structures in the Third World. Presentation, through examination of theoretical writings and case studies, of complexity and diversity of developing countries. Emphasis on linkages between policy and rural and urban impacts. Given as architecture, background for course 267B, and many of the other planning courses addressing Third World issues.

Ms. Hecht (F)

267A. Resource-Based Development Planning. (Formerly numbered Architecture and Urban Planning 267A.) Lecture, three hours. Several major issues associated with development of specific natural resources. Topics include nature of particular resource (e.g., forests, fish) and policies of management, involvement of the state, corporations, and local groups, and environmental and social impact of its development.

Ms. Hecht (W)

267B. Rural Development Issues. (Formerly numbered Architecture and Urban Planning 267B.) Lecture, three hours. Recommended (but not prerequisite): course 266. Development more thoroughly of themes raised in earlier courses. Topics may include peasants, development and rural, agricultural economy, comparative land reform, agrarian revolution, and special problems of tropical development. May be repeated for credit with consent of instructor.

Ms. Hecht (W)

268. Advanced Seminar: Environmental Analysis and Policy. (Formerly numbered Architecture and Urban Planning 268.) Discussion, three hours. Prerequisite: consent of instructor. Exploration of broad issues related to environmental impacts and planning. Generally intended for second-year M.A. and Ph.D. students. May be repeated for credit.

Mr. Gottlieb (F)

269. Special Topics in Environmental Analysis and Policy (2 to 8 units). (Formerly numbered Architecture and Urban Planning 269.) Lecture, three hours. Seminar on topics in environmental analysis and policy selected by faculty. May be repeated for credit.

270. Homelessness: Housing and Social Service Issues. (Formerly numbered Architecture and Urban Planning 270.) Lecture, 90 minutes; discussion, 90 minutes; one field trip. Review of current status of homeless population who use social services and housing are available, existing and proposed programs — appropriate architecture, management, and sources of funding. Outside speakers include providers of services to the homeless.

Mr. Leavitt

M272. Real Estate Development for Planners and Architects. (Formerly numbered Architecture and Urban Planning 272.) (Same as Architecture and Urban Planning 272.) Lecture, two hours; workshop, two hours. Introduction to real estate development process specifically geared to students in planning, architecture, and urban design. Financial decision model, market analyses, designs, loan packages, development plan, and feasibility studies. Conceptual and detailed integration development process with proposed design solutions which are interactively modified to meet economic feasibility tests.

Mr. Richman (W)
273. Site Planning. (Formerly numbered Architecture and Urban Planning 273.) Lecture, 90 minutes; laboratory, 90 minutes. Introduction to principles of site planning for urban areas. Mr. Kamnitzer

274. Introduction to Physical Planning. (Formerly numbered Architecture and Urban Planning 274.) Lecture, 90 minutes; discussion, 90 minutes. Overview of physical planning, land use, site analysis, and surveys; general plans and community plans; environmental review; zoning and ordinances; social impacts. Ms. Goldstein (W)

275. Inner-City Housing Policies: Old and New Approaches. (Formerly numbered Architecture and Urban Planning 275.) Lecture, 90 minutes; discussion, 90 minutes. Study of federal and local housing policy as it affects inner cities, with emphasis on New York and Los Angeles. Examination of research on housing conditions and community development policies, with particular emphasis on alternatives such as resident-controlled housing; analysis of rehabilitation policies; review of new concepts and current legislative proposals. Mr. Heskin, Ms. Leavitt (F)

276. Planning Workshop (4 to 8 units). (Formerly numbered Architecture and Urban Planning 276.) Lecture, 90 minutes; discussion, 90 minutes. Study of federal and local planning policy as it affects inner cities, with emphasis on New York and Los Angeles. Examination of research on housing conditions and community development policies, with particular emphasis on alternatives such as resident-controlled housing; analysis of rehabilitation policies; review of new concepts and current legislative proposals. Ms. Goldstein (W)

277. Historic Preservation: Principles and Practices. (Formerly numbered Architecture and Urban Planning 277.) 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. Ms. Goldstein

278. Qualitative Research Methods for Planners and Designers. (Formerly numbered Architecture and Urban Planning 278.) 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, participant observation, questionnaire construction, interview techniques. Projects include students' own research.

281A. Introduction to History of the Built Environment in the U.S. (Formerly numbered Architecture and Urban Planning 281A.) Lecture, two hours; discussion, one hour. Open to advanced undergraduates with consent of instructor. Introduction to history of physical forms of urbanization in America; survey of economic, political, social, and aesthetic forces behind creation of built environments.

281B. Advanced Seminar: History of the Built Environment. (Formerly numbered Architecture and Urban Planning 281B.) Discussion, three hours. Prerequisite: course 281A. Extended discussion of research methods and writing techniques suitable for advanced students working toward completion of some research on history of the built environment in the U.S.

283. History of the American Household and American Home. (Formerly numbered Architecture and Urban Planning 283.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: course 281A or consent of instructor. Introduction to history of housing design in the U.S., emphasizing changing roles of women and men from Colonial times to the present and effects of these social changes on physical form of the dwelling and settlement. Discussion of concerns of professional architects and planners, as well as activity of bankers, builders, and homemakers.

284. Looking at Los Angeles. (Formerly numbered Architecture and Urban Planning 284.) Discussion, three hours. Introduction to physical form and history of Los Angeles, with emphasis on visual observation of the city as a skill for architects and planners. Field trips throughout the city.

285. Great Planning Debates: Gender. (Formerly numbered Architecture and Urban Planning 285.) Lecture, 90 minutes; discussion, 90 minutes. Seminar on substantial literature on complex relationships between gender, race, and class in urban planning. Alternative theories describe an inadequate fit between American households, housing, and services and document environmental inequities women and children face in contemporary cities. Students prepare oral seminar reports on topics such as social service provision, housing, transportation planning, economic development, and safe public spaces.

375. Teaching Apprentice Practicum (1 to 4 units). (Formerly numbered Architecture and Urban Planning 375.) Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

494. Supervised Independent Teaching (2 to 8 units). (Formerly numbered Architecture and Urban Planning 494.) Supervised individual teaching experience. May be repeated for credit. S/U grading.

496F. Field Projects (2 to 8 units). (Formerly numbered Architecture and Urban Planning 496F.) May be repeated for credit. S/U grading.

501. Cooperative Program (2 to 8 units). (Formerly numbered Architecture and Urban Planning 501.) Prerequisite: 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.

596P. Research in Planning (2 to 8 units). (Formerly numbered Architecture and Urban Planning 596P.) May be repeated for credit. S/U grading.

597P. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). (Formerly numbered Architecture and Urban Planning 597P.) May be repeated for credit. S/U grading.


The UCLA Graduate School of Education and Information Studies (GSEIS) includes two departments — the Department of Education and the Department of Library and Information Science. Together, the two departments embody the school's commitment to understand and improve educational practice, information policy, and information systems in a diverse society. Research and doctoral training programs bring together faculties committed to expanding the range of knowledge in education, information science, and associated disciplines. The professional training programs seek to develop librarians, teachers, and administrators within the enriched context of a research university.

GSEIS is committed to developing expertise in both old and new methods of information storage and retrieval and to bringing innovative approaches in educational technology and information access to the schools and classrooms of the state and nation. In addition, GSEIS faculty members are engaged in research, teaching, and program development in the areas of management and leadership of schools and libraries, information policy formation, and information systems designs in organizations of all kinds.

Through its scholarship, its graduate training programs, and its partnerships with schools and educational professionals, GSEIS honors its commitment to improve practice in schools, universities, and libraries, enhance theoretical and applied research, expand the role of the university in policy creation, and advance the careers of professional leaders and specialists.

Together our commitment is to the highest quality professional education and to the application of research to the challenges facing a diverse and increasingly urbanized world.
Graduate School of Education and Information Studies

Office of Student Services:
1009 Moore Hall, (310) 825-8327

Professors
Marvin C. Alkin, Ed.D., Chair
Alexander W. Astin, Ph.D.
Helen S. Astin, Ph.D.
Eva L. Baker, Ed.D.
Gordon L. Berry, Ed.D.
Nicholas Burton-Jones, Ph.D.
James E. Bruno, Ph.D.
Arthur M. Cohen, Ph.D.
Sol Cohen, Ph.D.
Aimée Doré, Ph.D.
Norma D. Feshbach, Ph.D.
Ronald Gallimore, Ph.D., in Residence
Sandra Graham, Ph.D.
John N. Hawkins, Ph.D.
Charles C. Healy, Ph.D.
Caroline Howes, Ph.D.
Dean T. Jamison, Ph.D.
Marilyn L. Kourilsky, Ph.D. (Distinguished Teaching Award)
Clarence Fieldstra, Ph.D.
Simon Gonzalez, Ed.D.
John L. Goodlad, Ph.D., L.H.D., LL.D.
C. Wayne Gordon, Ph.D.
Frank M. Hewett, Ph.D.
B. Lamar Johnson, Ph.D. (Distinguished Teaching Award)
Wendell P. Jones, Ph.D. (Distinguished Teaching Award)
Evan R. Kiesler, Ph.D.
Barbara K. Keogh, Ph.D. (Distinguished Teaching Award)
Frederick C. Kintzer, Ed.D.
George F. Kneller, Ph.D., Litt.D., LL.D., D.Sc., L.H.D.
John D. McNeill, Ed.D.
David O'Shea, Ph.D.
C. Robert Pace, Ph.D.
Rosemary Park, Ph.D., LL.D., Litt.D., L.H.D.
W. James Popham, Ed.D. (Distinguished Teaching Award)
Harry F. Silberman, Ed.D.
Lewis C. Solmon, Ph.D.
A. Garr Sorensen, Ph.D.
Louise L. Tyler, Ph.D.
Samuel J. Wanous, Ph.D.
Richard Williams, Ph.D.
Charles Z. Wilson, Ph.D.

Associate Professors
James S. Catterall, Ph.D., Assistant Dean
Robert M. Hodapp, Ph.D.
Harold G. Levine, Ph.D.
Peter L. McLaren, Ph.D.
Theodore R. Mitchell, Ph.D., Dean
Don T. Nakanishi, Ph.D.
James W. Trent, Ph.D.
Concepción Valadez, Ph.D.
Welford Wilms, Ph.D.

Assistant Professors
Alfredo J. Ariiles, Ph.D.
Lynd S. Beck, Ph.D.
Megan L. Franke, Ph.D.
Christine D. Gutierrez, Ph.D.
Yasmin B. Kalai, Ed.D.
Connie L. Kasari, Ph.D.
Patricia M. McDonough, Ph.D.
Michael H. Seltzer, Ph.D.
Renee Smith Maddox, Ph.D.
Daniel G. Solorzano, Ph.D.
Zhixion (Justine) Su, Ph.D.
Amy S. Wells, Ph.D.

Adjunct Professors
Howard Gadlin, Ph.D.
Harry Handler, Ph.D.
Leslie Kotai, Ed.D.
Harold L. Pratt, Ph.D.

Adjunct Associate Professor
Philip Ender, Ph.D.

Scope and Objectives
As the top-ranked public graduate program in education in the nation, the Department of Education is guided by a commitment to integrate theory and practice and to improve educational practice and policy. The department attracts prominent scholars and is internationally recognized for its research centers in evaluation, 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 will graduate with a broad understanding of educational theory and tested practice.

Requirements for Graduate Degrees

Admission
Qualifications for admission to a program of study in education, in addition to the University requirements for admission, are

1. Scores on the quantitative and verbal sections of the Graduate Record Examination (GRE). (Note: The Miller Analogies and Doppel Mathematical Reasoning Test may be substituted for the GRE.)

2. At least three letters of recommendation documenting qualifications and/or professional experience.

Acceptance into a particular division is dependent on the availability of openings in that division and the applicant's desired emphasis area; preference is given to applicants with relevant background and experience.

Admission to a degree program occurs simultaneously with admission to graduate standing and to the Department of Education. No screening examination (other than described above) and no specific coursework are required for admission to a degree program. The department has an application form for teaching credential, master's, and doctoral degree programs which must be completed in addition to the one used by UCLA Graduate Application Processing.
GRADUATE SCHOOL OF EDUCATION AND INFORMATION STUDIES / Education / 441

Specific degree programs and participating divisions or emphases are indicated below. Contact the Office of Student Services regarding faculty member(s) to be consulted with respect to enrollment and research opportunities and/or course sequencing in each program.

Master of Education — Administrative and policy studies in education; bilingual/cross-cultural education; curriculum and the study of schooling; teacher education.

Master of Arts in Education — All divisions, except administration, curriculum, and teaching studies.

Doctor of Education — All divisions, except social sciences and comparative education.

Doctor of Philosophy in Education — All divisions.

Master of Education

The Master of Education (M.Ed.) professional degree program is designed for individuals preparing for mid-level professional positions in schooling or for advanced professional study; it is the appropriate degree to provide professional foundation in study for preparation for the Ed.D. program.

Admission

Requirements are applicable in accordance with the selected field of emphasis:

(1) Administrative and-Policy Studies in Education — Possession of a valid instructional credential is preferred. Students with a demonstrated commitment to improving American schooling are sought for admission.

(2) Bilingual/Cross-Cultural Education — Completion of an approved program of professional preparation leading to a preliminary instructional credential is required, as is classroom experience — as a teacher or aide — for at least two years, at any level of schooling. Evidence of professional competence and conscientiousness, as well as the necessary second-language proficiency, are also required.

(3) Curriculum and the Study of Schooling — Persons with above-average capabilities and interest in curriculum and instruction are sought. Experience as a practitioner in the emphasis field is advantageous.

(4) Teacher Education — This is a four-term program leading to qualification for a Multiple or Single Subject Instructional Credential and a Master of Education degree. Experience in working with children is advantageous.

Course Requirements

A minimum of nine upper division and graduate courses (36 units) must be completed in graduate standing. Check with your respective division to determine specific course requirements. At least five courses (20 units) must be in the professional education (400) series. No 500-series courses may be applied toward the degree. A directed field experience (Education 498A or 498B or 498C) is required of all M.Ed. students. Courses must be completed with grades of C or better and with a cumulative grade-point average of at least 3.0.

Information regarding specific course requirements in a selected M.Ed. program may be obtained from the Office of Student Services.

Comprehensive Examination Plan

There is no thesis plan offered in this program. Comprehensive examinations for M.Ed. degrees are offered three times a year, once in Fall, Spring, and Summer Quarters, with the exception of the curriculum and the study of schooling examination which is offered only in Fall and Spring Quarters. They consist of

(1) A written examination designed to assess (a) comprehension of the professional knowledge base to the selected field of emphasis, including key concepts and principles, major theoretical positions, and fundamental issues and (b) understanding of the broad educational context in which the selected professional field resides.

(2) For curriculum and the study of schooling students, a performance component designed to assess competency in the solution of problems in the selected professional field; a test of whether knowledge can be applied in a real or simulated professional setting.

Information regarding examination foci for any selected M.Ed. program is available from the assigned faculty adviser. The comprehensive examination may be repeated a second time with your adviser’s consent if failed the first time. If you fail the examination twice, you must obtain approval of your academic adviser and division to take the examination a third time. No fourth sitting is allowed.

Master of Arts in Education

The Master of Arts (M.A.) academic degree program in Education is designed to meet the needs of individuals preparing for careers in basic research or for advanced graduate study.

Course Requirements

A minimum of nine upper division and graduate courses (36 units) must be completed in graduate standing. Check with your respective division to determine specific course requirements. Six courses (24 units) must be taken in the Education 200 and 500 series. No more than two 500-series courses (eight units) may be applied toward the divisional course minimum and toward the graduate course minimum.

Two research methods courses approved by your faculty adviser are required. Additional courses to complete the 36-unit requirement may be selected from offerings in Education and/or other departments with consent of the assigned faculty adviser and division head. Courses must be completed with grades of C or better and with a cumulative grade-point average of at least 3.0.
Thesis Plan
Under this plan, you prepare a thesis which is a report of the results of original investigation. Before beginning work on the thesis, you must obtain approval of the subject and general plan from the department and your thesis committee chair.

The theses and dissertations adviser and the Graduate Division publication, 
Regulations for Thesis and Dissertation Preparation, provide guidance in the final preparation of the manuscript. The department does not require a formal examination in connection with the thesis plan.

Comprehensive Examination Plan
The comprehensive examination is concerned with central topics in the selected division and field of emphasis. Questions are comprehensive in nature and are designed to measure the breadth and depth of knowledge, as well as ability to focus that knowledge on specific problems. The examination is offered twice yearly, once in Fall Quarter and once in Spring Quarter, and may be repeated a second time with your adviser's consent if failed the first time. If you fail the examination twice, you must obtain approval of your academic adviser and division to take the examination a third time. No fourth sitting is allowed.

Doctor of Education
The Doctor of Education (Ed.D.) professional degree program is designed to meet the needs of individuals preparing for careers in leadership and applied research in the schools and community educational programs. Major foci include practice, applied studies, and knowledge related to professional skills.

Admission
To be admitted, you must have a bachelor's degree, at least two years of successful professional experience in education or equivalent (may be completed prior to advancement to candidacy for all divisions except the administration, curriculum, and teaching studies division which requires the experience as a prerequisite to admission), and demonstrated evidence of potential for professional leadership. You are admitted by a division and must formally apply for a change of division.

Course Requirements
A minimum of 18 courses is required, as follows:
(1) Three research methods courses, with no more than two introductory (first tier) courses and at least one intermediate/advanced (second tier) course, selected from the departmental list approved for the Ed.D.
(2) Nine education courses, of which at least six must be from the Education 400 series; all courses must be approved by the faculty adviser.
(3) Three supplemenal courses selected from offerings in the department (outside your field of emphasis) or in another UCLA professional school or academic department.
(4) A sequential three-term field practicum (Education 499A-499B-499C) in which you engage in field research activities and submit a field research paper or similar product by the end of the sequence.

You may select the remainder of the courses (to complete the required total), which must be in compliance with your division's guidelines and must be approved by your faculty adviser.

Whenever additional academic background is needed, a faculty adviser may require other coursework. Courses must be completed with grades of B or better and with a cumulative grade-point average of at least 3.0.

Screening and Qualifying Examinations
The written doctoral screening examination, taken after you complete appropriate coursework determined by your division, is concerned with central topics in your division and field of emphasis. Questions are comprehensive in nature and are designed to measure your breadth and depth of knowledge, as well as to focus that knowledge on specific problems. All students admitted to a doctoral program without a master's degree are required to take the doctoral screening examination. If you are required to take this examination, you are ordinarily not allowed to complete more than nine classes before taking the examination (to ensure that you demonstrate basic competencies as early as possible in your doctoral training).

After satisfying the above requirements, you are eligible to take the following qualifying examinations:

(1) A written examination which tests the core knowledge of the division and emphasis you have selected. The questions reflect a professional orientation. The examination may be repeated a second time with your adviser's consent if failed the first time. If you fail the examination twice, you must obtain approval of your academic adviser and division to take the examination a third time. No fourth sitting is allowed.
(2) The University Oral Qualifying Examination, conducted by the doctoral committee, which employs topics from education that are related to your written research proposal. At the present time both written examinations are offered twice yearly, once in Fall Quarter and once in Spring Quarter.

For further information on the screening and qualifying examinations, contact the Office of Student Services.

Dissertation/Final Oral Examination
The dissertation, required of every candidate for the Ed.D. degree, must embody the results of your independent investigation and must contribute to professional knowledge in education and the improvement of school practice.

The decision as to whether a final oral examination is required is at the discretion of the doctoral committee. The final oral examination may be open to faculty, students, and other interested professionals at the discretion of the dissertation chair and the student.

Ph.D. in Education
The Doctor of Philosophy (Ph.D.) in Education is a strongly research-oriented academic degree designed for individuals preparing for careers in basic research or college-level instruction. Major foci include theory, research methodology, basic studies, and in-depth knowledge in education and an approved cognate field.

Admission
To be admitted, you must have a bachelor's degree and must demonstrate academic excellence and the potential for scholarly research. You are admitted by a division and must formally apply for a change of division.

Foreign Language Requirement
The department does not have a foreign language requirement for the Ph.D.; however, the social sciences and comparative education division requires that, once admitted, you must demonstrate reading competence in a language other than English.

Course Requirements
The program of study is determined by you and the faculty adviser and must conform to division and department requirements. A minimum of 18 courses is required as indicated below; at least 10 must be in the 200 series:

(1) A sequential three-term research practicum (Education 299A-299B-299C) designed to provide an overview of research in the field of study. You complete a research paper by the end of the sequence.
(2) Five courses from offerings in your selected division.
(3) Three upper division or graduate courses from other academic departments of the University related to your proposed area of research (the cognate).
(4) Three research methods courses, with no more than two introductory (first tier) courses and at least one intermediate/advanced (second tier) course, selected from the departmental list approved for the Ph.D.

You may select the remainder of the courses (to complete the required total), which must be in compliance with your division's guidelines and must be approved by your faculty adviser.

Whenever additional academic background is needed, a faculty adviser may require other coursework. Courses must be completed with grades of B or better and a cumulative grade-point average of at least 3.0.
Screening and Qualifying Examinations

The written doctoral screening examination, taken after you complete appropriate coursework determined by your division, is concerned with central topics in your division and field of emphasis. Questions are comprehensive in nature and are designed to measure your breadth and depth of knowledge, as well as to focus that knowledge on specific problems. All students admitted to a doctoral program without a master’s degree are required to take the doctoral screening examination. If you are required to take this examination, you are ordinarily not allowed to complete more than nine courses prior to taking the examination (to ensure that you demonstrate basic competencies as early as possible in your doctoral training).

After satisfying the above requirements, you are eligible to take the following qualifying examinations:

1. A written examination which tests the core knowledge of the division and emphasis you have selected. The questions reflect a research and theoretical orientation. The examination may be repeated a second time with your advisor’s consent if failed the first time. If you fail the examination twice, you must obtain approval of your academic advisor and division to take the examination a third time. No fourth sitting is allowed.

2. The University Oral Qualifying Examination, conducted by the doctoral committee, which employs topics from both education and the cognate discipline(s) that are related to your written research proposal.

At the present time both written examinations are offered twice yearly, once in Fall Quarter and once in Spring Quarter.

For further information on the screening and qualifying examinations, contact the Office of Student Services and the respective divisions.

Dissertation/Final Oral Examination

The dissertation, required of every candidate for the Ph.D. degree, must embody the results of your independent investigation, must contribute to the body of theoretical knowledge in education, and must draw on interrelations of education and the cognate discipline(s) that are related to your written research proposal.

The decision as to whether a final oral examination is required is at the discretion of the doctoral committee. The final oral examination may be open to faculty, students, and other interested professionals at the discretion of the dissertation chair and the student.

Cooperative Degree Programs

General information regarding the following cooperative degree programs is available from the Office of Student Services, 1009 Moore Hall.

J.D./Education Program

The Department of Education and the School of Law offer a concurrent plan which allows students to design a program of study leading to the J.D. and any advanced degree in education (M.Ed., M.A., Ed.D., or Ph.D.). If the program meets the degree requirements in both areas, students are awarded both degrees on its completion.

M.A.-Latin American Studies/M.Ed.

The Department of Education and the Latin American Studies Program offer an articulated degree program which allows students to combine study for the M.A. in Latin American Studies and the M.Ed., with an emphasis in curriculum. articulated programs do not allow course credit to be applied toward more than one degree.

UCLA/CSULA Joint Ph.D. in Special Education

A joint Ph.D. program in Special Education is offered by UCLA and California State University-Los Angeles. The goal of the joint program is to prepare teachers and college instructors of high competence in the various fields of special education. Specific information regarding emphases and requirements is available from the joint doctoral advisor at UCLA or the chair of the Department of Special Education at CSULA.

Certificate (Credential) Programs

The California Commission on Teacher Credentialing has authorized the Department of Education to offer professional programs that lead to (1) the Multiple Subject Instructional Credential with the CLAD (Cross-Cultural Language and Academic Development)/BCLAD (Bilingual Cross-Cultural Language and Academic Development) emphasis, (2) the Single Subject Instructional Credential with the CLAD/BCLAD emphasis, and (3) the Administrative Services Credential.

Lower Division Courses

91A. Infant Care and Development. Using scientific methods to answer questions about how to raise children, educational researchers, psychologists, and anthropologists try to replace myths and anecdotes with a verifiable understanding of children’s development and problems and choices that parents face in raising children. Mr. Blorton Jones

91B. Child Care: Research, Practice, and Policy. Examination of psychological research on influences of early child care on children’s concurrent and subsequent development, with this research linked to basic research in developmental psychology and education. Discussion of influence of research on the policy process. Ms. Hovess

91C. Elementary and Secondary Education. Upper division standing preferred. Social sciences overview of major policy issues in American public education. General introduction to social sciences research in analysis of educational policy issues and to methods for exploring major policy issues. Topics include school finance, equal educational opportunity, testing and evaluation, teacher compensation, and school law. Mr. Bruno

91D. The Teaching Profession. Upper division standing preferred. Introduction to the field of education. Experts within Department of Education and experienced school personnel present a variety of topics in education and provide opportunity to visit diverse educational settings.

91E. Perspectives of the American College. Examination of historical conditions that have shaped American higher education and consequent differential characteristics, trends, and practices that bear on dynamics and impacts of contemporary colleges. Emphasis on interrelated research, academic, social, and policy issues underlying the diverse system of American higher education. Mr. Trent

Upper Division Courses

100A-100B. Social Foundations and Cultural Diversity in American Education (2 units each). (Formerly numbered 100.) Lecture, one hour; discussion, one hour. Prerequisite: credential program standing.

100A. Intensive consideration of American society, particularly its cultural diversity. Topics include historical development of American society, manifestations of cultures, and ways to learn about students’ cultures. Examination of issues of racism, ethnic and gender differences, and students’ attitudes toward people of different cultural, linguistic, and racial backgrounds. Mr. Rust and the Staff

100B. Intensive consideration of American society and perspectives of cultural diversity in the U.S. and California, and its impact on classroom instruction, with focus on cultural contact, dynamics of prejudice, clashes between values, and strategies for conflict resolution. Use of historical, philosophical, and sociological perspectives. Mr. Rust and the Staff

M102. The Mexican American and the Schools. (Same as Chicana and Chicano Studies M102.) Prerequisite: consent of instructor. Review of research and current school policies and practices and their effect on development of Mexican American and Chicano youth and communities. Mr. Solorzano (W)

M108. Sociology of Education. (Same as Sociology M175.) Prerequisite: Sociology 1. Study of social processes and interaction patterns in educational organizations; relationship of such organizations to aspects of social, social class, and power; social relations within school, college, and university; formal and informal organizations; relationship of such organizations to aspects of social development of children and adolescents, evaluation of learning, individual differences, and implications of relevant theory and research for instructional practices. (F)

125A. Education of Exceptional Individuals. Prerequisite: Psychology 10 or equivalent. Introduction to the field of special education, with emphasis on psychology of individual differences, learning characteristics of exceptional individuals, and application of research and theory to special education problems. Mr. Artiles (F,W,Sp)

125B. Principles for Teaching Exceptional Individuals. Prerequisite: consent of instructor. Approaches for teaching exceptional individuals in special and regular education programs. Principles and assumptions underlying alternative approaches. Emphasis on individualizing curriculum and classroom management. (W)

M148. Women in Higher Education. (Same as Women’s Studies M146.) Limited to junior/seniors. Education and career development of women in higher education. Specifically, emphasis on undergraduate and graduate women; women faculty and administrators; curricula, programs, and counseling services designed to enhance women’s educational and career development, affirmative action, and other recent legislation. Ms. Astin (W)
180. Social Psychology of Higher Education. Overview of significant studies in social psychology of higher education. Focus on institutional characteristics and students' interpersonal and intrapersonal behavior. Prerequisites: course 180, consent of instructor. Critical analysis of social psychological inquiry into college attendance, preparation, persistence, and outcomes of education. Emphasis on personal and personal development of individuals vis-a-vis differential college environments and instructional experiences with respect to students' gender, culture, motivation, involvement, and interactions.

Mr. Anderson, Mr. Trent (F)

C191A. Philosophy of Education: Ethics and Values. Study of ethics and value theory in teaching and learning, educational organization and policy, and curriculum design and validation. Concurrently scheduled with course C206D.

191B. Issues in Education: Historical Perspective. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Exploration of such controversial issues in American education as access, diversity, parental choice, cultural literacy, teacher empowerment, and role of popular media in historical perspective.

Mr. S. Cohen

C191C. Economics of Education. Introductory course analyzing the economic techniques applied to education. Methodologies illustrated principally in context of current issues in American education. Concurrently scheduled with course 204C (W).

C191D. Politics of Education. Political dimensions of education institutions as organizations. Relationships between education institutions and political institutions in society. Political theory as a foundation for public policy analysis. Academic interest groups in educational policy formation and implementation. Concurrently scheduled with course C207.

Mr. Hawkins, Mr. Torres (Sp)

C191E. Educational Anthropology. Recommended (but not prerequisite) Anthropology 3. Study of education through research and method of the cultural anthropologist. Interdependence of culture and education, with emphasis on cross-cultural studies of enculturation, schooling, values, cognition, language, and cultural change. Concurrently scheduled with course C203.

Mr. Hodapp (Sp)

191F. Educational Psychology. Broad overview of educational psychology, with examination of relationship of teaching and learning: various perspectives as to how children learn; issues of teaching and learning that arise based on child's social class, ethnic background, gender, age, and level of ability.

Mr. Hodapp (Sp)

192. Theory and Practice of the Teaching and Learning Function. Lecture, three hours; practicum placement. Prerequisite: consent of instructor. Analysis of learning theory and teaching practice. In light of research on student characteristics, teaching environment, and student perceptions and behaviors, an introduction to the design and evaluation of instruction. Application of theory and research to practice.

Mr. Barbee, Mr. Trent (Sp)

197A-197Z. Current Issues in Education. Formerly numbered 197A. Lecture, three to four hours. Prerequisite: upper division standing. Variable topics course organized on selected current issues basis, integrating field observations and readings through seminar discussions. Consult Schedule of Classes for topics and instructor information.

197F. Laboratory in Education of Exceptional Children. (Formerly numbered 325A.) Lecture, one hour; laboratory, six to eight hours. Prerequisite: course 125A or consent of instructor. Six to eight hours per week of observation, research, and teaching of children with severe behavioral/emotional disorders and/or mental retardation in UCLA Neuropsychiatric Institute and Hospital School.

197G. Advanced Laboratory in Education of Exceptional Children. (Formerly numbered 325B.) Lecture, one hour; laboratory, six to eight hours. Prerequisite: course 197F. Six to eight hours per week of research, teaching, and multidisciplinary team participation with children with severe behavioral/emotional disorders and/or mental retardation in UCLA Neuropsychiatric Institute and Hospital School.

199. Special Studies. Prerequisites: senior standing, consent of instructor. To be arranged with faculty member who will direct the study.

Graduate Courses

200A. Historical Research and Writing. Methods of historical research and writing for students who are or who will be engaged in methods or theses, papers or thesis writing, regardless of their field of interest.

Mr. S. Cohen

200B. Survey Research Methods in Education. Prerequisite: course 210A or equivalent. Problems of conceptualization, organization, and gathering non-experimental and quasi-experimental and qualitative data.

Mr. O'Shea

200C. Analysis of Survey Data in Education. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Introductory techniques of processing and analyzing nonexperimental and quasi-experimental quantitative data.

Mr. O'Shea

201C. History of American Education. (Same as History M264.) History of educational thought and social change in the American school system from the 1860s to the present. Analysis of relation between these ideas and forces, and aims and practices of American education today.

Mr. S. Cohen (Sp)

202. Evaluation Theory. Prerequisite: evaluation theories, and process of theory development in educational evaluation.

Mr. Alkin

203. Educational Anthropology. Recommended (but not prerequisite) Anthropology 3. Study of education through research and method of the cultural anthropologist. Interdependence of culture and education, with emphasis on cross-cultural studies of enculturation, schooling, values, cognition, language, and cultural change. Concurrently scheduled with course C191E.

Mr. Akin

204A. Introduction to Education and the Social Sciences. Prerequisite: consent of division. Interdisciplinary course intended to introduce students to study of educational issues, tests, and movements through social sciences and comparative perspectives.

Mr. S. Cohen, Mr. Jamison, Mr. O'Shea, Mr. Solorzano (F)

204B. Introduction to Comparative Education. 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.

Mr. Rust, Mr. Torres

204C. Education and National Development. Prerequisite: graduate standing or consent of instructor. Analysis of various social sciences perspectives and methodologies (including modernization, dependency, post-structural anthropology, and systems theory of change and development) and changing notions of role of education in development of less-industrialized countries of the world.

Mr. Hawkins, Mr. Torres (W)

204D. Minority Education in Cross-Cultural Perspective. 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 social, political, and economic systems.

Mr. Nakanishi, Mr. Solorzano

204E. International Efforts in Education. Prerequisite: graduate standing or consent of instructor. Critical analysis of complex world of "development cooperation," with particular reference to bilateral and multilateral efforts in education.

204F. Nonformal Education in Comparative Perspective. Comparative and international study of organized and systematic educational activity for children, youth, and adults carried on outside of schools. Types of programs include, among others, consciousness raising, community option, skills training, literacy, and extension programs.

Mr. Torres (F)

205. Computers in the Educational Process. 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.

Mr. Dorf (F)

206A. Philosophy of Education: Introduction. Syntactical declaration to the field, indicants ways in which philosophy serves to elucidate educational aims, content, methods, and values.

206C. Introduction to Conceptual Analysis. Conceptual analysis of recurrent and contemporary threats to the field. Emphasis on development of logical and linguistic skills used in analysis of educational problems and issues.

C206D. Philosophy of Education: Ethics and Values. Study of ethics and value theory in teaching and learning, educational organization and policy, and curriculum design and validation. Concurrently scheduled with course C191A.

C207. Politics of Education. Prerequisite: one approved research methods course required for master's level. Introduction to key dimensions of education institutions as organizations. Relationships between education institutions and political institutions in society. Political theory as a foundation for public policy analysis. Presentation of educational organizations and their relationships, from reform in education elementary, secondary and postsecondary levels.

Mr. O'Shea (F)

208C. Explanation in the Social Sciences and Educational Research. Lecture, two hours; discussion, two hours. Prerequisite: graduate standing or consent of instructor. Development of fundamental strategies and forms of explanation relevant to inquiry in education from vantage point of various social and behavioral sciences disciplines.

Mr. Blum (F)

209A. History of Higher Education. Examination of historical and institutional development of postsecondary education in the U.S., with attention to social context and to scope and variety of institutions.

Mr. A. Cohen

209C. Problems in Research and Evaluation in Higher Education. Critical review of research and evaluation studies of higher education, with special attention to need for studies of new programs and problems, and to design and methodology of evaluative research.

Mr. Astin and the Staff

209D. System of Higher Education. Analysis of structure and function of higher education in the United States. Emphasis on system of system and comparative characteristics (faculties, student bodies, finances, outputs) of different types of universities and the extensive influence on postsecondary education.

Mr. Astin and the Staff

210A. Introduction to Research Design and Statistics. Fundamentals of research design. Language of research. Planning and conduct of research. Interpretation and reporting of research outcomes. Introduction to descriptive statistics, hypothesis testing, mode, variance, analysis of variance, and normal curve tests, f-tests, simple and factorial analysis of variance, and selected nonparametric tests.

Mr. Seltzer, Ms. Webb (F, W, Sp)
222B. Design Issues in Naturalistic Research. Lecture, three hours; discussion, one hour. Prerequisite: course M222A or consent of instructor. Conceptualization and design of naturalistic research studies, particularly within educational settings. Specific topics include problem definition and focus, units of observation, sampling, controlled comparisons and meaningful variation, and reliability/validity concerns in observational research. Special attention to ethnographic studies. Mr. Levine

22CC. Qualitative Data Reduction and Analysis. Lecture, two hours; discussion, two hours. Prerequisite: course M222A or equivalent. Theory and practice in qualitative data reduction and analysis. Discussion of data storage and retrieval systems, data manipulation techniques such as typologies and attribute spaces, and specific analytic perspectives. Interfacing qualitative and quantitative data. Mr. Levine (Sp)

223. Aesthetics and the Curriculum. Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Study of culture, its role in educational and curriculum practices, and the relationship between the two. Mr. Bruno (Sp)

224. Problems and Issues in Bilingual and Multicultural Education. Introduction to development and measurement of bilingual and multicultural programs in the U.S. Analysis of program goals, models, typologies, and effectiveness. Ms. Valadez

225A. Issues in Education of Individual Exceptional Individuals. Prerequisite: graduate standing. Analysis of major research regarding contemporary trends, issues, and practices in the field of special education. Mr. Solorzano (Sp)

227A. Research on Learning Characteristics of Individual Exceptional Individuals. Prerequisite: course 225B. Overview of research and theory regarding learning characteristics of exceptional individuals and discussion of application of this work to educational practice. Mr. Artiles, Ms. Kasari (Sp)

227B. Research on Cognitive and Language Characteristics of Exceptional Individuals. Prerequisite: consent of instructor. Synthesis of developmental and educational theory relevant to study of exceptional individuals, including consideration of historical context of current research and applied issues in special education. Mr. Hodapp (F)

227C. Research on Behavioral and Social Characteristics of Exceptional Individuals. Prerequisite: course 227B. Analysis of social and emotional development of exceptional individuals and development of social competence in special education programs. Ms. Kasari (W)

228. Observation Methods and Longitudinal Studies. Lecture, two hours; discussion, two hours. Prerequisites: course 210A or equivalent, consent of instructor. 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. Mr. Blument Jones (Sp)

229. Special Studies on Educational Policy and Planning. Research on selected topics in fields of administration, policy, curriculum, and teaching studies and on conceptualization of hypotheses and research programs on division topics and issues. Mr. Bruno, Ms. Oakes, Ms. Wells

232. Instructional Analysis. Prerequisite: consent of instructor. Theoretical and empirical analysis of instruction, its various forms, and the role of the various types of instructional strategies. Development of skill in techniques of instructional research. Ms. Baker (W)

234. Education and Social Stratification. Relationship between education and components 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. Mr. Levine


236. Human Abilities. Prerequisite: course 210B or equivalent. Nature, development, and measurement of intellectual abilities and their relations to learning and instruction. Review of research and theory of models of ability and test development. Ms. Webb


239. Organization and Governance of Educational Systems. Academic organizations, precollege and postcollege, and types of change. Emphasis on characteristics of educational institutions and systems as organizations: environmental relations, governance structures, processes, and patterns of decision making and policy-making. Mr. Koltei, Ms. McDonough (Sp)

240. Cultural Foundations of U.S. Education: Policy and Practice. Prerequisite: graduate standing or consent of instructor. Cultural foundations of persistent and troubling issues in and problems of American educational policy-making and practice. Ms. Oakes

241. Research Methodology in School Administration. Prerequisite: consent of instructor. Examination of critical issues and problems of educational school administration. Mr. Catellan

242. Economic Analysis for Educational Policy and Planning. Prerequisite: graduate standing. Introductory course focusing on concepts and quantitative techniques for analyzing policy and planning issues in educational policy and planning. Instruction in programming microcomputers for instruction in BASIC and preparing for simulations research applied to educational policy and planning issues. Instruction in programming microcomputers for instruction in programming and planning issues. Instruction in programming microcomputers for instruction in programming and planning issues. Mr. Bruno

244. Economics of Education. Introductory course in microeconomic and macroeconomic techniques applied to education. Methodologies illustrated primarily in context of current issues in American education. Concurrently scheduled with C214C. Mr. Bruno, Mr. Jamison (W)

245. Seminar: Cost-Benefit Analysis in Education. Conceptual and theoretical underpinnings of cost-benefit analysis, critical analysis of current cost-benefit studies, and procedures for conduct of cost-benefit studies. Mr. Jamison (Sp)

246A. Seminar: Mathematical Modeling in Educational Policy Analysis. Prerequisite: course 242 or consent of instructor. Stochastic and deterministic modeling techniques applied to analysis of policy and planning issues. Mathematics review and instruction in use of MPS (Mathematical Programming System) and development of software for Monte Carlo computer simulation studies in education. Mr. Bruno

246B. Seminar: Operations Research — Systems Analysis in Education. Prerequisite: course 242 or consent of instructor. Application of advanced mathematical modeling techniques of operations research to educational problems. Design of computer-based management information systems in education using dBASE. Mr. Bruno

246C. Seminar: Perspectives on Lifelong Learning. From interdisciplinary perspective, lifelong learning in the new professional world as an area of educational research, policy, and practice. Conceptual distinctions among major proponents of lifelong learning and implications for scholarship.
319. Principles and Methods for Teaching Composition — 1-12 (6 to 12 units). Prerequisite: consent of instructor. Drawing from current research and theory, participating teachers expand their repertoire of techniques for teaching writing and literature. Focus on drawing on expertise of classroom teachers and becoming teacher-writers in addition to writing teachers. S/U grading.


321B. Principles and Methods for Teaching Chemistry—7-12 (6 to 12 units). Prerequisite: consent of instructor. Conceptual teaching of chemistry and incorporation of science process skills for grades 7-12. Demonstrations, hands-on experiences, and development of teaching materials. S/U grading.


323A. Observation and Participation: Multiple Subject Instruction—K-6 (6 to 12 units). Prerequisite: consent of instructor. Observation and participation in classrooms in which multiple subjects are taught, normally in elementary schools. S/U grading. (Ms. Peitzman, Ms. Williams) (F,W).

324B. Supervised Teaching: Multiple Subject Instruction (2 to 10 units). Prerequisite: course 324A, consent of instructor. Advanced practice teaching under daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading.

324C. Supervised Teaching: Multiple Subject Instruction (2 to 10 units). Prerequisite: course 324B, consent of instructor. Advanced practice teaching under daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading.

324D. Supervised Teaching: Multiple Subject Instruction (2 to 10 units). Prerequisites: course 324C, consent of instructor. Advanced practice teaching under daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading.

325. Principles and Methods for Teaching English/Language Arts—K-12 (6 to 12 units). Prerequisite: consent of instructor. Emphasis on teaching a literature-based language arts program incorporating process skills, modeling, hands-on experiences, and development of teaching and teacher-training materials. S/U grading.


328. Principles and Methods for Teaching Content and Language Instruction (6 to 12 units). Prerequisite: consent of instructor. Theoretical rationale for integrating language teaching and content instruction for English as a Second Language students at intermediate or advanced level in English. Various Sheltered English techniques described, modeled, and used in hands-on workshops involving peer and expert teaching. S/U grading.

329. Integrating the Elementary School Curriculum — K-6 (6 to 12 units). Prerequisite: consent of instructor. Open to credentialed teachers. Interdisciplinary strategies emphasizing reading and language arts in the core disciplines, social studies, and mathematics, and promoting enrichment follow-up activities in other disciplines such as social studies and art. S/U grading.

330A. Observation and Participation: Single Subject Instruction (2 to 6 units). Prerequisite: consent of instructor. Six hours per week of observation and participation in classrooms in which single subjects are taught, normally in secondary schools. Preparation for single subject teaching. (F)

330B. Supervised Teaching: Single Subject Instruction (2 to 10 units). Prerequisites: course 330A, consent of instructor. Practice teaching under daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading.


330D. Supervised Teaching: Single Subject Instruction (2 to 10 units). Prerequisites: course 330C, consent of instructor. Advanced practice teaching under daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading.

331. History and Geography Themes in U.S. History and World History Courses—K-12 (12 units). Prerequisite: consent of instructor. Emphasis on new curricular reform elements written into the 1987 California Framework. Lectures, seminars, and demonstrations on significant historical issues in history, with examples derived from the History/Social Science Framework. S/U grading.

332. The Immigrant Experience (6 to 12 units). Prerequisite: consent of instructor. Readings, films, interviews, and field trips to foster understanding of the culture, language, and ambitions of Los Angeles' new populations, since this city is the destination of many immigrant groups entering the U.S. S/U grading.

360. Teaching Clinical Practicum. Discussion, two hours; fieldwork, two hours. Prerequisite: consent of instructor and director of Teacher Education Laboratory. Seminar and directed field experience. Examination and analysis of different methods of subject matter instruction under daily supervision of a regular faculty member. S/U grading. (F,W,Sp).

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprentice under active guidance and supervision of a regular faculty member. Prerequisite: Apprentice Personnel Standing. S/U grading. May be repeated for credit. S/U grading.

400. Foundations of Education Policy Analysis. Prerequisite: consent of instructor. Critical analysis of alternative assumptions about organizations, and the many 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. (Ms. Beck, Mr. Erickson) (Sp).


403. Teaching: Principles and Problems. Prerequisite: consent of instructor. Critical analysis of good teaching and traditional/conceptual, empirical, and/or ideological bases for these assertions. Alternative models of classroom teaching, their assumptions, and evidence of worth. Current policy issues and problems in generating and sustaining effective teaching.

409A. Language Structure, Acquisition, and Development (3 units). Lecture, two hours; discussion, one hour; ethnographic study. Prerequisite: credential program standing. Theoretical foundations of language structure and first and second language acquisition, with focus on major themes of current research that provide a framework for schooling of limited English proficient students.

410A-410B. Fundamental Issues in Higher Education, Work, and Adult Development. Course 410A is prerequisite to 410B. Two-course sequence designed to orient new students to issues, ideas, and literature that constitute the division. Emphasis on underlying social and political issues that shape higher education, work, and adult development. S/U grading. (Ms. McDonough) (W,Sp, 410B).

411A. Introduction to Educational Evaluation. Prerequisite: consent of instructor. Introduction to educational evaluation as it applies to improving educational programs. Consideration of program evaluation as means of improving quality of educationally relevant decisions. (Mr. Alkin)
422. Inquiry Into Schooling: Basic Issues. Critical examination of basic issues and problems in organizing and reconstruction of precolligate schooling. Consideration of historical development and changing context of school programs and society, school organization; schooling alternatives; problems in management of educational change. Ms. Oakes

423. The Humanistic Curriculum. Consideration of philosophical and cultural foundations of humanistic curricular strategies. Review of techniques and procedures of affective education with a view to their place in overall theory of teaching and learning. Mr. Weinberg

424A. Social Studies in the Curriculum. 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. Prerequisite: course 210A. Study of reading curricula and instructional procedures, with emphasis on rationale and refinement in systematic development of instructional programs; comparing their effectiveness. Ms. Gutierrez

424C. Language in the Curriculum. Advanced study in language curriculum; application to improvement of curriculum in the field. Ms. Gutierrez

424G. Curriculum Design for Bilingual Education. Prerequisite: consent of instructor. Advanced study of curriculum design for bilingual educational programs. Philosophical basis for bilingual programs; theories of instructional and interpersonal communication; bilingual learner; language assessment; development of instructional component; program evaluation. Ms. Valadez

424A1. Administration in Higher Education. Overview of college and university administration and implementation of policy decisions in postsecondary institutions. Case studies of administrative problems, policies, and practices. Management information systems, resource allocation, and issues related to accountability, authority, and control in administrative decisions. Mr. Koltai and the Staff

431B. Curriculum and Instruction in Higher Education. Principles of curriculum and instruction in postsecondary programs. Theory and practices in good teaching, testing, and related instructional responsibilities. Preparing to teach college-level students. Mr. A. Cohen

431C. Innovative Forms and Practices in Higher and Continuing Education. New institutional forms (e.g., internal and external forms of experimental, innovative, and traditional approaches to higher education, neighborhood learning centers, and peoples' colleges). Methodological innovations such as computer-assisted instruction, credit by examination, and independent study. Mr. A. Cohen, Mr. Wilms (W)

432 Seminar: Professional Topics in Higher Education. Ms. Astin and the Staff

433A. Instructional Product Development. Prerequisite: consent of instructor. Examination of procedures employed in system development of instructional products. Students acquire competencies associated with those procedures. Ms. Baker, Ms. Dorr (W)

433B. Technological Development in Educational Media. Prerequisite: course 433A. Theory, current problems, and anticipated trends in instrumentation and systems development for instructional applications and research, including computer-aided instruction, communication satellites, and other advanced systems; theory, current practices and technology in educational research. Ms. Baker, Ms. Dorr (Sp)

437A. Principles of Curriculum in Economic Education. Theories, principles, and concepts related to understanding the business and economic system; their application to teaching in secondary school.

437B. Corporate Educational Programs. History and scope of corporate training programs; current educational problems in training programs within industry as they are affected by automation and technological change.
Scope and Objectives

The Department of Library and Information Science 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, and cataloging. Whether students choose to pursue a master's degree or a Ph.D., they will graduate with a broad understanding of both theory and practice.

Applicants may write to the Department of Library and Information Science, 1009 Moore Hall, UCLA, Los Angeles, CA 90024-1520, for the department's announcement and application materials.

Master of Library and Information Science

Admission

Students are admitted for Fall Quarter only. In addition to Graduate Division requirements and application procedures (see Chapter 3), the department requires:

1. A statement of purpose.
2. Application materials provided in the department's announcement.

(3) An official report of the General Test of the Graduate Record Examination (GRE) taken within the past five years (may be waived for holders of a master's or doctoral degree from an accredited U.S. institution).

(4) For international students whose native language is not English, an official report of scores received on the Test of English as a Foreign Language (TOEFL), including the Test of Written English (TWE).

(5) Three letters of recommendation.

(6) Satisfaction of the following entrance requirements: (a) a college-level course in statistics (three semester units or four quarter units) within the past five years with a minimum grade of C. The course must have covered descriptive and inferential statistics. In exceptional circumstances it is possible to meet this requirement by passing a competency examination in statistics administered by the department; (b) a college-level course in computer programming (three semester units or four quarter units) within the past five years with a minimum grade of C. Most standard languages such as BASIC, COBOL, FORTRAN, or PASCAL are acceptable, as is a college-level course in the use of data management systems such as INTRANIC, PARADOX, or dBASE. At least one third of the course grade should be based on programming assignments. In exceptional circumstances it is possible to meet this requirement by passing a competency examination in computer programming administered by the department.

Entrance requirements should be completed before you begin the M.L.I.S. program. However, one requirement may be satisfied in Fall Quarter of your first year.

Applicants not meeting the required grade-point average of 3.0 may be admitted in exceptional cases if GRE scores, letters of recommendation, or other factors indicate unusual promise. While work experience is not a requirement for admission, consideration is given to such experience in reviewing the total application.

The committee on M.L.I.S. and certificate admissions may request a report of an interview conducted by a person designated by the chair to conduct an interview.

For further information on the proficiency in English requirements for international graduate students, refer to "Graduate Admission" in Chapter 3.

Course Requirements

As a full-time student, you are normally required to enroll in three courses (12 quarter units) per term in order to complete the program in six terms. Part-time enrollment may be permitted, but you must complete the program in 10 terms.

Eighteen courses (72 quarter units) are required for graduation from the M.L.I.S. program. You take 20 units of core courses, four research methods units, and 48 elective units. Course-
work must provide evidence both of basic professional competencies and of knowledge in a field of specialized competence.

**Basic Professional Competence —** The requirement is met by completing five core courses (Library and Information Science 200, 201, 203, 220, 441) and at least one graduate-level research methodology course such as 205, 240, 241, 260, 261, or 290. In certain cases, prior coursework or work experience may justify replacing a course by a validation examination administered by the department, but this is not encouraged and should be used only for the purpose of increasing the extent to which you pursue a specialization.

Only in unusual cases will librarianship coursework taken elsewhere satisfy the basic competency requirements.

**Specialized Competence —** Completion of a course of study is required as evidence of knowledge of a field of specialization in information policy and management, information access, information systems, or information organization. The field of specialization and the specialized course program must be approved by a faculty adviser. The requirement ordinarily is met by the completion of 12 additional courses, which may include internships. Relevant coursework in other departments or schools is encouraged. You may petition to have prior graduate-level coursework applied to your specialization.

During the second year, you may apply for an internship of one to three terms either on campus or off campus at a library or information center. The internship is a regularly scheduled course and may be applied toward the 18 required courses.

No more than eight units of course 596 may be applied toward the total course requirement; only four units may be applied toward the minimum requirements of the Graduate Division. In order to enroll in any S/U graded course, including 500-series courses, you must be in good academic standing.

**Comprehensive Examination Plan**

A comprehensive examination consisting of two components is required. The written test breadth component is offered in Fall, Winter, and Spring Quarters and is designed to demonstrate your understanding of library and information science services as a totality. It does not cover the basic professional competencies individually but deals with the field in a unified form. To be eligible to take the written test component, you must complete one year of academic residency, satisfy all outstanding entrance requirements, complete (or be in the process of completing) all five core courses and the research methods course, and be in good academic standing.

The specialization component of the comprehensive examination requires you to complete an elective course in which a major paper (normally in the area of your specialization) is produced. A grade of B or better must be earned in the course; you may not use the same course to satisfy both the paper and the research methods requirements.

**Cooperative Degree Programs**

To participate in a cooperative program, you must make application to and be admitted by both this department and the other UCLA school or department. Fulfilling the combined set of program requirements normally takes three years.

**M.A.—History/M.L.I.S.**

This concurrent degree program of the Department of Library and Information Science and the Department of History allows you to combine historical study with the tools of the information professional and to obtain two degrees — the M.L.I.S. and the M.A. in History. The best sequence of coursework should be discussed with the advisers from this department and the History Department.

**M.A.—Latin American Studies/M.L.I.S.**

This specialization is an articulated degree program of the Department of Library and Information Science and the Latin American Studies Program. You can obtain two degrees — the M.L.I.S. and the M.A. in Latin American Studies. However, no course may be used for credit toward more than one degree. The program provides broad training in library and information science, as well as the opportunity to explore and analyze on an advanced level the social, political, and cultural issues characteristic of Latin American societies.

**M.B.A./M.L.I.S.**

A concurrent degree program jointly sponsored by the Department of Library and Information Science and the John E. Anderson Graduate School of Management, this specialization is designed to provide an integrated set of courses for students who seek careers which draw on general and specialized skills in the two professional fields. Students should request application materials from both the M.B.A. Admissions Office, John E. Anderson Graduate School of Management, and the Department of Library and Information Science.

**Ph.D. Degree**

Admission

Students are admitted for Fall Quarter only. In addition to Graduate Division requirements and application procedures, the department requires:

(1) Satisfaction of the following two entrance requirements: (a) a statistics requirement, satisfied by completing a college-level course with a minimum grade of C within the past five years and (b) a computer programming requirement, met either by completing a college-level course with a minimum grade of C within the past five years or by passing a proficiency examination administered by the department (most standard languages such as BASIC, C, COBOL, FORTRAN, and PASCAL are acceptable, as is a college-level course in the use of data management systems such as INMAGIC, PARADOX, or dBASE).

(2) A statement of purpose which identifies your proposed area of research.
The oral examination covers the significance of your selected research topic, the methodology and feasibility of your research, and the depth of your knowledge in the specific field of your proposed dissertation research.

Your doctoral committee decides, after the oral examination, whether the examination has been passed. If the proposal is not accepted, you do not pass the examination.

**Dissertation/Final Oral Examination**

The third formal requirement of the program is that you research, write, and defend a dissertation. The final oral examination, required of all Ph.D. students in the department, is administered by members of the doctoral committee, who also evaluate the dissertation.

**Upper Division Courses**

Courses 110 and 140 may not be applied toward the M.L.I.S. degree; courses in the 111 series may be applied toward the M.L.I.S. degree with approval of faculty advisers.

**Qualifying Examinations**

You are required to pass written qualifying examinations in each of the three areas of study listed above, including coverage of historical aspects in at least one of the areas as well as technical aspects. These are scheduled during one week in a term. If you fail one of the sections of the three-part examination, it may be repeated. Should you fail two sections, all three must be repeated.

After passing the written examinations, you are required to pass the University Oral Qualifying Examination, which is based on your dissertation proposal.

You are encouraged to start work on your proposal while taking courses in preparation for the written qualifying examinations. The proposal should, in most cases, be completed within one year after passing the written examinations.

**Course Requirements**

Courses normally taken in your first year include a doctoral seminar in each area of the written qualifying examinations (Library and Information Science 273, 274, 275) and a three-course research sequence selected from a list of research methodology courses. In addition, you may take a variety of other courses, both inside and outside the department, relevant to your individual program.

**Qualifying Examinations**

You are required to pass written qualifying examinations in each of the three areas of study listed above, including coverage of historical aspects in at least one of the areas as well as technical aspects. These are scheduled during one week in a term. If you fail one of the sections of the three-part examination, it may be repeated. Should you fail two sections, all three must be repeated.

After passing the written examinations, you are required to pass the University Oral Qualifying Examination, which is based on your dissertation proposal.

You are encouraged to start work on your proposal while taking courses in preparation for the written qualifying examinations. The proposal should, in most cases, be completed within one year after passing the written examinations.

**Theoral examination covers the significance of your selected research topic, the methodology and feasibility of your research, and the depth of your knowledge in the specific field of your proposed dissertation research.**

Your doctoral committee decides, after the oral examination, whether the examination has been passed. If the proposal is not accepted, you do not pass the examination.

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After passing the written examinations, you are required to pass the University Oral Qualifying Examination, which is based on your dissertation proposal.

You are encouraged to start work on your proposal while taking courses in preparation for the written qualifying examinations. The proposal should, in most cases, be completed within one year after passing the written examinations.
224. Literature of the Humanities and Fine Arts. Prerequisite: course 220. Seminar on literature of the humanities and fine arts, including review of classics in the various fields, comparisons of editions, periodicals, bibliographic apparatus, and style of writing. Trends in scholarly and popular writing.

M225. Latin American Research Resources. (Same as History M265 and Latin American Studies M260.) Seminar, three hours. General and specialized materials in field of Latin American studies. Library research techniques provide experience and competency required for future bibliographic research and research advancement as basis for enhanced research result.


M229B. Africana Bibliography and Research Methods. (Same as African Area Studies M229B.) Problems and techniques of research methodologies related to African studies. Emphasis on relevant basics and specialized research materials, using full range of information resources, including library collections of books, serials, and computerized databases.

229C. Introduction to Slavic Bibliography (2 units). (Same as Slavic M229.) Prerequisite: consent of instructor. Introduction 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 library materials; Slavic and East European scholarship in the West; relevant reference sources, archival resources, and research methods; survey of on-line databases; compilation of bibliographies. S/U grading.


240. Principles of Information Systems Analysis and Design. Theories and principles of special systems development, including determination of requirements, technical design and evaluation, and internal organization.

241. Measurement and Evaluation of Information Systems and Services. Prerequisite: 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, reference and information retrieval services, document delivery systems, apparatus, and technical services, including circulation, acquisitions, and document description.


243. Human/Computer Interaction. Prerequisites: one programming course and one inferential statistics course. Survey of social, behavioral, 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 new information technologies.

245. Database Management Systems. Theories, principles, and practicalities of database systems, including data models, retrieval mechanisms, evaluation methods, and storage, efficiency, and security considerations.


247. User-Centered Design of Information Retrieval Systems. Lecture, two hours; discussion, two hours. Prerequisites: courses 201 and 220, or consent of instructor. Design implications of interaction between users and retrieval systems of automated information systems and interfaces that are specific to the information-seeking process. Emphasis on search strategy and subject access through use of thesaurus and other vocabularies.

249 Seminar: Special Topics in Information Science. Prerequisites: courses 200, 201, and at least one from 242, 243, 247, 280, or 405, or consent of instructor. Content varies from term to term to allow emphasis on specialized topics such as vocabulary control, file design, indexing, classification, text processing, measurement of relevance, evaluation of information systems, and social and policy issues related to information retrieval and user interfaces.

253. Contemporary Information Literature. Reading interests and core types of literature surveyed with reference to growth and development of children. Emphasis on role of the librarian in responding to needs and abilities of children through individualized reading guidance.

260. Historical Bibliography. Prerequisites: courses 2Q and 402, or consent of instructor. History of letterpress formats (books, broadsides, magazines, newspapers, etc.) as well as methods of production, distribution, and readership in their social, political, and economic context. Emphasis varies but is usually on developments prior to 1800. Attention to bibliography of the field, including anti-quearian, Anglo-American, and history of the livre approches.


272. Research Seminar: Library and Information Science. Prerequisite: doctoral standing or consent of instructor. Emphasis on recent contributions to the theory, research, and methodology. May be repeated for credit. S/U grading.

273. Doctoral Seminar: Information Storage and Retrieval Systems. Prerequisite: doctoral standing or consent of instructor. Intellectual principles for design of information, including principles for design of systems for acquiring, organizing, and retrieving information. Also includes system-specific user studies to extent that design of information systems is predicated on their evaluation and use.

274. Doctoral Seminar: Policies and Issues in Library and Information Science. Prerequisite: doctoral standing or consent of instructor. Examination of social, political, and economic influences in development of library agencies, roles, and management of information organizations and resources.

275. Doctoral Seminar: Information Seeking and Use. Prerequisite: doctoral standing or consent of instructor. Examination of behavioral and cognitive aspects of information seeking and finding, including inquirer characteristics, information problems, psychological needs, and uses of information and information technologies, and aspects of question recognition.

280. Information-Seeking Behavior. 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.

281. Information Resources for Business. Prerequisite: course 220 or consent of instructor. Introduction to information needs of the business world. Business guides, encyclopedias, directories, yearbooks, indexes, loose-leaf services, government publications, databases, and other sources of business literature.

283. Legal Research and Bibliography. (Formerly numbered 228.) Introduction to source materials of the law, with emphasis on primary authority, but covering secondary and third-level sources, and finding aids used to gain access to legal information.

284. Seminar: Legal Informatics. (Formerly numbered 487C.) Information problems of legal profession, including history of legal information systems, relationship between cognitive authority and legal authority, bibliometrics of law, value-added processes for legal information, and techniques and impact of new legal research technology.

285. Scholarly Communication and Bibliometrics. (Formerly numbered 487A.) Prerequisite: one inferential statistics course. Survey of current theory, methods, 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.


287. Seminar: Special Issues in Library and Information Science (2 to 4 units). (Formerly numbered 487D.) Identification, analysis, and discussion of critical intellectual, social, and technological issues facing the profession. Topics may include (but not limited to) expert systems, library, electronic networks, youth at risk, computer literacy, preservation of electronic media, etc. May be repeated with topic change.

289. Information Services in Culturally Diverse Communities. Issues in provision of information services in a multicultural and multilingual society. Understanding role of information institutions in promoting cultural diversity and preserving ethnic heritage.

290. Research Methodology. Prerequisite: consent of instructor. Role of research in bibliography, librarianship, and information science; identification and design of research projects. Historical, statistical, analytical, and descriptive techniques.

275. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: one or two units of M221, and two units of M223, 224, or 226, and a teaching assistant, associate, or fellow Teaching an apprentice under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

402. Fundamentals of Bibliography. Prerequisite: course 200. Organization, control, and elements of bibliographical apparatus, new techniques and tools, theory, methods, and trends in bibliographical research in relationship to librarianship. Development and fundamentals of several branches of bibliography: enumerative (or systematic), physical (analytical or critical, descriptive).

405. Automation of Library Processes. Overview of major components of library automation: circulation control, acquisitions and serials, public access information systems, and data conversion. Relationship to various automation entities, including internal library automation, networks and vendors (such as bibliographic utilities, regional networks, and on-line services), and automation of parent organizations (universities, municipalities, corporations, and government agencies). Development and implementation standards for information processing and new information technologies.


412. Cataloging and Classification of Nonbook Materials. Prerequisites: courses 410, 411. Problems in cataloging and classification of selected nonbook materials (e.g., films, maps, pictorial works, sound recordings) as separate collections and integrated collections.

414. Indexing and Thesaurus Construction. Formerly numbered 413, 414.) Principles of design and methods of construction of thesauri. Evaluation and overview of thesauri used in manual and on-line environments. Basic professional techniques for indexing a variety of types of materials and for preparing informative and indicative abstracts.

425. Computer-Based Information Resources (On-Line Searching). Prerequisite: course 220 or consent of instructor. Emphasis on use of reference and resource databases and different vendor systems. File structure and hardware requirements. Analyses of information retrieval systems and examination of databases addressing those needs.

426. User Education/Bibliographic Instruction: Theory and Technique. History, theory, methods, and materials of user education/bibliographic instruction in libraries and other information retrieval environments. Examination of a variety of user education/bibliographic instruction theories and methodologies, including overview of planning and administration. Identification of problems in user education/bibliographic instruction. Applications of methods of teaching use of libraries and information resources.


441. Management Theory and Practice for Information Professionals. Lecture, two hours; discussion, two hours. Principles and problems of management in all types of organizations where information professionals work.

442. Library Personnel Administration. Basic principles of personnel management. Survey of current personnel practices in libraries; how basic principles apply or need to be modified to fit the library setting.

446. Library Services and Literature for Youth. Overview of literature and programs which are of interest to young adults (seventh grade and above). Discussion of special problems in working with young people and psychology of the teenager.

451. College, University, and Research Libraries. Organization, administration, collections, facilities, finances, and problems of college and university libraries and their relationships within institutions of which they are a part. Functions of research libraries and work of their staffs in serving scholars.


455. Library Services and Programs for Children. 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.


471. Health and Life Sciences Libraries. Prerequisite or corequisite: course 441. Organization, administration, services, and problems of health and life sciences libraries; relationships with institutions of which they are a part and with the community.

473. Government Information. Introduction to nature and scope of government information promulgated by the federal government, as well as by state, municipal, international, and foreign governments. Problem-oriented approach.

485. American Archives and Manuscripts. Prerequisite: consent of instructor. Identification, description, subject analysis, and organization of records contained in archives and manuscript collections. Administration. User requirements. Problems of acquisition, legal title, literary property, preservation, accessibility, and use.

486. Issues and Problems in Preservation of Library Materials. Introduction to fields of library conservation and preservation, with emphasis on preservation administration.

487A-487Z. Special Studies in Library and Information Science (2 to 4 units each). Examination of specialized topics of professional interest. Topics and units vary according to subject and may include conservation of materials, business information sources, problems in library management, current issues in cataloging, etc.

491. Interpersonal Communication Issues in Library Systems. Examination of interpersonal communication patterns in library management and staff relations, in resource sharing, and in providing information services. Emphasis on relationships within an organizational environment and on effective communication styles in decision making, managing conflict, and implementing change. S/U grading.

497. Fieldwork in Libraries or Information Organizations (4 or 8 units). Supervised field experience in approved library or information organization. Concentration must be on managerial or other professional problems of the site. Students spend full time in the field for most of the period. S/U grading.

498. Internship. Prerequisite: consent of internship coordinator. Supervised professional training in a library or information center approved by internship coordinator. Minimum of 120 hours per term. May be repeated twice. S/U grading.

596. Directed Individual Study or Research (2 to 8 units). Prerequisite: consent of instructor. 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.


By any standard, the UCLA School of Law is recognized as one of the nation's great law schools. This reputation is based on excellence in scholarship, a rigorous educational program, and the quality of the faculty which includes eminent authorities in all major fields of law.

The educational program at the UCLA School of Law is rigorous and competitive, but it takes place in a humane environment where there is a genuine spirit of community. The student body of the school is intellectually distinguished, interesting, and culturally diverse.

The school's strong clinical program offers courses in lawyering skills such as interviewing, counseling, negotiation, and trial advocacy. UCLA students, alumni, and faculty have collaborated to pioneer clinical legal education. Students see more focus on the attorney/client relationship; they see more of what will ultimately face them as lawyers and policymakers.

An extensive and diversified student extern program, one of the most highly regarded moot court programs in the nation, and a basic philosophy that teaches law students to think clearly and analytically, but with compassion, all contribute to the distinction of the school.
The School of Law, one of two academic units at UCLA which operate on a semester (rather than quarter) system, offers a three-year curriculum leading to the J.D. degree. 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 which 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.

Degrees Offered
Juris Doctor (J.D.)
Master of Laws (LL.M.)

Juris Doctor Degree

Admission

Students beginning their professional work are admitted only for the Fall Semester. You must have received a bachelor's degree from a university or college of approved standing before beginning work in the school. You are also required to take the Law School Admission Test (LSAT). The admissions committee considers grades and test scores and, in appropriate cases, such additional factors as ability in languages other than English, work experience or career achievement, previous positions of leadership or other special achievements, ethnic background, prior community or public service, unusual life experiences, overcoming a physical disability or other disadvantage, career goals, economic disadvantages, and any other characteristic which may indicate that you will contribute to the educational and other benefits of a diversified student body.

For detailed information about the academic programs offered by the School of Law, the fees, and the semester-system calendar by which it operates, obtain the Announcement of the UCLA School of Law by contacting the Admissions Office, School of Law, 71 Dodd Hall, UCLA, Los Angeles, CA 90024-1445.

For information on the proficiency in English requirements for international graduate students, refer to "Graduate Admission" in Chapter 3.
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. 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.

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 numerical scale of 50 to 100, 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. In conjunction with these courses students also receive training in the use of legal bibliography and in effective legal writing and oral advocacy.

In the second and third years students have an opportunity to engage in a number of different fields of law and law-related study.

Concurrent Degree Programs
The School of Law offers three concurrent degree programs which allow you to fulfill the requirements of the J.D. and another graduate degree simultaneously.

Education Program/J.D.
The School of Law and the Department of Education offer a concurrent plan which allows students to design a program of study leading to the J.D. and any advanced degree in education (M.Ed., M.A., Ed.D., or Ph.D.). If the program meets the degree requirements in both areas, students are awarded both degrees on its completion.

M.A.-Urban Planning/J.D.
The School of Law and the Department of Urban Planning offer a concurrent plan of study providing an integrated curriculum for students planning to specialize in the legal aspects of urban problems. Education in planning offers an overview of theories and methods that permit identification and treatment of urban problems; education in law offers insight into the institutional causes and possibilities for treatment of these problems. Students pursue studies in both areas and receive both the J.D. and M.A. degrees at the end of four years.

Students interested in the program must apply and be admitted to the School of Law, the Urban Planning Department, and the Graduate Division.

M.B.A./J.D.
The School of Law and the John E. Anderson Graduate School of Management offer a concurrent program which enables students to prepare for careers where law and management overlap and where understanding of both fields is necessary. Examples of such areas would include public service, international trade, industrial relations, corporate law, and specialized areas of management consulting. The program makes it possible to earn the J.D. and M.B.A. in four academic years. Students interested in such a program should apply to both schools simultaneously.

Master of Laws Degree
The school offers a graduate law program leading to the Master of Laws (LL.M.) degree to outstanding international students interested in pursuing graduate studies. Law school graduates with outstanding records who may be interested in this program should contact the Admissions Office for further information.

Other Programs
Clinical Program
The school permits students to participate in clinical training. These activities consist of fieldwork in a variety of federal and state agencies accompanied by seminars in the school which seek to analyze and expand the agency experience.

Extern Program
The school offers an extern program which gives students the opportunity to work for judges or in legal agencies away from the school for as long as six months (including the summer), for which they receive academic credit. Extern programs have been offered in Washington, DC, San Francisco, and New York.

First-Year Courses
The first year of law school is designed to introduce students to legal analysis using a variety of substantive fields. Each of the following courses is required of all first-year students.

100. Contracts (5 units). Law governing private agreements. Analysis of criteria for determining whether or not a particular promise or voluntary agreement is legally enforceable and survey of major legal issues affecting enforceable agreements, including when a contract becomes binding, what persons acquire rights under a contract, conditions under which performance is required or excused, what constitutes breach of contract, remedies available for breach of contract. Problems of interpreting contract language, role of contract in a market society, conflict between commercial need for certainty and demands of individual fairness, and relationship between contract law and other areas of law.

108. Lawyering Skills: Theory and Practice (5 units). Assignment of students to work in "law firms" where they learn legal principles and lawyering skills while working on various aspects of client problems. During the year students interview and counsel clients, and draft legal memoranda, contracts, and "advice letters," while learning to develop legal research strategy. In second semester students prepare a case for trial by developing a discovery plan, interviewing and deposing witnesses, and arguing a motion before a judge. Focus on principles of legal analysis and argumentation as well as lawyering techniques throughout entire year.

120. Criminal Law I (4 units). Selected topics in substantive criminal law. Consideration of principles underlying definition of crime such as requirements of actus reus and mens rea and general doctrines such as ignorance of fact and ignorance of law, causation, attempt, complicity, and conspiracy. Inquiry into principles of justification and excuse, with particular attention to doctrines of necessity, intoxication, insanity, diminished capacity, and automatism. Emphasis on basic theory of criminal law and relationship between doctrines and various justifications for imposition of punishment.

130. Property (5 units). Analysis of property as a social institution and particularly of dynamics of the system for recognizing and protecting competing claims to resources. Historical development of various kinds of interests in property, housing, landlord and tenant, public and private land-use planning and development, and sale and financing of real estate.

140. Torts (5 units). Personal injury law as it has developed within the Anglo-American legal tradition. Concept of negligence, refinement of negligence law, and doctrine of intentional torts. Contemporary rules of strict liability. Alternatives to the tort system in treating need for victim compensation as a societal problem. Effort to identify basic purposes which tort law system achieves or should achieve.

145. Civil Procedure (5 units). Processes that courts follow in deciding disputes in noncriminal cases. Way in which conflicts are framed for courts, stages through which litigation goes, division of power among various decision makers in the legal system and between state and federal courts, territorial limitations on exercise of judicial power, principles that define consequences of a decision once a court has finished with a case, and special opportunities and problems of legislations involving multiple disputes. Ways in which our beliefs about fairness (in particular those embodied in U.S. Constitution) and pressure for efficiency shape design of the process.
Second- and Third-Year Courses*

All of the courses in the second- and third-year curriculum are elective with the exception of the legal profession requirement, which is a requisite for graduation. Students may fulfill the requirement either by preparing a paper in consultation with a faculty member or by completing one of the sections of Law 312. The different sections vary in emphasis.

312. The Legal Profession (2 to 3 units). Course has two central themes. One is the distribution of legal services, including topics such as social structure of the profession, different roles and specialties of law practice, and how the profession is regulated. Second theme is the lawyer's representation of clients, including legal, professional, ethical, moral, and political problems arising out of the lawyer's various roles — representative of client, officer of the court, member of a profession. Various sections may offer different emphases with respect to rules regulating the profession (ABA Model Code of Professional Responsibility and ABA Model Rules of Professional Conduct) and in course requirements.

Some sections require a paper in lieu of or in addition to an examination.

Elective Courses

200A. Constitutional Political Economy. Course 148 is a "zoo" class, with separate cages for each of the different animals (types of cases) where doors of the classroom are never opened. Land, security, and crime caging may mingle with each other. An attempt to open the cages to see if there is a unified and principled way of thinking about constitutional law and a look at many cases already considered in course 148. Use of some economic concepts (mostly public choice theory), history, rational choice theory, and common sense.


202. Constitutional Criminal Procedure. Study of Fourth-, Fifth-, and Sixth-Amendment constitutional restraints on police conduct. Students will be required to write papers on their investigations decisions regulating the following law enforcement practices: investigative detention, arrest, police interrogation, searches and seizures, and eyewitness identification. Possible coverage of rights to counsel during police interrogation and to a lawyer. A four-unit version of course covers other issues, including entrapment and inquisitorial powers of the grand jury.

205. Wills and Trusts. Law of interstate succession, wills, intestate succession, trusts, class gifts, powers of appointment, Rule Against Perpetuities, and introduction to estate and gift taxation and law of trust and estate administration.

207. Community Property. Detailed examination of California community property system which regulates property relations between husband and wife during marriage and at its termination by divorce or death. Community property raises many questions about nature of marriage and various forms of gainful human activity.


211. Evidence. Focus on usual range of evidentiary topics — relevance, hearsay, character evidence, testimonial privileges, documentary evidence, and problems in examination of witnesses. Exploration of various problems with emphasis on an examination of the different emphases with respect to the Federal Rules of Evidence and California Evidence Code.

212. Federal Courts. Selected problems in jurisdiction of federal courts, including jurisdiction and federal judicial function; federal habeas corpus; federal question jurisdiction of federal district courts; inter- vention by federal courts in state proceedings.

214. Civil Rights Litigation. Exploration of issues arising in civil rights litigation across a range of substantive areas, including civil rights, race, sex, and religion, and discrimination, and free speech. Focus on Rekonstruction-era civil rights acts, in particular on 42 U.S.C. section 1983 and analysis of recurring legal problems arising in suits against state and local governments and their officers for violation of federal constitutional and statutory rights. Topics include relation between state and federal courts, state action requirement, 11th Amendment, and municipal liability, official immunities, damages and injunctive relief, and attorney fees.

215. Law and the Poor. Emphasis on interactions of moral attitudes toward the very definition of discrimination. Review of sever- al critiques of antidiscrimination law, with special attention to those questioning effectiveness of seeking racial reforms through laws.

216. Administrative Law. Much of modern government is administered by agencies of government other than legislatures or courts. Substantive sources of (and limits on) administrative authority. Procedural norms with which agencies must comply in the course of adjudication or rule-making. Judicial review as a technique for correcting administrative error or abuse. Individual's right to procedural due process in individual's interactions with public agencies.

M217. Topics in Legal Philosophy. (Same as Philosophy M252.) Examination of topics such as concept of law, nature of justice, problems of punishments, legal reasoning, and criteria for distinguishing law. May be re- peated for credit with consent of instructor.

220. Federal Taxation I. Fundamentals of federal income taxation, particularly as they apply to individuals. Gross income, deductions, year in which income is reported and computations of deductions property, and various other topics.

221. Federal Taxation II. Prerequisite: course 220. Course 230 may be taken concurrently. Application and extension of principles in course 220 to sharehold- ers of partnerships, S corporations, estates and trusts. Emphasis on tax planning techniques.

222. Federal Taxation III. Federal taxation of gifts and decedents' estates; federal income tax on trust and estates. Emphasis on tax planning techniques.


227. Taxation of Partnerships and S Corporations. Federal income tax treatment of pass-through enti- ties — partnership, S corporations, and limited liability companies — and their organization, operation, and liquidation, with particular attention to comparison of how results may differ depending on entity employed.


234. Law and Accounting. Prerequisite: consent of instructor. Study of required financial information systems used by attorneys, including income measure- ment, official immunities, damages and injunctive relief, and attorney fees.

235. Taxation of Partnerships and S Corporations. Federal income tax treatment of pass-through enti- ties — partnership, S corporations, and limited liability companies — and their organization, operation, and liquidation, with particular attention to comparison of how results may differ depending on entity employed.

236. Securities Regulations I. Prerequisite: course 230. Basic approach of federal securities law, including disclosure-oriented provisions of Securities Act of 1933 and Securities Exchange Act of 1934, and fraud and civil liability provisions of both acts. Impact of federal securities law on merger and acquisition process, including tender offers and leveraged buyouts.

239. Elements of Economic Organization, Examina- tion of structure of business transactions and allo- cation control, risk, and return. Topics include ven- ture capital investments, debt and loan agreements, employment agreements, distribution and marketing agreements (including franchising), motion picture production agreements, and joint ventures. Guest lecturers from law firms and busi- ness world. Offered jointly by School of Law and An- derson Graduate School of Management.

240. Antitrust I. Economic analysis related to price fixing, price discrimination, joint ventures, tying arrangements, reciprocity, requirements contracts, mergers, and monopolization.

247. Law and Economics. Economics background not required. Basic theory of voluntary exchange and conditions necessary for a voluntary exchange sys- tem to maximize community welfare, applied to vari- ous types of legal problems in attempt to gauge ex- tent to which legal rules contribute to (or hinder) maxi- mization of such welfare.
246. Bankruptcy. Examination of Bankruptcy Code and related statutes from viewpoint of what commercial law lacks, with special attention to topics from both private and public transactions. Emphasis on liquidation of debtors’ estates, bankruptcy reorganization, or reallocation of business debtors in Chapter 11, rehabilitation of individual debtors in Chapter 13, and other aspects of transactions to withstand trustee’s voiding powers — voidable preferences, fraudulent transfers (including leveraged buyouts and intercorporate guarantees), and equitable subordination.

250. Commercial Law. Detailed examination of Uniform Commercial Code. Study of Article 9 of the Code, law governing security interests in personal property. Business collateral such as equipment, inventory, accounts receivable, and chattel paper as well as financing of purchases by nonbusiness consumers. Treatment of secured transactions in bankruptcy and use of letters of credit in commercial transactions, laws of negotiable instruments (Article 3 of the Code), bank collection process (Article 4), and wire transfers (Article 4A).

252. Unfair Competition and Business Torts. Survey of five in which law regulates the competitive process, especially concentration, unfair competition, and governs rights of creators and consumers: patent, copyright, trademark, false advertising, and business tort law. Patent law covered very briefly, primarily for comparison with copyright law. Examination of substantive and procedural law that supports the legal rules that have developed in the area of business torts. Business torts include interference with contracts and business advantage, trade secret theft, right of publicity, and RICO — popular federal racketeering statute.

255. Tort Law: Tort Crisis, Tort Theory, and Tort Reform. Modern tort law — recent developments in tort doctrine and tort practice that may have led to a crisis in the 1980s; academic scholarship that has endeavored to explain, diagnose, and correct the problems that have been traced to that area. “Business torts” includes interference with contracts and business advantage, trade secret theft, right of publicity, and RICO — popular federal racketeering statute.

259. Labor Arbitration. Practice, procedures, and substantive law of labor arbitration, with emphasis on what labor arbitrators actually do in their interpretation of collective bargaining agreements. Procedural content of law of labor arbitration: Who are the labor arbitrators? How do they, jointly selected by unions and employers, decide labor arbitration cases, as a theoretical introduction to that area. “Business torts” includes interference with contracts and business advantage, trade secret theft, right of publicity, and RICO — popular federal racketeering statute.

260. Labor Law I. Fundamental labor law governing unions and other collective activity among workers in the private sector — the National Labor Relations Act (NLRA). How principles developed under NLRA have been applied in the public sector. Analysis of a series of topics, including organizing, union elections, collective bargaining, picketing, strikes, lockouts, and arbitration. Development of the law and how the law has structured relations between labor and management, and contributed to current state of unions in the U.S.

261. Employment Law. Prerequisite: course 260 or consent of instructor. Collective bargaining in the public sector (government employment at federal, state, and local levels). Rights of public employees, employment discrimination, environmental laws, and various federal and state laws and regulations that affect employment. Role of collective bargaining and public sector vs. private sector.

262. Employment Law. Exploration of legal regulation of wage and work, with topics from both private and public sector. How law has defined relationship between employee and employer and intervened into that relationship. Topics include constitutional rights of public employees, employment discrimination, unjust discharge, and other statutory regulation of employment.

263. Employment Discrimination. Title VII of 1964 Civil Rights Act and similar statutes prohibit discrimination based on race, sex, national origin, religion, age, and disability. Examination of the federal Equal Employment Opportunity Commission and the laws, processes, and procedures that have developed under these statutes: consideration of social policy goals and assumptions underlying that development. Specific topics: disparate treatment and disparate impact theories of discrimination, employment testing and test validation, statistical proof, equal pay and comparable worth, affirmative defenses (business necessity, bona fide occupational qualifications, bona fide occupational qualification as a defense, seniority systems), affirmative action and reverse discrimination, obligations of government contractors, class actions, and administrative and judicial remedies.

264. Workers’ Compensation and Workers’ Injuries. Study of ways in which law responds to phenomenon of workers’ injuries and occupational disease. Labor market and unionization, workers’ compensation, federal OSHA job-safety regulation program, and limited but significant number of tort issues that workers’ injuries provoke. Workers’ compensation considered both as a compensation program and as a tort system. Key factors in accident causation, determination of compensability.

267. Indian Law. 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 rights; treaty rights; federal recognition; Indian personal and property rights of American Indians in relation to federal, state, and tribal governments and federal tribal relationship to Indians.

270. International Law. Role of law and legal institutions in international relations and in government foreign affairs decision making, particularly on the part of the U.S. Effect of public international law on domestic law and private activity. How international law is applied in these areas. Essentials of United Nations law and other aspects of international law. U.S. Constitutional structures affecting foreign relations and allocation of responsibility for decision making within the international system, and how conflicts in assertion of jurisdiction are resolved. Review of substantive rules of the law of sea and legal regime governing use of airspace. How problems in conflict of jurisdiction are resolved.

271. International Business Transactions. Legal framework of international trade, investment, and distribution of goods and services. How legal activities, such as transportation, insurance, and arbitral provision of services, are governed by the law of nations. U.S. Foreign Investment Law and commercial law, treaties, and commercial law and commerce.

273. Human Rights. International human rights law from jurisprudential and practical perspectives. Introduction to history and normative content of international human rights law. Law-making process, how abuses are spotlighted, rights treaty, and how meaningful advancement is achieved. U.S. Foreign policy and human rights law issues related to U.S. foreign policy and remedies available in the world. Use of contemporary world events to explore questions as whether human rights norms are universal, whether certain rights trump other rights, and extent to which conflicting rights can be harmonized.

274. Trademark and Unfair Competition Law. Basic principles of trademark and unfair competition law. Trademarks are valuable business assets, with owner rights to exclusive use and control. Trademarks and service marks are protected by the Lanham Act and other statutes.

277. Comparative Law: Japanese Law and Society. Selected topics in Japanese law and society. Introduction to Japanese legal and social context, legal professions, and judicial system. Exploration of four or five case studies of groups in Japan which have sought to improve their situation through use of legal and extralegal avenues, including victims of environmental pollution, Koreans in Japan, Burakumin minority group. Focus on gender, social class, and community organizing. Research paper required.
305. Patent Law. Basic principles of patent law. Topics include philosophical and public policy considerations underlying patent law; what is patentable; requirements for patentability; operation of U.S. Patent Office; basic examination procedure for applying for patents; patent applicants' duties of candor and disclosure to Patent Office and consequences for failing to discharge that duty; infringements of patents, including analysis of challenges to invalidity; remedies for patent infringement.

309. Law and Biology. Exploration of application of recent research in biology, anthropology, evolutionary theory, neurophysiology, and ethology to legal problems, with specific topics in property, criminal, family, and tort law.

313. Conflict of Laws. Problems arising in multistate transactions in the federal system, including choice law, recognition and enforcement of judgments, and bases of jurisdiction of state courts.

M315. Asian Americans and Legal Ideology (3 units). (Formerly numbered 315.) (Same as Asian American Studies M297D.) Exploration of Asian American experience as it relates to American legal system. Emphasis on both dominant and oppositional concepts of law. Consideration of primary historical documents to examine ways Asian Americans have been victims of the legal system, as well as astute manipulation of the law to promote their own goals.

317. Family Law. Conjugal relationships (i.e., marriage and cohabitation). Legal principles and social policies governing creation, maintenance, and dissolution of conjugal relationships. Consideration of parental rights and obligations limited to divorce-related child custody and support and status of children born out of wedlock.

319. Election Law. Ways in which laws governing the political process affect and reflect political power relations. Right to vote, reapportionment, political parties, and ballot propositions.

321. Legislation. Despite law school emphasis, especially in first year, on case law and judicial process, the "law" most lawyers work with is statutory. Consideration of various aspects of legislation in theory and practice, with emphasis on processes by which statutes are adopted and implemented and principles by which they are interpreted.

325. Law and Psychiatry. Law affecting the many people identified as seriously mentally ill has rapidly changed in past 30 years, especially with respect to standards for involuntary civil commitment. Rights of those committed, including right to treatment and to decline treatment; guardianship; doctor/patient confidentiality; discrimination against the mentally disabled; insanity and related defenses; competence to stand trial; and criminal dispositions. Attitudes concerning psychiatrists, psychotherapists, and mental illness have also changed. Exploration of these changes, with emphasis on impact of constitutional adjudication on the law of civil commitment; different world views of psychiatrists and lawyers regarding dependence and paternalism, and liberty and constraint; whether imposition of legal rules on medical practices has diminished human suffering.

M301. Art Law. (Same as Art History M270.) Prerequisite: consent of instructor. Knowledge of fine arts, arts management, or international law desirable. Limitation, enforcement, and art history students may cross-register with consent of instructor. 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.

302. Intellectual Property Law. Introduction to law of patents, copyrights, and trademarks. Disciplines of copyright, trademark, and unfair competition are considered. Legal standards applied to determine liability of individuals and companies for copyright infringement. Basic legal concepts, such as copyright interest distinction between idea and expression, and trademark distinction between valid marks and unprotectable generic terms. Readings in U.S. copyright and history of intellectual property protection, with some readings from law and economics literature.

305. Entertainment Law. Analysis of a variety of legal problems encountered in representing performers, producers, agents, and companies with which they deal. Ways in which rights are acquired and exploited, as well as ways in which proceeds of such exploitation are allocated. Rights of principals in public and private employment relationships, agents, managers, and promoters in representation of creative talents.

306. Patent Law. Basic principles of patent law. Topics include philosophical and public policy considerations underlying patent law; what is patentable; requirements for patentability; operation of U.S. Patent Office; basic examination procedure for applying for patents; patent applicants' duties of candor and disclosure to Patent Office and consequences for failing to discharge that duty; infringements of patents, including analysis of challenges to validity; remedies for patent infringement.
337. American Legal History. Examination of signifi-
cant episodes and developments in American legal and
constitutional history, with emphasis on interaction be-
 tween legal change and contemporaneous develop-
ments in American politics, society, and culture. Topics
include constitution-making and creation of judicial re-
view; law and economics in the 19th century; slavery and
politics in the pre-Civil War period; the role of both
Civil War and Reconstruction Amendments; American legal ideology and rise of
industrial capitalism; women, law, and labor in Progres-
sive era, development of an American legal profession;
Supreme Court in age of Holmes and Brandeis; legal
academy from Langdell to legal realism to legal pro-
cess.

348. European Union Law. For more than thirty
years a unique set of legal institutions has been devel-
oping to support economic and political integration of
Western Europe. In recent years the process has been
accelerated with the aim of achieving greater po-
litical and monetary union. Examination of structures
and institutions of the communities, lawmaking pro-
cesses they use, and their approach to several salient
substantive economic problems.

400. Pretrial Lawyering Process: Civil (Clinical).
Training and practical experience in the full range of
skills used by lawyers in pretrial phases of civil
litigation process. Interviewing, case planning, inves-
tigation, counseling, pleading, formal discovery, ne-
gotiation, and lawyer decision-making skills. Sub-
jects include interviewing and counseling; substan-
tial and nonsubstantive matters; substantive and pro-
cessual problems; and videotaped role-play sessions
conducted in connection with interviewing, counseling,
and depositions. Fieldwork offers opportunity to em-
ploy lawyering skills in a law office setting under su-
pervision of experienced legal services attorneys.

401. Pretrial Lawyering Process: Housing Dis-
crimination (Clinical). Prerequisite: consent of in-
structor. Limited to 12 students. Use of federal fair
housing litigation as vehicle to give students hands-
 on training in civil lawyering skills, including client
interviewing and counseling, case planning, fact in-
vestigation, pleading, discovery, motions practice,
and structuring of complex remedies. Practice of
these skills through lecture/discussion, simulated
videotaped exercises, written problems, and group
projects. Introduction to federal and California fair
housing laws and underlying policy issues that those
laws address. Ethical dimensions of adversarial lawy-
ering; uses of litigation to address broad social justice
issues; challenges of lawyering across differences of
gender, ethnicity, and class.

402. Fact Investigation and Discovery in Complex
Cases (Clinical). Students spend one term working full
time in a small law firm housed in the UCLA School of
Law. Under faculty supervision, each student takes a
case to court to argue motions and try cases. Students
interview and counsel clients, write and argue motions, prepare written discovery,
take depositions, and try at least one case in court.
Substantive law areas include housing discrimina-
tion, denial of unemployment benefits, and consumer
fraud. Students also participate in class sessions and
videotaped videotaped exercises designed to develop
lawyering skills. Students supervise counsel-
ing, motion practice, civil discovery including de-
positions, negotiation, trial preparation, and trial ad-
vocacy.

404. Clinical Semester (Clinical). Students spend
university semester at UCLA Supervised Clinical
Program and other legal service organiza-
tions taught by in-depth class critique of videotaped demon-
strations of lawyers performing legal skills and tasks.
Subjects include interviewing witnesses, drafting interrogatories and
questioning them to determine their estate planning needs.

409. Negotiation and Mediation (Clinical). Theoretical
and practical aspects of negotiating and medi-
tating transactions and disputes in our legal system.
Negotiation and mediation theory, using both legal and
behavioral sciences materials; differences between
negotiation and mediation strategies and tactics are success-
fully employed; ethical and normative implications of
mediations and negotiation; role negotiation and mediation plays in our
legal system, both in dispute resolution and in legal planning;
negotiating, both from planning and behavioral perspec-
tives.

412. Street Law: American Legal Education (Clini-
Cal). Students teach law in school classrooms under
supervision of a high school teacher and develop own
individual curriculum. Students do practice teaching,
research, and planning; and use them with their high school
class.

436. Community-Based Advocacy with Poor
Women (Clinical). Prerequisite: consent of instruc-
tor. Limited to 12 students. Students place in
supervised fieldwork with a community group in
south-central Los Angeles. Recent scholarship envi-
ons poverty lawyering as a multidimensional "col-
laboration" between professional advocates and
community groups. Some of the more recent theories
about race, poverty, and advocacy brought into the
real world through work with a group of African Ameri-
can and Latina Head Start parents in south-central Los
Angeles. Decision making regarding these topics may
as life experiences of poor women of color, social
welfare law and its impacts on poor women, and po-
tential of law and lawyering to support processes of
community building among poor women in south-
central Los Angeles. Students work with Head Start
group to provide basic legal education, advocacy, and
lay advocacy training to women on such issues as
housing matters, and family law. Students also seek pro-active responses to long-term community needs.

445. Planning and Drafting Small Estates (Clini-
Cal). Students take a small estate, wills, trusts, and tax
as those laws relate to testamentary disposition of
small estates. Interviewing, drafting, and counseling
techniques. Students are asked clients and inter-
view them to determine their estate planning needs.

SCHOOL OF LAW / 461
500. Seminar: Constitutional Law. Selected topics in constitutional law. May be coordinated with outside research project. May be repeated for credit with consent of instructor.


503. Seminar: Criminal Law — Moral Culpability Jurisprudence. Readings from moral philosophy, moral psychology, and criminal law theory. Examination of competing accounts of when it is appropriate to impose moral blame on individuals for breaching norms governing their behavior. Special attention to two constituent elements of moral culpability analysis: attributes people must possess to qualify as appropriate addressees of moral norms (moral agency) and conditions under which it is fair to attribute their actions to them (moral responsibility for action). Specific criminal law issues that implicate moral culpability analysis, including execution of adolescents and mentally retarded offenders, criminal responsibility of moral psychopaths, and defenses of duress and necessity.

505. Seminar: Criminal Law — Rape. Legal definition of rape, procedural rules applied in administration of rape statutes, and sentences provided for rape offenses. Inability to determine and critically evaluate empirical and moral responsibilities of prosecutors and defense attorneys, rape cases are also examined, as are civil alternatives to rape prosecutions.

504. Seminar: Property — Human Embodiment and Property Rights in Body Parts. Examination of such issues as nature of human embodiment and parts; identity and individuality of transplanted organs across time; intelligibility of the idea of property rights in the body; whether body parts should be allowed to be given away or sold, whether during life or at death, and relatedly, whether there should be a "market" for body parts; and roles of consent and government regulation.

507. Seminar: Workplace Sexual Harassment. Examination of a range of legal problems flowing from charges of on-the-job sexual harassment, including distinctive problems of proof in arbitration and judicial proceedings, conflicts between judicial remedies for alleged harassment victims and labor arbitration remedies for accused harassers, and standards of judicial review of labor arbitration awards in sexual harassment disputes.

512. Seminar: Selected Problems in Social Welfare and Health Law. Prerequisite: consent of instructor. Limited enrollment. Year-long research seminar on topics selected by students with consent of instructor, with emphasis on empirical-policy research outside the School of Law and preferably in the community. Joint class meetings to discuss topics, methods of approach, and preliminary findings, but most of work to be independent research.

513. Seminar: Environmental Law — Regulation of Land Use/Environment of Mexico-U.S. Border Zone. Consideration of institutions of governance in Mexico and the U.S. which control environmental pollution and which shape land use and urbanization in the border area. Attention to asymmetry in role of state and federal government in formulation of policy in both nations, as well as decline in living conditions and social indicators on U.S. side of the border.

514. Seminar: Comparative Family Law. Prerequisite: consent of instructor. Focus on Japanese family law, with emphasis on problems of comparative legal analysis; interplay between legal norms and historical, religious, sociocultural, and economic factors. Topics include family registration, adoption, separation of marital partner, breach of contract to marry, divorce, abortion, and juvenile delinquency.

516. Seminar: International Law — Trade Law. Public and private, constitutional and private economic activity in areas of trade, investment, and monetary affairs. Roles of several international organizations, such as GATT, IMF, World Bank, UNCTAD, and United Nations Center on Transnational Corporations. U.S. law governing negotiation and implementation of international agreements. Trade law; rules and procedures of GATT and U.S. implementation of GATT obligations through domestic legislation, including Trade Act of 1974, Functions of International Monetary Fund and World Bank in international trade and investment; problems involving the developing world, including GSP (tariff preferences for developing countries), commodity problems, and access to supplies of important products. Proposals to regulate international investment, including work of UNCTAD and the United Nations Center on TNC, and proposed "Codes of Conduct" designed to govern activities of multinational corporations.

519. Seminar: Comparative Japanese Law — Selected Readings. (Same as Japanese M196.) Prerequisite: reading knowledge of Japanese at third-year level. Designed to introduce students to a variety of Japanese-language legal materials. Reading of law review articles and other sources as time permits (e.g., selections from contracts, cases, or treatises); titles, volume, and page numbers may be coordinated with outside research projects with consent of instructor.

522. Seminar: Private Land-Use Planning. Constitutional, statutory, and public policy limits on private prescriptive use in the land-use area. Limits on racial and religious discrimination, gender and lifestyle discrimination, restraints on trade and competition, restraints on alienation, and limits on interferences with privacy and personal autonomy examined primarily in context of subdivision covenants and homeowner associations.

524. Seminar: Philosophy of Law. (Same as Philosophy M257.) Prerequisite: consent of instructor. Selected topics in philosophy of law. May be repeated for credit with consent of instructor.

526. Seminar: Urban Affairs (2 to 4 units). (Same as Urban Planning M202C.) 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 antipollution and transportation controls. Catalytic role of economic and community development in expansion of housing supply also considered.


531. Seminar: Law and Development in Latin America. Role of law in economic, political, and social change in the developing countries of Latin America, compared to function of law and policy in the U.S. in allocation of wealth and natural resources. Consideration of the civil law tradition in Latin America. Examination of nexus between existing socioeconomic relationships and legal institutions; exploration of role of law as an instrument of both reform and counter-revolution.

533. Seminar: Law, Medicine, and Human Values. Exploration of abortion from legal as well as philosophical, psychological, sociological, and sociocultural perspectives. Readings include basic legal cases, and books and articles from various disciplines.

535. Seminar: Arbitrated Alcohol and Drug Workplace Disputes. Study of emerging arbitration and judicial standards in drug and alcohol workplace disputes. Topics include sufficiency of just-cause to test employees for drugs, disputes over accuracy of urine and blood analysis tests for drugs; role of rehabilita- tion as a factor in the decision to discipline for drug or alcohol abuse; offering (and possibly discriminatory) treatment for drug-abusers offenders vis-a-vis alcohol abuse offenders; appropriate linkage of off-duty impairment; appropriate impact on the arbitrator of drug and alcohol criminal law procedural and proof standards; judicial review standards for drug- and alcohol-abuse arbitral awards, including effect of the public-policy exception to usual insu- lation of arbitration awards from review on the merits.


538. Seminar: Estate Planning. Designed to supplement wills and trusts course with necessary background in taxes and fiduciary administration for estate planning.

540. Seminar: Legislative Advocacy. Designed to acquaint students with theoretical and empirical aspects of legislative process, how that process works and how it might be controlled. Consideration of research techniques used by legislative advocates. Structured around a semester-long simulation in which students are assigned roles as either legislators or lobbyists. Different and timely topic selected for simulation each time seminar is offered. Readings of academic writ- ings on legislative process and substantive materials related to the simulation.

545. Seminar: Civil Rights — Voting Rights. Exploration of tension between antidiscrimination law and principles of democratic majoritarianism. Examination of voting rights; ways in which judges and legislatures have attempted to provide remedies for racially based exclusions from political and social institutions while upholding American concepts of democracy.


553. Seminar: Recent Developments in the Law. Interdis- ciplinary seminar on legal, social, and political implications of intersection of race and gender, focusing on intersectional dilemmas as manifested in case materials on black women. Use of intersection of race and gender as a means for thinking about ap- proaches to other intersections. Discussion of histori- cal and sociological studies and some literary works.

555. Seminar: Critical Legal Theory. Selected topics of interest to students from the wide diverse liter- ature that has emerged in last two decades, includ- ing legal reasoning, critical legal history, gender and sexual orientation, critical race theory, class, ideology, and praxis. Students write term papers on any re- lated subject and present them orally during last five weeks.


555. Seminar: Legal Theory — Economic Democracy. Over the past decade, economic democracy has enjoyed a renaissance. One often hears that U.S. economy needs more democracy — for practical as well as principled reasons. What kinds of economic gains — in terms of efficiency and competitiveness — may result from less hierarchical, more flexible, and participatory ways of allocating power in various sectors? What kinds of human/political/existential gains? What risks and losses? And what part have, and what part might, lawyers, legal doctrine, and law reform play in these endeavors? Examination of a number of areas of past and present experimentation: industrial, housing, and agricultural cooperatives — their champions and critics; workers' control in large enterprises via pension finance, directorships, worker ownership, and public development authorities — and champions and critics of these ideas.

559. Seminar: Sports Law. Legal issues pertaining to both professional and amateur sports, including labor, antitrust (those raised by collective bargaining process, player drafts, and other player restraints, and attempts to control franchise movement), individual player/club contract, constitutional, gender equity, and issues at play in these endeavors? Examination of a number of areas of past and present experimentation: industrial, housing, and agricultural cooperatives — their champions and critics; workers' control in large enterprises via pension finance, directorships, worker ownership, and public development authorities — and champions and critics of these ideas.


570. Seminar: Graduate Students — Legal Process and Philosophy. Prerequisite: L.L.M. candidate. In Fall Semester, overview of legal system in the U.S. and comparison with other legal traditions, particularly that of civil law. Emphasis on role of lawyer and operation of procedural law in resolution of disputes by the courts. In Spring Semester, presentation of research projects which form basis for thesis.


572. Seminar: Teaching Assistants. Limited to and required of all teaching assistants for course 110. Helps TAs carry out their work as student editors, counselors, and teachers. Teaching techniques and problems of student/teacher relationship, particularly as they relate to evaluating student writing. Focus on writing and critique of writing. Assignments on prose style, organization, and structure of legal analysis.

575. Seminar: Arms Control and Legal Process. Examination of role of law, lawyers, and legal process in arms control. Topics include nuclear test ban, non-proliferation, SALT/START/Euromissiles, chemical warfare, and space weapons in order to understand policies and assumptions underlying existing and proposed arms control treaties. Explains how U.S. government decision making works and dynamics of an international negotiation. Verification and compliance issues.

581A-581B. Seminar: Child Abuse and Neglect. Prerequisite: consent of instructor. Limited to Fellows of the Interdisciplinary Training Program in Child Abuse. Augments lectures offered in courses M281A-M281B with discussions of lectures, additional readings, presentation of research and field placement experiences, field trips, and interdisciplinary practice.

582. Seminar: Theories of Process. Exploration of goals of a procedural system. Is litigation about resolving disputes and keeping the peace? About preserving a delicate political compromise? About furthering substantive goals? About finding the truth? Or about the authoritative promulgation of norms? Each has been proposed as a central goal of civil procedure, and the choice among them has consequences for general design of procedure and procedural details. Writers on this topic include Blackstone, Bentham's attack on Blackstone, modern proponents of alternative dispute resolution, economic analysts of litigation, those who argue that civil litigation has replaced religion as a moral oracle, and those who use comparative law as a way of analyzing American procedure. Using both classical and modern writings on procedure, seminar aims to develop a framework for discussing and criticizing existing procedural system and proposed changes in it.

587. Seminar: Asian Americans and Legal Ideology. Prerequisite: some background in Asian American studies; technical knowledge of law not required. Advanced undergraduates with credit in Asian American studies may enroll: Asian American experience as it relates to American legal system, considering dominant and oppositional concepts of law. Consideration of primary historical documents to examine ways Asian Americans have been victims of the legal system, as well as astute manipulators of the legal system. Liberal legal concepts of property, rights, equality, and due process have held promise for Asian Americans, but some observers argue that recourse to law is ultimately harmful to goal of genuine community empowerment. Power-sharing notions of justice that move beyond liberal concepts of rights suggested as more progressive alternatives. History of Asian American participation in civil rights movement and current debate over affirmative action and multiculturalism.

588. Seminar: International Law after the Cold War. For roughly 40 years, rivalry between the U.S. and Soviet Union dominated international events and marginalized international law. Does end of Cold War herald a new era for international relations and international law? Can we see outlines of a new international order in events of the Persian Gulf, Somalia, and the former Yugoslavia? Does international law have a new vibrant role to play in this new order? Discussion of both theoretical and practical issues, so students grapple with both the abstract and the actual.

Because the world is changing rapidly and unpredictably, today's professional manager must learn the concepts and principles of management that make adjustments to new conditions possible. At UCLA's John E. Anderson Graduate School of Management (AGSM), 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, AGSM offers the business community a wide range of continuing 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 basic research in all fields of management and by educating scholars who can continue to create this new knowledge.

AGSM students come from diverse professional and educational backgrounds and seek equally diverse personal and professional goals. Whether they choose to 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 John E. Anderson Graduate School of Management at UCLA 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 does not offer an undergraduate major in management; however, several undergraduate courses in management are offered. Enrollment in Management 120A, 120B, 122, 124, 130A, 130B, 133, and 140 is open only to students in the business economics program (see Chapter 5 for details on this pro-
Degrees Offered
Master of Business Administration (M.B.A.)
Master of Science (M.S.) in Management
Doctor of Philosophy (Ph.D.) in Management

Master of Business Administration

The two-year, full-time program leading to the Master of Business Administration (M.B.A.) degree is designed to prepare managers for business enterprises and for public/not-for-profit organizations.

The program aims to develop general management perspectives and knowledge while imparting expertise in student-selected fields of specialization. Along with mastery of subject matter, the M.B.A. program stresses integrating the lessons of various academic disciplines and functional fields, translating theory into practice, questioning the past and planning for the future, and self-guided learning as a continuing basis for effective managerial work.

Admission

Although no specific undergraduate major is required for entrance, you must complete matrix algebra and differential calculus before entering the M.B.A. program and be familiar with the basic operations of a Macintosh or MS/DOS-based microcomputer. You are required to take the Graduate Management Admission Test (GMAT). Any questions about the GMAT should be addressed to Educational Testing Service, Box 966, Princeton, NJ 08541, (609) 771-7590. The local phone number in Los Angeles is (818) 578-1971.

International applicants who hold degrees from universities or colleges where English is not the primary language are required to take the Test of English as a Foreign Language (TOEFL). Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

You must complete the M.B.A. Application and all accompanying documents and requests for information. Admission is for Fall Quarter only; completed applications, with full documentation, must be filed with AGSM by April 1.

Consideration is given to your academic record; score on the GMAT and, for applicants whose native language is not English, score on the TOEFL; potential for management as evidenced by work experience and community, extracurricular, or other experience; and letters of recommendation. Preference is given to applicants who have had full-time management-related work experience since completing their bachelor's degree. Those few students admitted directly from baccalaureate programs who choose to work before entering graduate school will have their admission honored for three years.

Small group information sessions are offered by the M.B.A. Admissions Office several days a week throughout most of the year on an appointment basis. Call (310) 825-6944 to arrange attendance.

Applications and information about the M.B.A. program are available from the M.B.A. Program Office, 3371 Anderson Graduate School of Management, UCLA, Los Angeles, CA 90024-1448.

Areas of Study

Accounting; business economics; finance; human resources/human systems development; information systems; management science; marketing; operations and technology management; policy and organization. Interdisciplinary studies are offered in arts management, entertainment management, entrepreneurial studies, finance and real estate, international business and comparative management, and public/not-for-profit management.

Course Requirements

The three required elements of the M.B.A. program are the management core, advanced (area and free) electives, and the management field study, totaling 24 courses (96 units). Management core subjects cover the fundamentals of disciplines which underlie the practice of management. Advanced electives provide specialized knowledge and skills for a particular field of management work.

Management Core — The management core consists of 11 courses on subjects basic to the practice of management, including Management 402, 403, 405, 408, 409, 410, 411, 412, 420, and two courses from 404, 406, 407.

Advanced Electives — These focus on one or more fields of specialization within the broad realm of management. Students design programs of study to meet the specific academic needs and professional goals. Eight electives must be selected from regular AGSM courses, and you are encouraged to emphasize two or more areas of study.

You must also select at least three additional free electives, subject only to general University regulations. These electives normally must be taken while enrolled in the program. They may support or complement the remainder of your program of study.

A maximum of two four-unit 596 courses and one 454 course may be applied toward the 96-unit requirement. These are considered free electives.

Management Field Study — The two-term management field study project (courses 444A-444B) consists of teams of three to five students who serve as management consultants to business firms or other organizations. Conclusions are summarized in a report which serves in lieu of a comprehensive final examination for members of the team. The field study is judged by standards applicable to professional management consulting.

Extracurricular Activities

A variety of student organizations promotes both professional competence in many areas and the development of contacts among students, alumni, faculty, and business executives. Many opportunities are presented for students to become involved in planning events with executives in both the public and private sectors, to participate in day-long programs at various organizations, and to meet with company representatives and alumni. Extracurricular activities are an integral part of life at AGSM, and all students are encouraged to participate.

Concurrent Degree Programs

J.D./M.B.A.

The John E. Anderson Graduate School of Management and the School of Law offer a concurrent program which enables students to prepare for careers where law and management overlap and where understanding of both fields is necessary. Examples of such areas would include public service, international trade, industrial relations, corporate law, and specialized areas of management consulting. The program makes it possible to earn the J.D. and M.B.A. in four academic years. Students interested in such a program should apply to both schools simultaneously.

M.A.-Latin American Studies/M.B.A.

The John E. Anderson Graduate School of Management and the Latin American Studies Program jointly sponsor a three-year concurrent degree program designed for individuals preparing for careers in international management with a special focus on the Latin American region. Establishment of the program was predicated on the belief that individuals employed in the area of international business and management are better equipped to meet the challenges of their employment with complementary preparation in language and regional studies. Students should request application materials from the M.B.A. Admissions Office and the Latin American Studies Program.

M.A.-Urban Planning/M.B.A.

The John E. Anderson Graduate School of Management and the Department of Urban Planning offer a three-year concurrent degree program designed for students who seek careers which draw on general and specialized skills in
Executive M.B.A. Program

Designed for mid-career managers with strong records of achievement, the Executive M.B.A. Program enables executives to obtain high quality advanced management education while continuing in their full professional roles. The program has a class size of approximately 60 participants with superior academic records and a minimum of eight years of work experience and five years of managerial experience.

The intensive two-year course of study leads to a regular M.B.A. degree. The emphasis is on general management training, increased competence in management specialties, organizational and interpersonal skills, and sophisticated understanding of the integration of businesses and their environments.

Classes are held at AGSM on Fridays and Saturdays every other week, with three- to five-day residential sessions held at conference sites at the beginning and end of the program. Further information and application materials may be obtained by writing to Executive M.B.A. Program, 4383 Anderson Graduate School of Management, UCLA, Los Angeles, CA 90024-1481.

M.S./Ph.D. Programs

Admission

All applicants are required to take the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE). International applicants who hold a degree from a non-English-speaking university are required to take the Test of English as a Foreign Language (TOEFL). Refer to “Proficiency in English” under “Graduate Admission” in Chapter 3 for further information. Three letters of recommendation must be submitted with the completed application. All application materials, including transcripts, should be sent directly to the M.S./Ph.D. Programs Office, 3379 Anderson Graduate School of Management, UCLA, Los Angeles, CA 90024-1481.

Applications are accepted for Fall Quarter admission only; the deadline for submission of applications and complete documentation is January 10.

Program information and application materials may be obtained from the M.S./Ph.D. Programs Office. All applicants to the M.S. or Ph.D. program are strongly urged to arrange an interview with at least one faculty member in their proposed area of concentration or major field area. The interview should take place before December 1. Interviews are informational only and have no bearing on admissions decisions.

Master of Science Degree

The academic master’s program is a full-time program which leads to the Master of Science degree in Management. Some students enter the program with the goal of eventual acceptance into the doctoral program; for others, the M.S. is a terminal degree. In either case, the program’s emphasis is on advanced specialized training and the development of research capability.

Major Field

Management science.

Course Requirements

A maximum of 16 courses may be required. The four prerequisite courses and three management core course requirements may be waived on the basis of prior coursework. Nine graduate courses (methodological core, depth field, and four units of Management 598) are required and cannot be waived.

(1) Prerequisites (four courses): Mathematics 32B, Statistics M152A, M152B, and two terms of computer programming.

(2) Managerial Core (three courses): Management 403, 405, 408.
Qualifying Examinations

Proficiency in the major field area is determined by a written examination, supplemented in some areas by an oral examination. The major field examination must be passed by the end of Spring Quarter of your third year of study.

You are required to present the substance of your dissertation proposal in a formal seminar to which all Ph.D. students and faculty are invited.

When all the preliminary requirements have been fulfilled (coursework, research paper, major field examination, seminar), the University Oral Qualifying Examination can be held; if passed, you are advanced to candidacy. The oral qualifying examination must be passed within four and one-half years of the date of entrance into the program.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Doctoral Dissertation/Final Oral Examination

You are expected to present a dissertation of substantial magnitude which makes a significant contribution to the advancement of knowledge in your selected field of study. The dissertation must be completed and accepted within seven and one-half years from your date of entry into the program.

The school requires that you defend your dissertation at a final oral examination.

Lower Division Courses

1A-1B, Elementary Accounting. Not open to freshmen. Course 1A is enforced requisite to 1B. Introduction to accounting theory and practice. Recording, analyzing, and summarizing procedures used in preparing balance sheets and income statements in first term. Payroll and tax accounting, partnership and corporation accounts, manufacturing and cost accounting, and supplementary statements in second term.

Upper Division Courses

108. Business Law. Essentials of contracts. Examination of legal forms of business organizations, especially partnerships and corporations. Introduction to federal securities law and antitrust. (F,W,Sp)


133. Investment Principles and Policies. Lecture, three hours. Prerequisite: course 130A. Principles underlying investment analysis and policy, market characteristics of governmental and corporate securities; policies of investment companies and institutional investors; relation of investment policy to money markets and business fluctuations; security price-making forces; construction of personal investment programs. (F,W,Sp)

140. Elements of Production and Operations Research. Prerequisites: Mathematics 3A, 3B, 3C, 31E, Economics 40, or equivalent. Principles and decision analysis related to effective utilization of factors of production in manufacturing and nonmanufacturing activities. Analytical models and methods for allocation, transportation, inventory, replacement, scheduling, and facility design. (F,W,Sp)

150. Elements of Industrial Relations. Principles and methods of effectively utilizing human resources in organizations. Relationship between social, economic, and other environmental factors and current problems of industry. (F,W,Sp)

175. Elements of Real Estate and Urban Land Economics. Examination of business decision making as related to logical forces shaping cities and influencing real estate market functions and land use. Emphasis on location making as it relates to appraising, building, financing, managing, marketing, and using urban property.
182. Leadership Principles and Practice. Knowledge and skills leading to effectiveness in interpersonal relations. Understanding oneself as a leader and others as individuals and as members of working groups. Understanding of group processes, including leader-follower interactions. Lectures and "sensitivity training" laboratory.

190. Management Theory and Policy. Lecture, three hours. Prerequisite: course 130A. Study of basic concepts and theory of management. Emphasis on operational analysis of manager's role in all types of organizations. Management issues in areas of planning, organizing, staffing, directing, and controlling.

197. Special Topics in Management. Topics of special interest to undergraduate students. Specific topics may vary each term depending on particular interest of instructors or students. May be repeated for credit.

Graduate Courses

Graduate courses are ordinarily open to students admitted in graduate standing. As a condition for enrollment, you must submit to the instructor in charge of the course evidence of satisfactory preparation for the work proposed.

200. Advanced Microeconomics. Seminar, three hours. Prerequisite: course 402 or consent of instructor. Economist's approach to organization and competitive interaction. Topics include game theory, threat credibility, incentive contracts, information advantages, and asymmetric information.


201B. Econometrics and Business Forecasting. Lecture, three hours. Prerequisite: consent of instructor. Development of standard topics in applied econometric modeling. Emphasis on assumptions underlying classical normal linear regression model, special problems in application, and interpretation of results. Practical applications extensively developed in student projects.

202A. Regulation. Lecture, three hours. Prerequisite: course 405 or consent of instructor. Reasons for government intervention in theory and practice. Effect of regulation on business. How regulation and deregulation occur. Areas include public utilities, banking, pollution, and the political process.

202B. Analytics of Competitive Strategy. Discussion, three hours. Prerequisites: courses 402 and 405, or consent of instructor. Development and analysis of strategies to maximize value in competitive and cooperative situations. Problems include competitive bidding, tacit collusion, and strategies in repeated settings.

202C. Empirical Studies in Industrial Organization. Prerequisite: course 202B. Investigation of factors influencing size of industries, their size distribution, and conditions of entry and exit. Implications of such industry characteristics, derived for decision-making have to do with firm output, prices, advertising, and research/development.

203A. Economics of Decision. Prerequisite: rudiments of economic theory, calculus, probability, and statistics. Basics of single-person decision theory from a normative viewpoint. Expected utility theory with objective and subjective probability. Departures from expected utility behavior. Introduction to multi-person decision theory.

203B. Economics of Information. Discussion, three hours. Prerequisites: rudiments of economic theory of the firm, calculus, probability, and statistics. Course 203A or consent of instructor. Optimal decision and information rules. Amount, cost, and value of information. Risk aversion, stochastic dominance, and their impact on economic decisions in a stochastic environment.

205A. International Business Economics. Prerequisite: course 402 or consent of instructor. Elements of international business environment, international economic institutions, national and regional trade policies and developments, trends in foreign markets, and international monetary problems; studied for their influence on organization and operation of the international corporation.

205B. Comparative Market Structure and Competition. Prerequisite: course 205A or consent of instructor. Comparative study of public policy, market structures, and competitive practices in key industries in selected countries.

205C. Business Forecasting for Foreign Economies. Prerequisite: course 201A or consent of instructor. Forecasting techniques used in business activity, population, industrial structure, productivity, Gross Domestic Product and its components for selected countries. S/U or letter grading.

207. Resource Administration of Nonmarket Activities. Prerequisite: course 402 or consent of instructor. 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. Prerequisites: courses 402 and 405, or consent of instructor. Sources and uses of federal, state, and local revenues and their impacts on public and private resource allocation. Examination of proper roles of government and private sector in financing and provision of public goods and services.

209. Selected Topics in Business Economics. Prerequisite: consent of instructor. Special topics in business economics. Current developments in theory or practice in business economics. May be repeated for credit.

210A. Mathematical Programming. Discussion, three hours. Prerequisites: linear algebra, Comprehensive development of theory and computational methods of linear programming, with applications to a variety of areas.


210C. Network Flows and Integer Programming. Prerequisite: linear programming. Theory and techniques of discrete and network-related mathematical programming problems in management science. Applications to various allocation, coordination, operating, and planning problems. Emphasis on fundamentals, efficient computational methods, and keys to successful practical applications.

211A. Nonlinear Mathematical Programming. Prerequisites: courses 210A, Mathematics 32A, or equivalent. Theory, methods, and application of optimization of nonlinear systems. Review of classical optimization methods; optimality and duality theory for convex programs; main computational approaches to convex programming; survey of current computer codes and computational experience.

211B. Large-Scale Mathematical Programming. Prerequisite: course 210A or equivalent. Theory and computational methods for optimizing large-scale linear and nonlinear programs. Exploitation of special structures with combinatorial, dynamic, multiconstraint, and stochastic aspects to obtain practical solution procedures in spite of large numbers of variables and/or constraints.

212A. Management Science Models I. Prerequisites: course 407, Mathematics 31B. Broad survey of deterministic models of management science, including solution methods and applications management. Solution methods include linear programming, network optimization, Markov chains, and dynamic programming. Application areas include corporate planning, finance, marketing, production and operations management, distribution, and project management.

212B. Management Science Models II. Prerequisites: course 212A, Mathematics 32A, or equivalent. Broad survey of nonlinear, time-staged, and probabilistic models for managerial decision making. Application areas include finance, marketing, production, facilities design, and energy systems.

212C. Management Science Models III. Prerequisites: courses 212A, 212B. In-depth reviews of actual management science applications. Emphasis on professional skills needed for successful practical applications.

213A. Intermediate Probability and Statistics. Prerequisite: course 402 or equivalent. Introduction to probability theory and hypothesis testing as applied to management science. SAS programs used in this course and its sequels.

213B. Statistical Methods in Management. Prerequisite: course 213A or consent of instructor. Introduction to parameter and interval estimation, simple and multiple regression, ANOVA, correlation, analysis of variance, contingency tables, chi-square, and mixed effects analysis of variance models and nonparametric statistics, all as they apply to management studies.

213C. Introduction to Multivariate Analysis. Prerequisite: course 213B or consent of instructor. Introduction to use of multivariate models in management research to organize and represent information; interpretation of coefficients from multivariate exploratory models (e.g., principal components and factor analysis models); survey of multivariate statistical procedures (e.g., multiple discriminant analysis, multivariate analysis of variance, canonical correlation, and confirmatory factor models).

214B. Behavioral Science Models. Prerequisite: consent of instructor. Formulation, analysis, and interpretation of mathematical models in behavioral sciences. Emphasis on stochastic process models for aspects of individual and group behavior such as learning, problem solving, classification, communication, bargaining, and social exchange systems.

215D. Time-Series Analysis. Prerequisite: course 213B or consent of instructor. Univariate Box/Jenkins analysis, transfer functions, and intervention analysis. Relationship between econometric and time-series models. Granger causality, multiple time-series analysis. Numerous computer applications in modeling and forecasting.

216A. Simulation of Operational Systems. Discussion, three hours. Prerequisite: background in FORTRAN, P/1, PL/C, or other batch computing language available on campus and in basic statistics (course 402 or equivalent) and modeling (course 407 or equivalent). Computer simulation methodology, including design, validation, operating procedures, and analysis of results of simulation experiments. Applications of simulation to management problems.
217A. Decision Analysis. Lecture, three hours. Pre- requisite: course 402 or equivalent. Framework pro- vided for structuring of complex decision making under uncertainty. Topics include decision trees, value of information, subjective probability, attitude toward risk, sensitivity analysis, and multicriteria decision mak- ing. Applications to a number of business problems, including new product development, litigation, treasure hunting, and bidding. S/U or letter grading.

217B. Game Theory. Prerequisite: course 213A or equivalent. Nature of models for rational behavior in presence of conflicts of interests, zero-sum and non- zero-sum games, two-person and many-person games, state of the art, philosophical and computational limitations, relations with individual and group deci- sion making.

218A. Selected Topics in Management Science (1 to 4 units). Prerequisite: consent of instructor. Newly developing topics and viewpoints. Topics have includ- ed reliability and optimal maintenance theory, large- scale distribution/inventory systems, and Markovian decision processes under uncertainty. May be re- peated for credit.

218C. Selected Topics in Business Statistics (1 to 4 units). Prerequisite: consent of instructor. Special topics in statistical developments in statistical theory and practice. Analysis of recent litera- ture. Topics and instructors announced in ad- vance. May be repeated for credit.

218X-218Y-218Z. Current Issues in Management Science (1 to 4 units each). Lecture, one hour; dis- cussion, three hours. Prerequisite: consent of instruc- tor. Current issues and research on a variety of topics in general area of management science. May be re- peated for credit.


221. Current Issues in Accounting. Prerequisite: consent of instructor. Forum for discussion of contem- porary issues in accounting and information systems, in colloquium format. Drawing on prominent speakers in the field, course requires students to formulate a position paper on each topic presented.

222. Cost Accounting. Prerequisite: course 403. Nature, objectives, and procedure of cost accounting and control; job costing and process costing; plant product costing, standard costs; theories of cost allo- cation and absorption; uses of cost accounting data for management decision making.

223. Auditing. Prerequisite: course 403. Theory and practice underlie current examination and report- ing on financial statements, including professional ethics, internal control, and selection and application of auditing procedures, with emphasis on generally accepted auditing standards.

225. International Accounting. Prerequisite: course 403. Comparative analysis of accounting concepts and practices in other countries; study of contrasts between various systems; problems of accounting for interna- tional corporations including transfer of funds and in- come measurement; accounting influences on eco- nomic development.


227B. Taxation and Business Planning. Dis- cussion, three hours. Prerequisite: course 403. Study of tax issues arising in formation, operation, and termi- nation of a corporation. Specific emphasis on struc- turing shareholders' transactions involving dividends, reorganizations, liquidations, acquisitions, and capital structure.

228. Evaluating Financial Statement Information. Lecture, three hours. Prerequisites: courses 220A or 220B, 230, 402. Issues of accounting information evaluation, with special emphasis on uses of financial statements by decision makers external to the firm (e.g., investors, creditors). Topics include load deci- sions, bankruptcy prediction, and interpreting earn- ings.

229A. Special Topics in Accounting. Lecture, three hours. Prerequisite: doctoral standing or consent of instructor. Examination in depth of problems or issues of current concern in accounting, such as application of information economics and principal-agent model to accounting.

229B. Empirical Research in Accounting. Lecture, three hours. Prerequisite: doctoral standing or consent of instructor. Intro- duction to empirical accounting literature, focusing on role that accounting information plays in formation of capital market prices.

229Y-229Z. Accounting Workshops (1 unit, 1 unit). Discussion, two hours. Prerequisite: doctoral standing. Designed to develop ability to criti- cally evaluate research in fields relevant to study of accounting. Papers presented in colloquium format by leading scholars in accounting. Active participa- tion and intellectual interchange encouraged through discussion of papers during colloquium. May be re- peated for credit. S/U grading.

230. Theory of Finance. Lecture, three hours. Pre- requisite: course 408. Focus on valuation of corpo- rate liabilities and other securities under uncer- tainty. Capital asset pricing model presented rigor- ously and compared with more recent theories of asset pricing such as arbitrage pricing theory and option pricing models. Emphasis on analysis of classic papers. Discussion of role in accounting for bankruptcy.


231B. Nonprofit Sector Financial Policy. Discus- sion, three hours. Prerequisite: course 406. Identifying 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 a criterion, and sources of funds for nonprofit organiza- tions. Use of cases.


232. Managing Finance and Financing the Emerging Enterprise. Lecture, four hours. Prerequisites: courses 205A, 403, 408, 406, second-year standing. Emphasis on financial, control, and investment issues confronting rapidly growing companies in entrepreneurial settings. Consideration also of following of financial vehicles which may be ap- propriate to securing organizations' money require- ments.

232A. Security Analysis and Investment Manage- ment. Lecture, three hours. Prerequisite: course 230. Topics include security valuation, application of portfo- lio theory to investment decisions, performance evalu- ation, and basics of fixed income portfolio manage- ment strategies. S/U or letter grading.

232D. Option Markets. Prerequisite: course 230. Or- ganization and role of organized derivative markets, including options and futures, arbitrage and hedging relationships, valuation of deriva- tive trading strategies, and innovations in derivative markets. Students learn fundamentals of hedging and speculating by playing an option trading game and writ- ing a term paper analyzing their strategies. S/U or let- ter grading.


234A. International Financial Markets. Lecture, three hours. Prerequisites: courses 205A, 230. Con- ceptual understanding of foreign exchange market, Eurocurrency market, international bond market, and equity markets in various countries. Emphasis on un- derlying economic principles, although where rele- vant, institutional features helpful in understanding structure and operations of the markets to be dealt with in detail. S/U or letter grading.

234B. Financial Management of Multinational Cor- porations. Lecture, three hours. Prerequisite: course 230. Financial management of multinational firms from perspective of a financial vice president or other finan- cial officer within the company. Topics include measure- ning foreign exchange risk, managing that risk with both contractual and operating strategies, foreign invest- ment decisions, capital budgeting and cost of capital in an international perspective, political risk, working capi- tal management, and performance evaluation and con- trol.


238. Special Topics in Finance. Prerequisite: courses 230, consent of instructor. Selected topics in finance theory, empirical studies, and financial policy. May be repeated for credit with instructor change. S/U or letter grading.

239A. Theory of Exchanges under Uncertainty. Pre- requisite: course 230, consent of instructor. Foundations of theory of exchange developed as introduction to theoretical literature on pricing of capital assets. Pri- marily intended for Ph.D. students, but well-prepared masters students may find course useful in their career preparation.

239B. Theory of Investment under Uncertainty. Prerequisites: courses 230 and 239A, or consent of instructor. Foundations of theory of firm capitalization and investment under uncertainty, with special attention to questions of exchange and allocative efficiency. Pri- marily intended for Ph.D. students, but well-prepared masters students may find course useful in their ca- reer preparation.
239C. Empirical Research In Finance. Discussion, three hours. Prerequisites: course 230, training in econometrics, consent of instructor. Development of empirical research in the field of finance, statistical methodologies applied to test market efficiency, and asset pricing theory. Primarily intended for Ph.D. students, but well-prepared master's students may find courses useful in their career preparation. S/U or letter grading.

239D. Ph.D. Seminar: Corporate Finance. Prerequisites: course 230, courses in 239 series. Intended for Ph.D. students. Advanced topics in corporate finance theory and empirical insights into real-world problems. May be repeated for credit with instructor change. S/U or letter grading.

239Y-239Z. Finance Workshops (1 unit, 1 unit, 2 units). Discussion, 90 minutes. Prerequisite: doctoral standing. Designed to develop ability to critically analyze and synthesize current research literature in operations and industrial management. Students develop a thesis proposal, to be presented to a colloquium format by leading scholars in finance. Active participation and intellectual interchange encouraged through discussion of papers in sessions prior to workshops, as well as during colloquium. May be repeated for credit. S/U grading.

240A. The Operating Manager. Definition and analysis of problems of production planning, inventory management, quality control, system design, and implementation from an operational manager's perspective. May be repeated for credit with instructor change. S/U or letter grading.

240B. Operations Planning, Scheduling, and Control. Prerequisite: consent of instructor. Course describes selection of industrial systems. Forecasting, inventory planning, aggregate production planning, job-shop scheduling models, and automated manufacturing systems, with emphasis on managerial relevance and usefulness of models in solving or providing insights into real-world problems. S/U or letter grading.

240C. Design of Operational Systems. Prerequisite: course 407. Issues, concepts, objectives, and criteria in determination of capabilities, characteristics, and configurations of manufacturing and service systems. Examination of analytic and synthesizing methodologies for selection of capacity, location, technology, processes, material movement and storage systems, facilities, work group structures, and jobs.

240D. Operations Strategy and Policy. Discussion, three hours. Definition and scope of operations strategy and its relation to corporate strategy, importance of productivity and its amplification in global competition. Strategic concepts and analytical techniques applied to various aspects of operations, decision making, product and process technology, work force and job design, strategic implications of operations decisions, suppliers and vertical integration. Case analyses involving strategic issues in manufacturing and nonmanufacturing situations.

240E. Managing Entrepreneurial Operations. (Formerly numbered 245.) Lecture, three hours. Prerequisite: second-year standing or consent of instructor. Exploration of operating issues involves understanding entrepreneurial enterprises. Integrative course, building on methodologies, principles, and concepts provided in prerequisite functional and strategic core courses. Use of extensive readings and case studies to develop students' ability to apply psychological concepts to entrepreneurship.

241A. Managing Technology for Competitive Advantage. Advanced technologies such as robotics, computer-integrated manufacturing, computer-aided design and manufacturing (CAD/CAM), and flexible manufacturing systems. Effects of technological innovation on operations managers at both strategic and operational levels. Course is integrative in nature.

241B. Project Management. Prerequisite: course 407 or equivalent. Management of development projects. Decision-making environment, economic analysis, network analysis, scheduling, and control of development projects. Sequential and aggregate decision-making.

242A. Models for Operations Planning, Scheduling, and Control. Prerequisite: doctoral standing. Survey of research literature on models for design of manufacturing and service systems, including cross-functional forecasting, operational models, capacity, location, facilities, processes/technology, work, and work structures.

243A. Planning for Facilities Systems. Prerequisite: course 242A or equivalent. Planning of location, expansion, and replacement, and interdependencies of facilities. Examination of spatial and dynamic economic considerations. Applications in selected industries and public systems.

243B. Inventory Theory. Prerequisite: course 240B or consent of instructor. General discussion of inventory models, with emphasis on characterizing the form of optimal policies and efficient computational methods. Consideration of deterministic, stochastic, discrete-time, and continuous-time models.

243C. Scheduling Models for Intermittent Systems. Prerequisite: course 242A. Scheduling models and results for single machine, flow shop, job shop, and resource-constrained project networks. Approaches include classical models, recent heuristic approaches, current studies, and case studies of computer models, and man/machine interaction.

243X-243Y-243Z. Operations and Technology Management Seminars (1 unit, 1 unit, 2 units). Discussion, 90 minutes to three hours. Prerequisite: doctoral standing. Discussion of operational and technology management concentration during first two years of their Ph.D. work. Student and faculty presentations of ongoing research. May be repeated for credit.

244X-244Y-244Z. Research in Operations and Technology Management Seminars. Prerequisite: doctoral standing. Normally taken in first and second years of doctoral study. Survey of recent research literature in operations and technology management. Seminar reports dealing with specifi v topics are presented for credit with topic change.

245. Special Topics in Operations and Technology Management. Lecture, three hours. Studies of advanced subjects of current interest in operational management. Emphasis on critical issues in contemporary operations and technology management concentration during first two years of their Ph.D. work. Student and faculty presentations of ongoing research. May be repeated for credit.

246A. Managing Entrepreneurial Operations. (Formerly numbered 245.) Lecture, three hours. Prerequisite: second-year standing or consent of instructor. Exploration of operating issues involves understanding entrepreneurial enterprises. Integrative course, building on methodologies, principles, and concepts provided in prerequisite functional and strategic core courses. Use of extensive readings and case studies to develop students' ability to apply psychological concepts to entrepreneurship.

246B. Managing Human Resources. Prerequisite: consent of instructor. Course describes selection of industrial systems. Forecasting, inventory planning, aggregate production planning, job-shop scheduling models, and automated manufacturing systems, with emphasis on managerial relevance and usefulness of models in solving or providing insights into real-world problems. S/U or letter grading.

246C. Behavioral Foundations of Human Resource Management. Prerequisite: consent of instructor. Course describes selection of industrial systems. Forecasting, inventory planning, aggregate production planning, job-shop scheduling models, and automated manufacturing systems, with emphasis on managerial relevance and usefulness of models in solving or providing insights into real-world problems. S/U or letter grading.

247. Role of Management in Artistic Decision Making. Prerequisite: consent of instructor. Descriptive study of criteria for decision making in artistic institutions, including role of the institution in society, economic environment, the arts, and artistic value system of arts organizations.

247C. Legal Environment of Management. Prerequisite: consent of instructor. Exploration of way in which law and the arts relate, role of the lawyer vis-a-vis ar tist and manager, policy implications of the law and effect on the arts, and unsolved problems and issues in areas of interaction.

248A. Strategic Management in the Entertainment Industry. Discussion, three hours. Prerequisites: course 250, consent of instructor. Examination of financial and strategic aspects of transactions and company management in the entertainment industry. Cases and topics include ownership and management in creative companies; trends in industry structure and competitive economics; accounting issues; institutional and private investment in motion pictures; theatrical distribution, international and ancillary markets (pay- per-view, video).
268A. Advanced Marketing Management. Prerequisite: course 411 or consent of instructor. Focus is on the development and implementation of strategies for managing mature brands in existing markets. This course builds on foundational marketing concepts and examines the strategies used in managing mature brands.

268B. Marketing Strategy and Planning. Lecture, three hours. Prerequisite: course 411 or consent of instructor. Focus is on the development and implementation of strategies for managing mature brands in existing markets. This course builds on foundational marketing concepts and examines the strategies used in managing mature brands.

269A. Theory in Marketing. Prerequisite: consent of instructor. Focus is on the development and implementation of strategies for managing mature brands in existing markets. This course builds on foundational marketing concepts and examines the strategies used in managing mature brands.

269B. Research in Marketing Management. Discussion, three hours. Prerequisite: consent of instructor. Focus is on the development and implementation of strategies for managing mature brands in existing markets. This course builds on foundational marketing concepts and examines the strategies used in managing mature brands.

270A. Product Management. Lecture, three hours. Prerequisite: course 411. Focus is on the development and implementation of strategies for managing mature brands in existing markets. This course builds on foundational marketing concepts and examines the strategies used in managing mature brands.

270B. Information Systems for Planning and Control. Prerequisite: course 404 or consent of instructor. Focus is on the development and implementation of strategies for managing mature brands in existing markets. This course builds on foundational marketing concepts and examines the strategies used in managing mature brands.
270C. Measurement in Information Systems. Prerequisite: course 404. Role of measurement in management information and decision support systems. Logical, organizational, and technological perspectives on design in individual, organizational, and societal performance.

270D. Simulation for Management. Discussion, three hours. Prerequisites: knowledge of computer programming and basic statistics, consent of instructor. Design, implementation, and use of prototype simulation models using a general purpose simulation language (e.g., SIMSCRIPT). Emphasis on managerial use of simulation and presentation of results (e.g., statistical analysis, graphics, animation). Extensive programming assignments.

270E. Expert Systems for Management. Prerequisite: second-year M.B.A. or doctoral standing or consent of instructor. Examination of expert systems for management, including rule and frame-based systems, certain and uncertain inference, expert system feasibility and development, available commercial systems, and current applications. Project that develops an expert system required.


271B. On-Line and Network-Based Systems. Prerequisites: courses 271A and 272A, or consent of instructor. Distributed processing. Networked microcomputer systems. Data communication technology. Data security in computer networks. Cost/benefit analyses of design, configuration, and implementation of on-line and computer networks. Applications to computer utilities; command and control systems; and commercial, medical, and government networks.

271C. Database Management Systems. Discussion, three hours. Prerequisites: courses 271A and 272A, or consent of instructor. Distributed processing. Networked microcomputer systems. Data communication technology. Data security in computer networks. Cost/benefit analyses of design, configuration, and implementation of on-line and computer networks. Applications to computer utilities; command and control systems; and commercial, medical, and government networks.

271D. Database Management Systems I. Discussion, three hours. Prerequisite: consent of instructor. Features and capabilities of generalized database management systems, including system classification, comparison of software features, and evaluation of specific systems. Emphasis on management uses of such systems. Field study project may be required.

272A. Information Systems Development. Discussion, three hours. Prerequisite: course 404. Concepts and analytical decision-making techniques of user requirements. Overview of database management systems, with emphasis on the relational model. Project required, using a microcomputer-based CASE tool and relational database.

273A. Information Systems Management. Discussion, three hours. Prerequisite: course 404. Managing information systems within organizations. Role of chief information officer. Frameworks for understanding information systems function. Issues of planning, project management, computer operations, security, and user computing, distributed and departmental computing, managing information systems professionals, costing of services, organizational structures.

274A. Special Topics in Information Systems. Prerequisite: consent of instructor. Examination of depth in issues of problems concerned with theory and practice of computing and management and use of information systems. Course may have a single theme or may deal with a number of topics. May be repeated for credit.

274B. Frontiers in Information Systems. Prerequisite: doctoral standing or consent of instructor. Examination of depth in issues of current concern in information systems. Emphasis on recent contributions to theory, research, and methodology. May be repeated for credit.

274X-274Y-274Z. Current Research in Information Systems (1 unit, 1 unit, 2 units). Discussion, two, three, and four hours. Prerequisites: permission of instructor. Exploration of a current research sub-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. SU/U grading.

278A. Urban Real Estate Financing and Investing. Discussion, three hours. Prerequisite: consent of instructor. Investing-oriented real estate analysis and real estate analyses 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.

278B. Sources, Uses, and Flows of Real Estate Capital. Discussion, three hours. Analysis of money, capital, and mortgage capital in real estate. Examination of potential availability and cost of mortgage money from alternative sources. Evaluation of various sources of funds to determine factors influencing decisions to make mortgage loans. Examination of all types of lending instruments, including mortgage instruments, and mortgage-based securities for their impacts on real estate investment decisions.

279A. Special Studies in Urban Land Economics. Limited to master's or Ph.D. candidates working on thesis or dissertation-related research. May be repeated for credit.

279B. Selected Topics in Urban Land Economics. Discussion, laboratory, and fieldwork. Prerequisite: second-year graduate standing or consent of instructor. Designed for students who wish to pursue a particular topic in housing, real estate, or urban land economics in depth on individual or cooperative basis. All work is computer-based; however, students are provided introduction to use of computers (preferably PCs) in various kinds of real estate analysis. May be repeated for credit.

279X-279Y-279Z. Urban Research and Development (2 to 4 units each). Prerequisite: graduate standing or consent of instructor. Emphasis on urban and its problems; prospects and prescriptions for urban change. Microscopic and microscopic exploration as related to problems of a selected urban area.

280A. Studies, Research Philosophies, and Methodology in Human Systems. Discussion, three hours. Prerequisite: doctoral standing or consent of instructor. Survey of seminal studies of human systems, including individual, group, and intergroup behavior, and organization behavior. Consideration of objective 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. SU/U or letter grading.

280B. Personal and Professional Development. (Formerly numbered 280C.) Discussion, three hours. Prerequisite: doctoral standing or consent of instructor. 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. SU/U or letter grading.

280C. Research Design in Human Systems Studies. (Formerly numbered 280D.) Discussion, three hours. Prerequisite: doctoral standing or consent of instructor. Design of experiments on individual, group, and intergroup behavior. Special emphasis on socio-technical systems analytic approach and understanding advantages of this approach for designing and managing organizations.

281A. Sociotechnical Systems. Prerequisite: graduate standing. Introduction to systems concepts and views of work organizations as interacting social and technical systems open to forces from the surrounding environment. Focus on developing sociotechnical systems analytic approach and understanding advantages of this approach for designing and managing organizations.

281B. People in Organizations. Prerequisite: graduate standing. 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 satisfactions, dissatisfaction, and motivation in organizations.

282. Task Group Processes. Lecture, three hours. Prerequisite: course 281A or 281B or consent of instructor. Structures, processes, and interrelations of work groups in sociotechnical systems. Emphasis on understanding how group activities interrelate with physical/technical environment. Impacts practical knowledge of task group functioning through class exercises and field observations. Consideration of team concepts and project group design. SU/U or letter grading.

284A. Organization Design. Lecture, three hours. Prerequisite: course 281A or 281B or consent of instructor. Survey of organizational design theories and methodologies. Preemptive, and cogenerative models. Development of specific methods ranging from microdesign of jobs to macrodesign of total organizational systems. Special emphasis on sociotechnical and problem-orientation integration models. SU/U or letter grading.

284B. Organization Development. Discussion, three hours. Prerequisite: graduate standing or consent of instructor. 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. SU/U or letter grading.

285A. Leadership, Motivation, and Power. Discussion, three hours. Prerequisite: graduate standing or consent of instructor. 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 foster and understand effectiveness of one's own influence strategies. SU/U or letter grading.

285B. Managerial Interpersonal Communication. Discussion, three hours. Prerequisite: graduate standing or consent of instructor. Interpersonal and personality factors affecting managerial communications. Styles and models of communication in one-to-one, group, and large-systems settings. Opportunities offered to deepen understanding of one's own communication patterns and style aspects. SU/U or letter grading.

287. Groups and Their Facilitation. Discussion, three hours. Prerequisite: consent of instructor. Development of cognitive and experiential understanding of dynamics of small group training and its facilitation, including "sensitivity/basic groups, group counseling, self-help groups, small groups, and committees in management decision making. Analysis of relevant theory, research, and applications. Case studies. SU/U or letter grading.

288A. Selected Topics in Behavioral Science. (Formerly numbered 288B.) Discussion, three hours. Prerequisite: graduate standing. Exploration of selected theoretical positions extending and consolidating behavioral science knowledge and application. May be repeated for credit. SU/U or letter grading.
288. Current Issues in Sociotechnical Systems and Organization Design. (Formerly numbered 288C.) Discussion, three hours. Prerequisite: graduate standing or consent of instructor. Current topics in analysis and design of organizational systems as sociotechnical systems engaged with various technologies and environments, emphasizing design approaches emanating 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.

289C. Selected Topics in Human Systems Studies and Organizational Behavior. (Formerly numbered 288F) Discussion, three hours. Prerequisite: graduate standing or consent of instructor. 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.

289D. Current Issues in Human Systems Change and Development through Consulting. Discussion, three hours. Prerequisite: consent of instructor. Current topics in philosophy, art, and technology of improving organizations and increasing managerial efficiency and effectiveness. 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. Behavioral and Organizational Sciences Colloquium (Proseminar). (Formerly numbered 288X-288Y-288Z.) Discussion, three hours. Prerequisite: graduate standing or consent of instructor. Series of presentations 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.

290. Organization Theory. Prerequisite: course 423 or consent of instructor. Analysis of theory and practice of managerial function of organizing within study of the literature, case analyses, and seminar discussion. Individual projects and reports.

291. Planning and Control. Prerequisite: course 423 or consent of instructor. Analysis of theory and practice of managerial function of planning and control. Implementation and evaluation of policy formulation, decision making, and control. Individual projects and reports.

292A. Research and Development Policy. Examination of research and development as a process and as an element of a goal-oriented organization. Factors affecting invention and innovation; transfer of technology; organizational and behavioral considerations; coupling of science, technology, and organizational goals; assessing of forecasting technological futures.

292B. Models of Organization Behavior. Prerequisite: consent of instructor. Theoretical frameworks for developing explanatory and predictive models of complex organizational behavior. Emphasis on modeling formal models, usually in mathematical or stochastic form and, where appropriate, using materials from field studies to develop empirical tests. These models may be used to design simulations for systems changes recommended in sociotechnical field study.

292C. Comprehensive Planning in Public Sector. Prerequisite: consent of instructor. Evolving modes of planning under complexity, with particular emphasis on public sector. Development of policy through standard setting, bargaining, and regulating governing relationships; reality and value judgments; social and technical dimensions of alternatives; and social and technological forecasting.

293A. Political Environment of American Business. Lecture, three hours. Prerequisite: consent of instructor. Evaluation of certain criticisms made by business of the American political system. Designed to provide greater understanding of principal features of American politics, especially as they influence business enterprise.

293B. Morality of Capitalism. (Formerly numbered 293B.) (Same as Political Science M211.) Lecture, three hours. Prerequisite: consent of instructor. Examination of moral psychological writings that defend or criticize capitalism on basis of principles of right conduct and just social arrangements (i.e., on moral grounds).

293C. Ethical Considerations in Business. (Formerly numbered 283D.) Lecture, three hours. Prerequisite: consent of instructor. Examination of a range of ethical considerations in business decisions involving the individual, corporation, society, and international business. Analysis of cases for classroom presentation and discussion.

294A. Strategy Formulation and Implementation. Prerequisite: consent of instructor. Case course dealing with strategy decisions and their implementation. Emphasis on management behavior involved in managing total enterprises. Students are confronted with complex company situations to develop ideas essential to overall managerial direction.

295A. Entrepreneurship and Venture Initiation. Prerequisite: consent of instructor. Exploration in entrepre
erneurship, social science, psychology, economics, organization, and social psychological aspects of human behavior in the development and operation of new ventures. Significant and crucial aspects of exploring new business opportunities and starting a business.

295B. Small Business Management. Prerequisite: consent of instructor. Exploration of crucial aspects in managing small business enterprises. Emphasis on identification and analysis of characteristic operations of small firms and application of appropriate methods or techniques for their solution.

295C. Corporate Entrepreneurship. Prerequisite: consent of instructor. Description of corporate entrepre
erneurship and effective implementation of entrepreneurial strategies in large industrial enterprises. Emphasis primarily on managerial effects aimed at identification, development, and implementation of emerging organizational innovations, management of new products or process developments, and effective new venture management in a corporate context.

296. International Business Management. Discussion, three hours. Prerequisite: consent of instructor. Identification, analysis, and resolution of managerial issues of policy and action within context of a multinational corporation, with emphasis on problems of adaptation to different sociological, cultural, legal, political, and economic environmental characteristics on planning, structuring of organizational relationships, and coordination and control in multinational firms. S/U or letter grading.

296B. International Comparative Management Research. Prerequisite: doctoral standing or consent of instructor. In-depth study of theory and research pertaining to international business and comparative management. Emphasis on recent research developments and methodological issues. Emphasis on joint ventures, extent of foreign ownership/management control, terms/conditions for technology transfer, international control, or international joint ventures. S/U or letter grading.

297A. Comparative and International Management. Prerequisite: course 412 or consent of instructor. Comparison of management in selected foreign countries, as affected by their social environments and development of management theory.

297B. International Business Policy. Prerequisites: course 205A, consent of instructor. Analysis of key managerial problems encountered in a multinational corporation. Concepts and theories acquired in other courses in international business and comparative management applied to a series of complex cases and simulations of international business operation.

297C. International Business Law. Prerequisites: courses 205A, 296A. Legal environments in which international business operates; overseas business relationships and organizations; antitrust, taxation, transfer of capital, and technology regulations; patent, trademark, and copyright safeguards; arbitration of international business disputes; expropriation of foreign investments; international business and government relations.

297D. International Business Negotiations. Prerequisite: course 296A. Exploration of international business negotiations of multinational enterprises with governmental agencies and foreign-banks or issues of range of issues, such as establishment/dissolution of joint ventures, extent of foreign ownership/management control, terms/conditions for technology transfer, foreign investments.

298A. Special Topics in Management Theory. Prerequisite: doctoral standing or consent of instructor. Examination in depth of problems or issues of current concern in management theory. Emphasis on recent contributions to their methodology and theory. Of special interest to advanced Ph.D. candidates, academic staff, or distinguished visiting faculty. May be repeated for credit.

298B. Special Topics in International and Comparative Management. Special topics. Prerequisite: standing or consent of instructor. Examination in depth of problems or issues of current concern in international and comparative management. Emphasis on recent contributions to theory and methodology. Of special interest to advanced Ph.D. candidates, academic staff, or distinguished visiting faculty. May be repeated for credit.

298C. Special Topics in Sociotechnical Systems. Prerequisite: doctoral standing or consent of instructor. Examination in depth of problems or issues of current concern in sociotechnical systems. 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.

298D. Special Topics in Management (1 to 4 units). Lecture, three hours. Prerequisite: graduate standing. In-depth examination of problems or issues of current concern in management, with numerous topics offered each year. May be repeated for credit. S/U or letter grading.

298X-298Y-298Z. Management Strategy and Policy Workshops (1 unit, 1 unit, 2 units). Discussion, three hours. Prerequisite: doctoral standing. Designed to develop ability to critically evaluate research in fields relevant to study of management strategy and policy. Papers presented in colloquium format by leading scholars in management strategy and policy. Active participation and intellectual interchange encouraged through discussion of papers in sessions prior to workshop, as well as during colloquium. May be repeated for credit. S/U or letter grading.

299M. Ph.D. Seminar: Research Methodology. Discussion, three hours. Prerequisite: doctoral standing. Methodological issues in management research. Emphasis on identification of research opportunities and design and execution of a research proposal. Alternative goals, settings, and designs. Field analysis, development and testing. Measurement, implementation considerations.

299R. Research Methods in Management. Prerequisites: M293B, consent of instructor. A seminar on the feedback and evaluation of papers prepared for research publication. Quarterly meetings to discuss 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. S/U grading.
400. Mathematics for Management. Prerequisite: graduate standing. Fundamental mathematics for business, including topics from matrix algebra, probability and calculus, with applications to model building and decision making in business firms. S/U grading.

401. Applications of Computers in Management. Lecture, three hours. Prerequisite: course 402 or 403. Introduction to computer technology and decision making in business firms. Concepts of information systems, information technology that underlies these systems, and ways such systems are developed and managed. (W)

402. Data Analysis, Statistics, and Decision Making. Prerequisite: graduate standing. In-depth introduction to probability, decision theory, and statistical inference, with emphasis on solution to actual business problems. (F)

403. Financial Accounting. Lecture, three hours. Prerequisite: graduate standing. Introduction to fundamental financial accounting methods and procedures, with emphasis on financial statements. Provides basis for firm understanding of "the language of business"—accounting. (F)

404. Information Systems. Lecture, three hours. Prerequisites: courses 402 or 403, 405. Introduction to information systems in organizations from perspective of general manager. Managerial and strategic uses of information systems, information technology that underlies these systems, and ways such systems are developed and managed. (W)

405. Managerial Economics. Lecture, three hours. Prerequisite: graduate standing. Analysis of consumer, producer, and market behavior. Market structure, pricing, and resource allocation. Applications to managerial strategy and public policy, with emphasis on competition, market power, and externalities. (F)

406. Global Economy. Prerequisites: courses 402, 403, 405. Provides analytical framework required for understanding the way changing macroeconomic conditions in world economy affect economic growth, inflation, interest rates behavior, exchange rate determination, global competitiveness, unemployment, and the trade account. Provides skills to enable students to assess critically how developments in world economy affect particular industry environments. (W)

407. Managerial Model Building. Lecture, three hours. Prerequisites: courses 402, 403, 405. Survey of uses of formal modeling approaches in managerial decision making. Emphasis on model types and formulations, and use of solutions obtained from computer routines. Application areas include finance, marketing, production, and public systems. (W)

408. Managerial Finance. Lecture, three hours. Prerequisites: courses 402, 403, 405. Analysis of main decision areas of managerial financial management, aimed at principles generally applicable to all types of organizations. Emphasis on financial planning and control, sources of funds, developing objectives and standards which lead to effective allocation and use of organization's resources. (W)

409. Managing Human Resources in Organizations. Lecture, three hours. Introduction to human resource management function and management of human behavior in organizations. Emphasis on relationships among individuals, groups, and organizational units as they influence the managerial process and development of prospective general managers. (F)

410. Operations and Technology Management. Lecture, three hours. Prerequisites: courses 402, 403, 405, 408, 411. Principles and decision analysis related to effective utilization of factors of production in manufacturing operations for both intermittent and continuous systems. Production organization, analytical models and methods, facilities design, and design of control systems for production operations. (W)


412. Management of Organizations. Lecture, three hours. Prerequisite: 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/managing planning, control, information, incentive systems, different patterns of human interaction such structures and systems tend to produce. (F)

413A. Programming for Management Applications. Lecture, three hours. Prerequisite: graduate standing. Application of computer programming to application systems. Programming in a high-level procedural language. Software specification, design, coding, testing, implementation, and maintenance. Extensive programming exercises. (F)

413B. System Building with Advanced Tools. Prerequisite: graduate standing. Building application systems with advanced software tools. Very high-level languages. Report writers, Query and graphics languages. Application generators. Extensive hands-on assignments. (F)

420. Management Policy. Lecture, three hours. Prerequisites: courses 402, 403, 405, 408, 411. Evaluation and formulation of organization's overall policies and strategies. Economic, heuristic, and social process approaches to policy formulation, environmental analysis, and organizational appraisal. Senior manager's role in managing the policy process. (W)

421A. Managerial Communications I (1 unit). Lecture, 30 minutes; laboratory, one hour. Strategies and techniques for more effective individually written managerial communications such as memos, reports, proposals, presentations, etc. Emphasis on analytically based persuasive writing. S/U grading. (F)

421B. Managerial Communications II (1 unit). Lecture, 30 minutes; laboratory, one hour. Strategies and techniques for more effective preparation of group writing assignments in managerial contexts where multiple audiences are important. Issues include achieving a single voice, establishing appropriate tone, incorporation of multiple points of view, etc. S/U grading. (W)

422. Analysis and Communications. Discussion, three hours. Prerequisite: graduate standing. Study and practice of oral and written managerial communications, including audience analysis, persuasion, revising and editing, presentation of technical information, and use of computer technology. Organized around writing and speaking exercises. Personal attention to students' written communications and oral presentations. (W)

423. Advanced Management Theory. Advanced study of management theory in formally organized enterprise through significant readings; discussion of advanced approaches and techniques developed from applications of theoretical models to integrate methods and findings of quantitative and behavioral sciences; lectures on sophisticated application of management theory in practice. (W)

444A-444B. Management Field Study. Must be taken in two consecutive terms 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 grading. (FW)

450. Fieldwork in Behavioral Science Management Development (4 or 8 units). Prerequisites: courses 287 and 289. Enroll in fieldwork for four terms. Fieldwork in all phases of laboratory education for management development, such as sensitivity training laboratories, creativity and personal growth laboratories, simulated management behavior laboratories, etc. (F)

451. Fieldwork in Organizational Development (2 to 12 units). Prerequisite: course 284B or 450 or consent of instructor. Supervised practical fieldwork in organizational development consultation in interpersonal, group, intergroup, total organization, and interorganizational settings. (W)

452. Fieldwork in Technical Assistance for Minority Business Enterprise (1 to 4 units). Prerequisite: completion of first year of master's program or consent of instructor. Supervised practical fieldwork in consulting and other forms of technical assistance for business firms and management in ethnic communities; seminars and other shared learning experiences in traditional business administration technology to the urban ghetto. (W)

453. Fieldwork in Arts Management (4 to 12 units). Prerequisite: consent of instructor. Supervised field experience and practical work in all phases of an arts organization. Preparation of a practical fieldwork project, concentrating on its managerial problems and its relationship to the community and society in general. (W)

454. Fieldwork in Organizations. Prerequisites: completion of two terms of M.B.A. program, consent of supervising faculty and director 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 work in a nonacademic setting. May include formal coursework. May not be repeated for credit. (F)

457. Fieldwork in Investment Management. Discussion, three hours. Prerequisite: consent of instructor. Use of academic theories learned in a practical experiment and an investment firm, with full salary. Mirrors situations experienced by typical money management firms and includes investment strategy, asset allocation, security analysis, and organizational issues. S/U or letter grading. (W)

The following individual study or research courses (501 through 599) may be used, within limitations and conditions prescribed by the school, to satisfy minimum higher degree requirements.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA AGSM graduate adviser and assistant 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.

596A-596N. Research in Management (1 to 8 units each). Prerequisite: consent of master's program director or Ph.D. program director by special petition. Directed individual study or research. May be repeated. (FW)

597. Preparation for Qualifying Examinations (4 or 12 units). Prerequisite: consent of master's program director or Ph.D. program director by special petition. Preparation and special preparation for comprehensive examinations or Ph.D. qualifying examinations. (W)

598. Thesis Research in Management (4 or 12 units). Prerequisite: consent of master's program director by special petition. Research for and preparation of master's thesis. May be repeated. (F)

Executive M.B.A. Program

Admission to the Executive M.B.A. Program is prerequisite for enrollment in the following courses:

461. Managerial Problem Solving (2 units). Focus on individual problem-solving and decision-making skills. Alternative conceptual frameworks presented for augmenting individual's diagnostic and decision-making skills. Use of readings, cases, decision simulations, and discussions to explore areas of charting job and career progress, working with others, and shaping the work culture.


463. Data Analysis and Management Decisions under Uncertainty. Survey of statistical model building, with emphasis on managerial interpretation of statistical summary of data. Classical statistics covered through multiple regression to support courses in finance and marketing that follow. Fundamental approaches to decision making under uncertainty.

464. Managerial Accounting. Familiarizes the manager with functions of accounting by focusing on use of external financial reports for evaluating corporate performance and use of accounting information for internal planning and control.

465. Quantitative Methods for Managers. Survey of modeling approaches to managerial planning and decisions. 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.

466A-466B. Financial Policy for Managers (4 units, 2 units). Modern financial management deals with decision making under uncertainty for corporate financial management, for portfolio investment decisions, for financial institutions, and for international financial management. Focus on learning sound theoretical tools and applying them in casework.


468. Economic Forecasting (2 units). Macroeconomic theory and its application to business forecasting. Major economic indicators and their historical description of the U.S. economy; theoretical tools that business economists use to analyze impacts of monetary and fiscal policy; macroeconomic techniques applicable to business decisions.

469. Management of Human Resources. Introduction to major areas of human resource management — personnel management, labor economics, law, and labor relations — accomplished by examining major concepts, theories, and research related to each of these topic areas, as well as some practical problems for managers posed by each.

470A. Introduction to Action Research and Policy Analysis (2 units). Provides methods of organizational and strategic analysis to determine relationship of the organization with its environment.

470B. Strategic Overview (2 units). Preparation of a strategic overview of a selected international in the corporation and how they change ways of doing business. Examples from airlines, health, computer, communications, distribution, and publishing industries. Strategic, organizational, and societal implications.

470C. Action Research Project (2 units). Further research and analysis of one of the strategic issues facing the selected company and identified in the strategic overview (course 470B).

470D. Seminar: Policy Analysis (2 units). Site visit to selected company, presentation of final reports, and evaluation of student efforts by corporate personnel.

472. Marketing Strategy and Policy. Strategic marketing decisions, including development of marketing objectives and strategies and implementation of these strategies through pricing, channel, promotion, and new product decisions.

473. Managerial and Organizational Processes. Development of an understanding of workings of large, complex organizations, with emphasis on macroanalytic, rather than on microanalytic, approach.

474. Operations and Technology Management: Systems, Strategies, and Policies. Lecture, three hours. Analysis of strategic and operating policies and decisions for systems that produce goods and services. Examination of role of comprehensive planning, inventories, scheduling of resources, distribution systems, and system location. Comprehensive operating problems.


476. Competitive Strategy and Business Policy. Study of general management task of forging a corporate competitive strategy. 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. 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 units). Examination of selected problems and issues in an area of current concern in management.
The UCLA School of Social Welfare is one of the nation's great professional schools of social work. Its mission is to contribute to the understanding of the social, economic, and political forces which are shaping our individual and communal lives and to use that knowledge to help in developing appropriate social policy and social work practice responses — whether under public, voluntary, occupational, or proprietary auspices.

Social workers are employed as planners, policy analysts, administrators, and direct service providers in all of the human services, including health, family and child welfare, mental health, services to the aged, manpower development and training, etc. Social workers are concerned with the causes, treatment, and prevention of personal and social ills and with the broader trends in the society which impact on the well-being of individuals, families, and communities. The school's objective is to prepare its graduates not only for practice as it is but for imaginative leadership in creating the social work practice of the future.
School of Social Welfare*

247 Dodd Hall, (310) 825-2892

Professors
Rosina M. Becerra, Ph.D., Dean
Yeheskel Hasenfeld, Ph.D.
Santiago M. Torres-Gil, Ph.D.

Associate Professors
Jerome Cohen, Ph.D.
Nathan E. Cohen, Ph.D.
Maurice F. Conroy, D.S.W.
Jeanne M. Giovannoni, Ph.D.
Doris S. Jacobson, Ph.D.
Alfred H. Katz, D.S.W.
Harry H.L. Kitano, Ph.D.
Aileen Moon, Ph.D.
Harry Wasserman, D.S.W.

Academic Coordinators
Walter M. Furman, M.Phil., Center for Child and Family Policy Studies Director
Wanda S. Ballenger, M.S.W., Center for Child Welfare Director
Elsa Ten Broeck, M.S.W., Inter-University Consortium on Child Welfare Director

Fieldwork Consultants
Juanita D. Varona, A.C.S.W.
Pamela Davis, L.C.S.W.
Coleen Friend, L.C.S.W.
Cheryl Gully, L.C.S.W.
Gerardo P. Levaha, L.C.S.W.
Joseph A. Nunn, Ph.D., Director
Mary Brent Wehret, M.S.W.
Katherine M. Kolodziejczyk, Ph.D., Emerita
Jane E. Kurohara, M.S.W., Emerita
Winifred E. Smith, M.S.W., Emerita

The UCLA School of Social Welfare offers an M.S.W. program in Social Welfare and a doctoral program of study leading to the Ph.D. The program is designed to prepare candidates who wish to train for careers in teaching, research, administration, and high-level practice positions. Courses are scheduled in the School of Social Welfare and in schools and departments of related disciplines and professions.

Degrees Offered
Master of Social Welfare (M.S.W.)
Doctor of Philosophy (Ph.D.) in Social Welfare

Master of Social Welfare
Admission
In addition to University minimum graduate admission requirements, the master’s program requires a minimum of five courses in social sciences or a combination of social science and social welfare subjects as prerequisite undergraduate preparation for graduate study in the field of social work. Completion of courses in psychology and sociology is expected, but an elementary statistics course with a grade of B or better is required.

A grade-point average of 3.0 or better is required in all courses taken during the junior and senior years. However, applicants with a GPA below 3.0 may be considered when there is clear evidence of capacity for academic achievement and professional development. In addition, the school applies the following criteria in the selection of candidates: personal suitability for professional education and potential for successful social work practice, a satisfactory state of health, and an adequate financial and personal plan to permit completion of degree requirements.

The General Test of the Graduate Record Examination (GRE) is required, as are official transcripts from every school attended since high school. GRE results must be submitted prior to any evaluation of the application for admission. GRE scores must be less than five years old and may be repeated to achieve a higher score, if desired. The highest GRE General Test score achieved is used for admission. In addition, international students whose native language is other than English and whose higher education was not obtained in an English-speaking institution are required to take the Test of English as a Foreign Language (TOEFL). Refer to "Proficiency in English" under "Graduate Admissions" in Chapter 3 for further information. The school may request that you take specified additional examinations to assist in the assessment of candidacy for admission.

Three letters of recommendation are required. In addition, an autobiographical statement and a professional concept and goals statement must accompany the application.

Prospective students must apply simultaneously to (1) the School of Social Welfare and (2) UCLA Graduate Application Processing. Both applications and the school brochure can be obtained by writing to School of Social Welfare Admissions, 247 Dodd Hall, UCLA, Los Angeles, CA 90024-1452, or by calling (310) 825-7737.

Major Fields or Subdisciplines
Direct social work practice and community administration, policy, and planning are offered as social work methods. Specializations are available in child and family welfare, health and aging, and mental health.

Course Requirements
A total of 76 units in courses in the School of Social Welfare is required, including three courses in social welfare policy and services, three courses in the human behavior and social environment sequences, six courses in methods of social work practice, four courses in social welfare research, plus five terms of field instruction. Appropriate substitutions or waivers may be made by the dean. You may, with consent of the dean, take courses in other graduate schools of the University in fulfillment of the degree requirements.

With consent of the instructor and dean, you may substitute tutorial studies of comparable material in the 500 series for either required or elective courses. Only Social Welfare 596A and 597A may be taken. A maximum of nine units of 500-series courses may be applied toward the entire graduate course requirement for the degree.

Practicum Requirements
There is a concurrent field placement in each of the two years. Time spent in placement may vary according to guidelines established by the school, but approximately 1,300 hours are required.

Thesis Plan
While no University-approved master's thesis is required for the M.S.W. degree, the curriculum requires theoretical courses in research methodology. As a component of the second-year research course, the satisfactory comple-
tion of an individual research project, or participation in a group research project concerned with a social welfare problem, is required.

**Comprehensive Examination Plan**

All M.S.W. candidates must pass an oral comprehensive examination in Spring Quarter of the second year of study. The examination may cover the entire range of the program.

**Ph.D. Degree**

**Admission**

In addition to the University minimum requirements, the school requires completion of an M.S.W. degree program with a superior record from an accredited school of social work. This requirement may be waived if an applicant possesses a postgraduate degree and professional experience in a related field. Such candidates, however, may be required to fulfill specified requirements in the M.S.W. program in addition to the normal doctoral requirements.

Admission criteria include the quality of your performance in previous undergraduate and graduate study, capacity for doctoral-level scholarship, ability to express yourself clearly in writing, success in professional employment and other pertinent experience, scores on the Graduate Record Examination (GRE), and personal qualifications indicating suitability for advanced study and research.

The General Test of the GRE is required, as are official transcripts from every school attended since high school. In addition, international students whose native language is other than English and whose higher education was not obtained in an English-speaking institution are required to take the Test of English as a Foreign Language (TOEFL). Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information. The school may request that you take specified additional examinations to assist in the assessment of candidacy for admission.

Three letters of recommendation and a type-written statement of professional and educational objectives are required. To exemplify your communication skills, you may submit any of the following: published articles, master's thesis, or other theoretical/research-oriented unpublished papers.

Although a personal interview is not required as part of the application procedure, whenever possible a conference is arranged with a member of the doctoral faculty.

Prospective students must apply separately to the School of Social Welfare and to UCLA Graduate Application Processing. Both applications and the school brochure are available by writing to the School of Social Welfare Ph.D. Program, 247 Dodd Hall, UCLA, Los Angeles, CA 90024-1452.

**Major Fields or Subdisciplines**

The program trains research-oriented scholars to advance the field of social welfare and social work through research and knowledge development, and to assume leadership roles in academic, policy, and practice settings. The curriculum is organized into three major areas — specialization in a substantive area of social welfare, integration of social and behavioral science knowledge into social welfare, and research methods. Programs of study are planned in relation to the special and individual needs and interests of the students.

**Course Requirements**

There is a minimum core of required courses which includes two seminars on practice theory and research, two seminars on social welfare policy, and two graduate-level courses in statistics. In addition, you are required to take (1) at least three graduate-level courses in the social and behavioral sciences outside the school related to your specialization in social welfare, (2) three courses in advanced research methods, and (3) three terms of research internship.

Every effort is made to individualize the curriculum around your area of interest and plans for dissertation. In order to achieve this goal, a variety of patterns is used, including tutorials, small seminar groups, special courses in the M.S.W. program, and courses in other departments and schools of the University. You must complete course requirements and your dissertation within a maximum of 20 terms of full-time enrollment.

**Qualifying Examinations**

The qualifying examinations consist of two parts — (1) an examination in social welfare policy and practice, reviewing current theory and research, that is given at the end of the third term of your first year and (2) a series of two major papers demonstrating your knowledge and analytical skills in (a) application of social and behavioral science knowledge to social work and (b) utilization of research methods to a problem area. Each paper must be evaluated by a two-member committee.

The qualifying examinations are graded on a pass/fail basis, and passing them is prerequisite to pursuing the dissertation. If you fail one or more components, you may be permitted to retake the examination(s) only with the recommendation of the school's doctoral program committee.

Advancement to doctoral candidacy follows successful completion of the written qualifying examinations and the University Oral Qualifying Examination which covers the dissertation proposal and related areas and is administered by the doctoral committee.

**Dissertation/Final Oral Examination**

The dissertation must be an independent and original investigation which contributes to the existing body of knowledge in social welfare. The choice of topic and methodological development of your proposal must be approved by your dissertation committee, according to the regulations of the Graduate Division.

After acceptance of the dissertation in its final form, you may be required to take a final oral examination which covers the field within which your dissertation falls.

**Upper Division Course**

105. Social Welfare in a Multicultural Community. Lecture, three hours; discussion, one hour; outside study, eight to 10 hours. Examination of social welfare practice and policy and its interface with multicultural issues, including language, communication, values, and help-seeking behaviors. Survey of ethnic groups' perceptions and effect of institutional racism and discrimination.

**Graduate Courses**

Consult the school for curriculum updates.

**201A-201B. Dynamics of Human Behavior (3 units each).** Biopsychosocial factors associated with individual and group behavior and development as applicable in social functioning of individuals and groups. Emphasis on theoretical issues and research evidence which contribute to a unified theory of human development.

**202A-202B. Dynamics of Human Behavior (2 units each).** Prerequisites: courses 201A-201B. Deviations and pathologies or stresses in physical, emotional, and social areas of human functioning as those problems relate to role and function of the social worker.

203A-203B-203C. Integrative Seminars (2 units each). (Formerly numbered 203.) Prerequisite: consent of instructor. Integrative courses which bring together theory and practice of social work in a variety of topics relevant to the profession. Includes identification of problem areas and populations-at-risk requiring further examination. S/U or letter grading.

205A. Cross-Cultural Awareness (2 units). 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 grading.

205B. Group Conflict and Change (2 units). Study of phenomena of group conflict and change as they appear in the social welfare matrix of groups, communities, and social institutions: relationship between conflict and social and cultural change; major research contributions in understanding these phenomena.

220. History and Philosophy of Social Welfare (2 units). History of social work as a field: body of knowledge, method, and practice. Point of view analysis within context of economic, political, social, philosophical, and scientific climate of the period.

221A. Social Welfare Policy and Services I. Lecture, three hours. Nature, roles, and history of welfare institutions in different societies; applicable social system theory with special reference to values as seen by different components of the welfare system: theory and research about needs and met and not met, about various welfare policies and organizational forms, and about social change to prevent needs. S/U or letter grading.
221B. Social Welfare Policy and Services II (2 units). Understanding of significant theoretical con-
structs and relevant empirical evidence dealing with how organizations develop and maintain their internal
functions. Development of beginning skill in organi-
zational analysis. Special attention to organizational
analysis of social welfare services.

223. Seminar: Social Work Profession (2 units). Na-
ture and role of social work in contemporary society;
relationships with other professions; probable future
trends in the profession; social work ethics, professional
organizations, certification licensing; professional
responsibility for continued self-criticism and improve-
ment of the profession. S/U grading.

225A-225B. Social Welfare Policy. Discussion, three
hours. Prerequisites: doctoral standing and/or consent
of instructor.

225A. Formulation and Analysis. Examination of prin-
cipal issues in development, formulation, and imple-
dention of U.S. social welfare policies, with particular fo-
cus on income distribution and redistribution. Emph-
asis on analysis of social policy issues and conceptual
frameworks for analysis.

225B. Implementation and Evaluation. Examination of
issues in implementation and evaluation of social
welfare policies, particularly those pertaining to provi-
sion, organization, and delivery of social services,
including auspices funding, distribution, criteria for
effectiveness, and use of quantitative methods in poli-
cy analysis.

Practice I, II, III (2 units each). Corequisite: required
social work practicum. Introduction to theory of social
work practice and concepts of major principles of prac-
tice which are derivative of this and related
theory. S/U or letter grading.

231A-231B-231C. Advanced Theory of Direct So-
cial Work Practice IV, V, VI (2 units each). Corequ-
site: required social work practicum. Advanced level,
critical analysis of theories, concepts, and prin-
ciples underlying social casework practice. Specific
attention to deviation and stress as conditions affect-
ing functioning of individuals and groups, and to diag-
nostic knowledge and competence required in reha-
bilitation and prevention.

240A-240B-240C. Community Administration,
Policy, and Planning I, II, III (2 units each). Co-
corequisite: required social work practicum. Historical
and theoretical developments in administration, plan-
ing, and community organization; understanding the
community as a social system, administration of orga-
nizations; role of the practitioner in identification, analy-
sis, and evaluation of needs, existing programs, pol-
cies, structures, and strategies of intervention. S/U or
letter grading.

241A-241B-241C. Advanced Theory of Social Work
Method (Administration, Planning, and Community
Organization) IV, V, VI (2 units each). Corequisite:
required social work practicum. Emphasis on various
patterns of community action for attaining social welfare
objectives; research and field experience directed to-
ward study of social problems within context of commu-
nity planning; emerging patterns of physical, economic,
and social planning within framework of social change
theory.

245A-245B. Development of Social Work Practice
Theory. Discussion, three hours. Prerequisites: doc-
toral standing and/or consent of instructor.

245A. Epistemology of Practice. Guiding scientific
models of social practice; models of social change,
development, and change of practice theories; intel-
lectual foundations of practice theories; how profes-
sionals learn, apply, accumulate, and modify their
practice knowledge; science and practice interplay.

245B. Models of Social Work Practice Research.
Re-
search for practice, with major emphasis on methods
of intervention research which seek to design, test,
evaluate, and disseminate innovative intervention
technologies.

Prerequisites: doctoral standing and/or consent of in-
structor. Current problems in the field of social welfare.
Specific topics vary depending on research and educa-
tional interests and needs of class. May be repeated for
credit. S/U grading.

280. Social Welfare Research (2 units). Sources,
nature, and uses of social work theory and research-
based knowledge and of broader social data relevant
to social welfare activities. Critical analysis of major
methods of developing scientific knowledge.

281A-281B-281C. Advanced Social Welfare Re-
search (2 units each). Individual or group research
projects requiring intensive examination and analysis
of social problems area, directed toward develop-
ment of research knowledge and techniques for so-
cial work practice. In Progress grading.

requisite: doctoral standing or consent of instructor.
Review of areas of research of concern to social
workers, with special attention to design, instrument
construction, data collection, data processing, data
reduction, analysis, and interpretation. Designs stud-
ied include survey, panel, experimental observation,
and theory development research. S/U or letter grad-
ing.

Prerequisites: doctoral standing and/or consent of in-
structor. Basic concepts underlying research meth-
ods. Content includes theoretical and conceptual ap-
proaches to research problem formulation; research
design, including experimental, comparative, and sur-
vey; sampling; statistical methods; methods of ob-
servation and techniques of data analysis.

290A-290B-290C. Seminars: Social Work (2 units
each). Series of seminars dealing with trends in so-
cial work and social welfare, with focus on current
social problems affecting individuals, groups, and
communities and new patterns of intervention based
on recent demonstrations and research.

M290D. Women, Health, and Aging: Policy Issues
(2 or 4 units). (Same as Health Services M241.)
Lecture, three hours; discussion, one hour. Prerequi-
sites: two upper division social sciences courses, two
upper division biological sciences courses, or equiva-
 lent, consent of instructor. Social and economic con-
text of older women's aging, major physical and psy-
chological changes older women experience, delivery
of health services to this population, and policies that
respond to their health needs.
The UCLA School of Dentistry has developed a national and international reputation for its teaching and research activities. Challenging educational, training, and research programs prepare the dental student for a professional career dedicated to patient treatment and service. The curriculum is carefully designed to prepare students for changes in treatment modalities and health care delivery systems. Students become actively involved in preventive and clinical dental care immediately in their training and soon make valuable contributions to the clinical health team. The clinical instruction system emphasizes a patient care approach in which each patient is treated comprehensively. Students interact with their colleagues, faculty, and dental auxiliary personnel in much the same way as they later will interact in a private or group practice.

Opportunity exists for dental students to undertake programs designed to meet their special needs; mandatory fourth-yearselectives encourage more advanced training in an area of particular interest. 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, the Roybal Children's Dental Center, and the Mobile Dental Clinic, the latter in conjunction with the University of Southern California. A graduate program and a number of postdoctoral 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 short courses for members of the dental profession and their auxiliaries.
School of Dentistry

A3-042 Dentistry, (310) 206-1718

The UCLA School of Dentistry, which occupies facilities in the Center for the Health Sciences, offers a D.D.S. (Doctor of Dental Surgery) degree program, a number of postdoctoral programs, and Oral Biology M.S. and Ph.D. degree programs. Articulated D.D.S. and M.S. or certicate programs are also available. This catalog provides detailed information only on the M.S. and Ph.D. programs in Oral Biology, for which admission to the School of Dentistry is not required.

Degrees Offered
- Doctor of Dental Surgery (D.D.S.)
- Master of Science (M.S.) in Oral Biology
- Doctor of Philosophy (Ph.D.) in Oral Biology

Predental Program

The UCLA School of Dentistry offers two upper division courses for predental 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.

Also refer to Chapter 5 for details on the three-year predental curriculum offered by the College of Letters and Science.

Upper Division Courses
- 199, Individual Special Studies (2 to 8 units). Prerequisite: consent of department. 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 units). Prerequisite: consent of department. 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.

D.D.S. Degree Program

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, anesthesiaology, orthodontics, pediatric dentistry, periodontology, and removable prosthodontics.

For further details on the D.D.S. program and a listing of the courses offered, see the Announcement of the UCLA School of Dentistry, available from the Office of Student Affairs and Admissions, School of Dentistry, A3-042 Dentistry, UCLA, Los Angeles, CA 90024-1762.

Postdoctoral Programs

The School of Dentistry offers the following opportunities for postdoctoral study: a one-year general practice residency program; a one-year advanced education in general dentistry program; a one-year residency in maxillofacial prosthodontics; a four- or six-year oral and maxillofacial surgery residency training program; a three-year periodontics and combined orthodontic/pediatric dentistry program; two-year programs in the specialties of pediatric dentistry, prosthodontics, endodontics, and orofacial pain and dysfunction; and a 27-month program in orthodontics.

Information on these postdoctoral programs can be obtained by writing directly to Postdoctoral Programs, School of Dentistry, A3-042 Dentistry, UCLA, Los Angeles, CA 90024-1762.

Oral Biology

63-050 Dentistry, (310) 825-1955

Professors
- George W. Bernard, D.D.S., Ph.D., Chair
- Douglas Junge, Ph.D.
- No-Hee Park, D.D.S., M.S., Ph.D.
- John A. Yagiela, D.D.S., Ph.D.
- Colin K. Franker, Ph.D., Emeritus
- Louis J. Goldberg, D.D.S., Ph.D., Emeritus

Associate Professors
- Lawrence E. Wolinsky, D.D.S., Ph.D.

Assistant Professors
- Susan A. Kinder, D.M.D., M.S., Ph.D.
- Kenneth T. Miyasaka, D.D.S., M.S., Ph.D.
- Igor Spigelman, Ph.D.

Adjunct Professor
- Bernard G. Sarnat, M.D., M.S., D.D.S.

Adjunct Associate Professor
- Carol A. Bibb, Ph.D., D.D.S.

Adjunct Assistant Professors
- Jaime Bukacz, D.D.S., Dr.Odont., Ph.D.
- Christine L. Quinl, D.D.S., M.S.

Scope and Objectives

Oral biology is that area of knowledge which 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.

Requirements for Graduate Degrees

Admission

Applicants must have a B.S., D.D.S., or D.M.D. degree, or the equivalent, with strong background in basic sciences, including two years of chemistry (inorganic, organic, and biological chemistry), one year of biology, and one year of physics. The Graduate Record Examination
(GRE) and the Dental Aptitude Test (DAT) are not required but may be submitted. Three letters of recommendation and a statement of purpose describing your background, work experience, interests, and career goals are required as part of the admissions packet. There is no separate application form other than that required by UCLA Graduate Application Processing. International students are considered individually after evaluation of their curriculum and training and must take an English language proficiency examination. Refer to “Proficiency in English” under “Graduate Admission” in Chapter 3 for further information. Contact the Graduate Adviser, Oral Biology Section, School of Dentistry, 63-050 Dentistry, UCLA, Los Angeles, CA 90024-1668, for more information and program brochures.

Major Fields and Subdisciplines
Bacterial and fungal pathogenesis, biochemistry, calcified tissue metabolism and developmental biology, immunology, neuroscience, pharmacology and therapeutics, and virology.

Course Requirements
All graduate students must take the five core courses — Oral Biology 201 A-201 B-201 C, Biology 100A, and Biomathematics 170A. Additional course requirements are listed under each program.

Master of Science Degree
Course Requirements
In addition to the five required core courses listed above for all students, you must complete Oral Biology 202, 260, and several elective courses. Courses 596 and 598 are required 500-series courses. You are eligible to take two to eight units at a time on an S/U grading basis as many times as needed. A maximum of eight units of 500-series courses may be applied toward the total course requirement, of which four units may be applied toward the minimum graduate course requirement.

Thesis Plan
The master's thesis is intended to demonstrate your ability to design and carry out a research project and then to analyze and present the resulting data. The thesis must be prepared according to high standards of experimental design and data analysis. The subject of the thesis must be approved by the faculty adviser, who will direct the work of the thesis, and the thesis committee. At the end of your first year of study, you should prepare and send to the graduate adviser a brief description of the proposed research project. The thesis should be prepared mainly in consultation with your faculty adviser, although other committee members are available for assistance.

Final Oral Examination
The final oral examination, administered by the thesis committee, is required of all candidates and is a defense of the thesis.

Ph.D. Degree
Course Requirements
In addition to the five required core courses listed above for all students, you must complete additional required and elective courses (minimum of four to five courses) in your area of emphasis in your second year. Laboratory rotations and seminars are also required.

Teaching Experience
All doctoral students are expected to participate in teaching activities by assisting the faculty in a one-term oral biology course offered to dental students. You must participate fully in the planning and delivery of the course.

Qualifying Examinations
After completing the required core courses, you take a broad essay-type written examination in the major areas of oral biology and cell biology administered by the graduate training committee. After passing the written qualifying examination, you are expected to select an area of emphasis for further study. At the end of your second year of study, you submit a proposal for the University Oral Quali-
Articulated Degree Programs

You may apply for a combined D.D.S./M.S., advanced certificate training/M.S., or advanced certificate training/Ph.D. by making simultaneous application for graduate standing in Oral Biology and for admission to the D.D.S. program or the certificate program. To participate you must be accepted by both of the concerned units.

Graduate Courses

201A-201B-201C. Advanced Oral Biology (3 units each). Prerequisite: consent of instructor:
201A. Ontogenesis. 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.

Mr. Bernard and the Staff (F)

201B. Homeostasis in Oral Systems. Normal regulatory functions of various oral systems. Topics include immune systems, mechanisms of salivary secretion and nonspecific salivary protective mechanisms, integrated behavior of sensory and motor systems, mechanisms of deposition and resorption of bone, dentin, and enamel, ionic and hormonal influences on bone regulation.

Mr. Junge and the Staff (W)

201C. Pathobiology. 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.

Mr. Park and the Staff (Sp)

202. Principles and Methods of Research. Discussion, two hours. Prerequisite: consent of instructor. Examination and discussion of various approaches to research methodology, from formation of hypotheses to experimental testing and analysis and interpretation of data. Library work to be studied from standpoint of obtaining background information and writing a paper. Hypotheses based on class members' interests to be critiqued and elaborated into research proposals. Research faculty to speak informally on their individual approaches to scientific investigation.

Mr. Junge and the Staff (Sp)

M203. Oral Embryology and Histology. (Same as Anatomy M223.) Lectures and laboratory instruction in development and histological structure of facial region and oral and peri-oral organs and tissues.

Mr. Bernard and the Staff (Sp)

204. Mechanisms and Relief of Pain (2 units). (Not the same as course 204 prior to Winter Quarter 1993.) Advanced treatment of neuroanatomical, neurophysiological, and biochemical bases of pain perception. Topics include classical pain theories, pain receptors and pathways, endogenous mechanisms of pain modulation, and pharmacological basis for treatment of pain disorders. Lecture series followed by student presentations of relevant literature and discussion of current advances in pain research.

Mr. Spigelman (W)

211. Biology of the Temporomandibular Joint (2 units). 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.

Ms. Bibb, Mr. Clark, and the Staff (W)

226A-226B. Craniofacial Growth and Development (2 units each). Prerequisite: 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 which aid their understanding and analysis of course content that has application to their specific and professional fields. In Progress grading.

Mr. Rudolph and the Staff (F, W)

227. Dental Embryology and Histology (2 units). Description and interpretation of important stages in development of the orofacial 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.

Ms. Bibb (F)

228. Dental Pharmacology and Therapeutics (2 units). 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.

Mr. Yagiela (F)

250. Oral Biology Seminar (2 units). 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 related to oral biology, involving participants in important areas of investigation. S/U grading.

Mr. Wolinsky and the Staff (F, W, Sp)

M293. Major Concepts in Oncology. (Same as Microbiology and Immunology M293 and Pathology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Designed for graduate students contemplating research in oncology. Topics include cancer pathophysiology, genetics, membranes, macromolecular synthesis and control, cell cycle, growth control, physical, chemical, and viral oncogenesis, epidemiology of cancer; tumor immunology, principles of cancer surgery, radiation therapy, and chemotherapy. S/U or letter grading.

Mr. Hankinson (W)

596. Directed Individual Study or Research (2 to 8 units). S/U grading.


A modern school of medicine exists in many minds and in many places. It includes many more disciplines than all those available to such physicians as Copernicus and John Locke, famous for discoveries well beyond medicine then or now. UCLA School of Medicine faculty and students may be found in the Molecular Biology Institute and in the Department of Physiology, in the clinics, wards, and operating rooms of the UCLA Medical Center and Los Angeles County Harbor-UCLA Medical Center, in the Health Sciences Computer Center, in the Louise Darling Biomedical Library, and in dozens of other clinical and scientific facilities.

Regarded by many physicians and medical faculty to be among the best in the nation, UCLA's School of Medicine encompasses a wide range of clinical specialties, including neurology, obstetrics and gynecology, ophthalmology, orthopedic surgery, pediatrics, radiation oncology, and surgery. Graduate work leading to the M.S. and/or Ph.D. degrees is offered through the Graduate Division, either separately or in conjunction with the M.D. program, in 10 different disciplines.

Each department of the school is staffed by a distinguished faculty of respected researchers and practitioners. They have at their disposal 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.
School of Medicine

12-109 Center for the Health Sciences, (310) 825-6081

The UCLA School of Medicine offers an M.D. degree program, several allied health programs in affiliation with other hospitals and universities, and a number of postgraduate medical training programs. In addition to specialties in medicine, neurology, obstetrics and gynecology, ophthalmology, orthopedic surgery, pediatrics, radiation oncology, and surgery, which lead to the M.D. degree, a range of master’s and doctoral degrees is offered through the Graduate Division.

M.D. Degree Program

The four-year curriculum leading to the degree of Doctor of Medicine (M.D.) at UCLA is designed to develop a comprehensive scientific and humane 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.

During the first two years, which are devoted mainly to the basic sciences with only periodic, brief clinical exposure, instruction is primarily in the form of lectures, laboratory sessions, small group problem-oriented instruction, demonstrations, and tutorials. In the last two years, instruction in patient care is given in the form of required and elective clinical rotations at the UCLA Medical Center and at the many affiliated hospitals.

All of the medical school departments participate in the medical curriculum leading to the M.D. degree. If you are interested in details on the M.D. curriculum and a listing of courses offered in each department, or if you wish to make application to the M.D. program, you should obtain a copy of the Announcement of the UCLA School of Medicine from the Office of Student Affairs, School of Medicine, 12-109 CHS, UCLA, Los Angeles, CA 90024-1720. You are also referred to Chapter 5 of this catalog for details on the four-year premedical studies program offered by the College of Letters and Science.

Graduate Programs

Master’s and/or doctoral degrees are offered through the UCLA Graduate Division in the following fields: anatomy, biological chemistry, biomathematics, biomedical physics (Department of Radiological Sciences), experimental pathology, microbiology and immunology, neuroscience, nurse anesthesia, pharmacology, and physiology. Detailed information on these programs, for which admission to the School of Medicine is not required, is provided in the departmental listings which follow.

For information on the proficiency in English requirements for international graduate students, refer to “Graduate Admission” in Chapter 3.

Additional Programs

Articulated Degree Programs

The School of Medicine offers an articulated degree program in conjunction with the Graduate Division which allows you to earn both the M.D. and Ph.D. in seven years, depending on your course of study and research. The Ph.D. may be awarded in one of several medical science fields. For more information, contact the Medical Scientist Training Program at (310) 794-1817.

In addition, an arrangement with the School of Public Health enables you to pursue the M.P.H. degree while attending medical school. Interested students should consult the Student Affairs Office in the School of Public Health.

Allied Health Programs

Programs in allied health include animal care technician, dental assistant, dental hygienist, dietetics technician, emergency medical technician, social work, pharmacy, respiratory thera-

Graduate Degrees Offered

<table>
<thead>
<tr>
<th>Program</th>
<th>Degree</th>
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<tr>
<td>Anatomy and Cell Biology</td>
<td>M.S.*, C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Anesthesiology (Nurse Anesthesia)</td>
<td>M.S.*</td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>M.S., Ph.D.</td>
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<tr>
<td>Biomathematics</td>
<td>M.S., Ph.D.</td>
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<tr>
<td>Microbiology and Immunology</td>
<td>M.S.*, Ph.D.</td>
</tr>
<tr>
<td>Neuroscience</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Pathology (Experimental Pathology)</td>
<td>M.S., Ph.D.</td>
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<tr>
<td>Pharmacology</td>
<td>M.S.*, Ph.D.</td>
</tr>
<tr>
<td>Physiology</td>
<td>M.S.*, Ph.D.</td>
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<tr>
<td>Psychiatry and Biobehavioral Sciences</td>
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<tr>
<td>Clinical Psychology Internship</td>
<td>Certificate</td>
</tr>
<tr>
<td>Radiological Sciences (Biomedical Physics)</td>
<td>M.S., Ph.D.</td>
</tr>
</tbody>
</table>

*The department only admits applicants whose objective is the Ph.D.

Postgraduate Medical Training Programs

Postgraduate training programs, including residencies, are available at several off-campus sites in addition to those offered at the UCLA Medical Center. Programs at the allied 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 Office of Student Affairs, UCLA School of Medicine.
Anatomy and Cell Biology

73-235 Center for the Health Sciences, (310) 825-9555

Professors
George W. Bernard, D.D.S., Ph.D.
Dean Beck, Ph.D. (Dolly Green Professor of Ophthalmology; Distinguished Teaching Award).
Vice Chair
Nicholas C. Brecha, Ph.D., in Residence
Nathaniel A. Buchwald, Ph.D., in Residence
Carmine D. Clemente, Ph.D., in Residence
Edwin L. Cooper, Ph.D.
Jean S. de Vellis, Ph.D., in Residence
Ellen R. Dinkin, Ph.D.
Jerome Engel, M.D., Ph.D.
Robin S. Fisher, Ph.D., in Residence
Roger A. Gorski, Ph.D. (Distinguished Teaching Award)
Ronald M. Harper, Ph.D.
Lawrence Kruger, Ph.D.
John K. Lu, Ph.D.
Paul E. Miesey, Ph.D., Interim Chair
Arnold B. Scheibel, M.D.
John D. Schlag, M.D.
M.B. Sterman, Ph.D., in Residence
Anna N. Taylor, Ph.D., in Residence
James R. Villablanca, M.D., in Residence
Charles D. Woody, M.D., in Residence
Guido A. Zampighi, D.D.S., Ph.D.

Professors Emeriti
Emilio E. Decima, M.D.
Earl Eldred, M.D.
Daniel C. Pease, Ph.D.
Charles H. Sawyer, Ph.D.
José P. Segundo, M.D.
Bernard Towers, M.D.
Richard W. Young, Ph.D. (Distinguished Teaching Award)
Emery G. Zimmermann, M.D., Ph.D.

Associate Professors
Anthony M. Adinolfi, Ph.D.
John H. Campbell, Ph.D.
Carolyn R. Houser, Ph.D., in Residence

Assistant Professors
Philip S. LaPolla, Ph.D.
Jorge R. Manolios, Ph.D.
Erik S. Schweitzer, M.D., Ph.D.

Adjunct Professors
James F. McGinnis, Ph.D.
Margaret N. Shouse, Ph.D.

Adjunct and Clinical Associate Professors
Earle E. Crandall, M.D., Ph.D., F.A.C.S.
Nathaniel A. Buchwald, Ph.D., in Residence
M. Cristina Kenney, M.D., Ph.D., Adjunct
Carlos A.E. Lemmi, Ph.D., Adjunct
Anselmo R. Pineda, M.D., Clinical

Adjunct Assistant Professor
Robert B. Trelease, Ph.D.

Scope and Objectives

The Department of Anatomy and Cell Biology offers advanced training leading to the Ph.D. degree. The great majority of students graduating with a doctoral degree in anatomy and cell biology can look forward to an academic career in medical and dental schools or research institutes and, in accord with this, the department strives to produce graduates soundly qualified both for teaching of anatomic subjects at this level and for the conduct of productive research in cell biology and neurobiology. An informational brochure may be obtained by writing to the Vice Chair, Department of Anatomy and Cell Biology, 73-235 CHS, UCLA, Los Angeles, CA 90024-1763.

Requirements for Graduate Degrees

Admission

Applicants must have a bachelor's degree in a physical or biological science or in a premedical curriculum. Introductory courses in zoology, one year of general and organic chemistry, and one year of college physics are required. Courses in comparative anatomy, embryology, cell biology, genetics, and elementary statistics are highly recommended.

Ph.D. admission is through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280. Master's degree applicants will not be admitted a priori, as the M.S. degree is awarded only under exceptional circumstances.

Major Fields or Subdisciplines

The major fields in which graduate research may be undertaken include (1) cell biology, (2) molecular biology, and (3) neuroscience.

Master of Science Degree

The Anatomy and Cell Biology Department offers the Ph.D. degree, and students may obtain the M.S. degree; however, the department normally does not admit candidates for the M.S. degree only.

Ph.D. Degree

Course Requirements

(1) Completion of the following required courses:
Anatomy and Cell Biology M202, M209A (or Biological Chemistry M267), 209B, Biological Chemistry CM253.

(2) Participation in at least three seminar courses, one of which should be in the Department of Anatomy and Cell Biology.

(3) Completion of such elective courses as are essential for your research interest.

(4) Rotation through three research laboratories in your first year, one term each, with course 596 credit (six units).

Teaching Experience

Since the anatomy and cell biology profession generally imposes relatively heavy teaching obligations, you are required to gain teaching experience in two courses in your second year, one in a major departmental course and the second in a course offered by the College of Letters and Science.

Qualifying Examinations

You must submit a research proposal in the format of an individual National Institutes of Health (NIH) grant application by the end of Spring Quarter of your second year. The proposal should reflect, as closely as possible, the plan for your dissertation research. An appointed committee reviews and grades your proposal. When your research proposal is approved, all requirements of the written qualifying examination, which is intended to evaluate your knowledge of the research field and ability to formulate a practicable and significant research program, are satisfied.

After satisfying the requirements of the written qualifying examination, you take the University Oral Qualifying Examination, which is a defense of your proposal accompanied by a 30- to 60-minute presentation with appropriately prepared visual aids and is graded by your doctoral committee.

The Anatomy and Cell Biology Department may decline to admit any student to the qualifying examination if, in its judgment, the student is inadequately prepared, is not sufficiently interested in those fields of research in which the department can offer sufficient guidance, or is for other reasons not adaptable to the program.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D. and are encouraged to do so.

Final Oral Examination

After you complete the research and writing of the dissertation, you are required to give a final public seminar on your findings. You must also defend your dissertation in a final oral examination before your doctoral committee in closed session.

Upper Division Courses

102. Gross Anatomy of the Human Body (8 units). Lecture, three hours; laboratory, nine hours. Prerequisites: dental or graduate student standing, consent of instructor. Systemic and topographical human anatomy, with dissection of human cadaver. Emphasis on head and neck. P/NP grading.

Mr. Zampighi and the Staff (W)

104. Histology and Cell Biology (6 units). Lecture, four hours; laboratory, six hours. Prerequisites: dental student standing or consent of course chair. Required of freshman dental students. Lectures, demonstrations, and laboratories dealing with structural organization of cells, tissues, and organs at microscopic level. Nervous system included.

Mr. Campbell and the Staff (F)

106. Functional Neuroanatomy. Lecture/laboratory, three two-hour sessions. Prerequisite: dental student standing or consent of instructor. Lectures, demonstrations, and laboratories dealing with structure and functional organization of nervous system.

Mr. Harper and the Staff (Sp)

199. Individual Special Studies (2 to 6 units). Prerequisite: consent of instructor. Studies in anatomy and related subject areas appropriate for training of particular students, which may include reading assignments or laboratory work leading to a final oral or written report. S/U or letter grading.
Graduate Courses

201. Microscopic Anatomy and Cell Biology (7 units). Lecture/laboratory, two to three three-hour sessions (16-week semester). Prerequisite: medical student standing or consent of instructor. Microscopic study of structure and function of tissues and cells, with special reference to the human body. Mr. Gorski and the Staff (F)

M202. Neuroanatomy: Structure and Function of Nervous System. (Same as Neuroscience M201.) Lecture, three hours; laboratory, three hours. Prerequisites: Biology 166 or 171 or equivalent, consent of instructor. Anatomy of central and peripheral nervous system at the cellular histological and regional systems level. 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. Mr. Scheibell (F)

M203A-M203B. Basic Neurology. (Same as Physiology M203A-M203B.) Prerequisites: medical student standing or enrollment in qualified graduate program, consent of instructor. Runs throughout School of Medicine's second semester. Lectures, conferences, demonstrations, and laboratory procedures necessary to understand functions of nervous system. To receive credit, both courses must be taken together in same academic year. In Progress grading. Mr. Schlag and the Staff (F,Sp)

M204. Cellular and Molecular Developmental Neurobiology. (Same as Biology M230, Neuroscience M204, Physiology M204, and Psychiatry M204.) Lecture, three hours; discussion, one hour. Prerequisites: Neuroscience M201, M202, and M203, or Biological Chemistry 204A-204B, or consent of instructor. Cellular and molecular processes that regulate development of nervous systems of vertebrates and invertebrates. Topics include regional specification in early gene expression, generation of neuronal diversity, cell surface interactions and growth factors, neuronal and glial proliferation and migration, axonal outgrowth and guidance, synaptogenesis, trophic interaction, plasticity, regeneration, and aging. Mr. de Vellis and the Staff (W)

205A-205B. Gross and Developmental Anatomy for Medical Students (5 units each). Lecture/laboratory, three four-hour sessions (16 weeks beginning in August). Prerequisite: medical student standing, consent of department for nonanatomy majors. Gross anatomy, embryology, and development of the anatomy of the human body as taught by lectures, demonstrations, and dissection. Graduate students may take each course independently. 205A. Limbs, Thorax, and Abdomen (first eight weeks); 205B. Pelvis, Head, and Neck. Mr. Adinolfi and the Staff (F)

207. Gross and Developmental Anatomy for Graduate Students (12 units). Lecture/laboratory, three four-hour sessions (16-week semester). Prerequisite: consent of instructor. Gross anatomy, embryology, and radiological anatomy of the human body as taught by lectures, demonstrations, and dissection. Trunk and extremities; head and neck. Mr. Adinolfi and the Staff (F)

M209A. Molecular Cell Biology (6 units). (Formerly numbered 209A.) Same as Biology CM220 and Physiology M209A.) Prerequisite: consent of instructor; for undergraduates: Biology 100A. Chemistry 153A with consent of instructor. Introduction to molecular biology for graduate students in basic medical sciences and selected undergraduates. Topics include membrane structure, assembly, and function; biogenesis of organelles; intercellular and intracellular signaling, immunity and gene structure, function, and replication. Mr. Bok, Mr. Hormsheyr (W)

209B. Cellular and Molecular Neurobiology (6 units). Lecture, four hours; discussion, one hour; laboratory, one hour. Prerequisite: graduate standing. Introductory course for students planning to conduct cell biology or neurobiology research, with focus on cell biology and neurobiology topics in development and histological structure of peripheral nervous system. Emphasis on normal structure of neurons, glia, and meninges. Mr. Brecha, Mr. Fisher

211. Cellular Basis of Learned Behavior (2 units). Lecture/discussion, one two-hour session; laboratory, to be arranged. Prerequisites: microscopic anatomy, mammalian physiology, Anatomy and physiology of cerebral processes in alerting, learning, focusing attention, and memory. Mr. Woody (F)

M211. Cellular and Molecular Neurochemistry. (Formerly numbered M240.) (Same as Biological Chemistry M221, Neuroscience M240, Pharmacology M221, and Psychiatry M221.) Lecture, three hours; discussion, one hour. Prerequisite: biochemistry. Contemporary neurochemistry topics — metabolic specialization and compartments, metabolism and function of ion channels, structure and function of neurotransmitters. Inhibitors and molecular genetics. Special emphasis on hormonal and neural. Structure and function of the hypothalamus. Hormonal control of reproductive and other behaviors. Sexual differentiation of brain and behavior. Involvement of hormones, behavior, and neural aspects. Aging of reproductive behaviors and function. In Progress grading. Mr. Arnold (Sp, M255B, M255D), Mr. Miller (W, M255A, M255C)

258. Seminar: Neurosciences (2 units). Prerequisite: basic neurology. Topics of current interest or ongoing research projects; examination of both content and method of presentation. May be repeated for credit. Mr. Scheibell (F, odd years); W, even years

M261. Neuronal Circuit Analysis (2 units). (Same as Neuroscience M261.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Seminar with strong emphasis on specific reading assignments. Discussion of a selected aspect of the contemporary circuit analysis at advanced level; layout and performance of a variety of networks serving cognitive or motor functions. Mr. Schlag (W)

265. Evolution of Cancer (2 units). Prerequisite: consent of instructor. Review of current literature emphasizing appearance of tumors and neoplasms in representative invertebrates, fishes, amphibians, and reptiles. Theories of cancer development from the evolutionary viewpoint. Mr. Cooper (W)

M270A-M270B-M270C. Cell, Molecular, and Integrative Biology Seminars (2 units each). (Formerly numbered 270.) (Same as Physiology M270A-M270B-M270C.) Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Presentation of weekly seminars and discussions on current topics in cell and molecular biology by faculty members from Anatomy and Cell Biology, Physiology, and other UCLA departments, in addition to invited lecturers. S/U grading. (F,W,Sp)

290. Tutorials in Anatomy (2 units). Tutorial, one hour. Prerequisite: consent of instructor. Individual study with a faculty member leading to submission of a scientific document resembling a review article on a topic of mutual interest to instructor and student. S/U grading.

390A-390B. Peer Review System (2 units each). Prerequisite: advancement to candidacy in integrative or systems biology or consent of instructor. Introduction to peer review system for evaluation of research proposals. After consideration of grant review process, each student prepares abbreviated grant application which is evaluated in a mock peer review session moderated by the faculty. In Progress and S/U grading. Mr. Gorski (W,Sp, odd years)

495A-495F. Preparation for Teaching in Anatomical Sciences (2 to 4 units each). Prerequisites: graduate standing, consent of vice chair and instructor. Observation and practice of methods of teaching in anatomy, including preparation of material, participation in laboratory instruction, and presentation of review sessions, all with peers and faculty in a mock peer review session which is evaluated in a mock peer review session moderated by the faculty. In Progress and S/U grading.

597. Preparation for M255A-M255D. Seminars: Neural and Behavioral Endocrinology (3 units, 2 units, 3 units, 2 units). (Same as Physiological Science M255A-M255D and Psychology M294A-M294D.) Lecture, three hours. Topics include hormonal biochemistry and pharmacology, normal and abnormal integrations, both hormonal and neural. Structure and function of the hypothalamus. Hormonal control of reproductive and other behaviors. Sexual differentiation of brain and behavior. Involvement of hormones, behavior, and neural aspects. Aging of reproductive behaviors and function. In Progress grading. Mr. Arnold (Sp, M255B, M255D), Mr. Miller (W, M255A, M255C)

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 12 units).
Anesthesiology

Department: BH-518 Center for the Health Sciences, (310) 206-8890

Nurse Anesthesia Program: 14445 Olive View Drive, Sylmar, (818) 364-3277

Professors
Atsuo F. Fukunaga, M.D., in Residence
Joseph C. Gabel, M.D., Executive Chair
Lawrence Kruger, Ph.D.
Chingmuh Lee, M.D.
John C. Liebeskind, Ph.D.
Eduardo H. Rubinstein, M.D., Ph.D.
Leonard F. Wells, M.D.
Wyne R. Waugaman, CRNA, Ph.D.
John A. Yagiela, D.D.S.

Professors Emeriti
Gerald D. Allen, M.D.
Verne L. Brechner, M.D.
Mary E. Carsten, Ph.D.
John B. Dillon, M.D.
Joan W. Flacke, M.D.
Werner E. Flacke, M.D.
Ronald L. Katz, M.D.
Richard W. Patterson, M.D.
Stuart F. Sullivan, M.D.
Donald M. Wiberg, Ph.D.

Associate Professors
Kenneth A. Conklin, M.D.
Marie E. Csete, M.D., in Residence
Patricia A. Kapur, M.D.
Jordan D. Miller, M.D.
Stanley W. Stead, M.D.

Assistant Professors
Victor C. Baum, M.D.
Nicholas A. Deutsch, M.D., in Residence
Erin A. Sullivan, M.D., in Residence

Associate Professor of Clinical Anesthesiology
Judith E. Brill, M.D.

Adjunct and Visiting Professors
Maurice Lippman, M.D., Adjunct
Wilson C. Withe, Jr., M.D., Visiting, Executive Vice Chair

Adjunct and Clinical Associate Professors
Richard Y. Chen, M.D., Clinical
Carroll Dolan, M.D., Clinical
Thomas M. Grove, M.D., Clinical
Robert D. Kaufman, M.D., Adjunct
George F. Khoury, M.D., Clinical
Donald A. Kroll, M.D., Ph.D., Clinical
Marie G. Kuffner, M.D., Clinical
Jill L’Armand, M.D., Clinical
Tai Shion Lee, M.D., Adjunct
Anthony M. Nyerges, M.D., Clinical
David F. O’Donnell, M.D., Clinical
John W. Ritter, M.D., Clinical
Harvey K. Rosenbaum, M.D., Clinical
Naomi Saucier, M.D., Clinical
Stanley S. Schneider, M.D., Clinical
Young Zin Sohn, M.D., Adjunct
Elaine C. Yang, M.D., Adjunct
Fahimeh Ziadlourad, M.D., Clinical

Clinical Assistant Professors
Elizabeth Andersen, CRNA
Corrie T.M. Anderson, M.D.
Michelle Y.C. Braunsfeld, M.D.
Joseph L. Cadfanel, M.D.
Howard I. Chait, M.D.
Linda S. Finander, CRNA, M.S.
Peter J. Gesund, M.D.
Gail S. Goldstein, M.D.
Charles A. Griffin, CRNA, M.S.
Dana L. Grogan, R.N., CRNA, M.S.
Johnny R. Harrison, M.D.
Richard B. Hoberman, M.D.
Marshall B. Kaplan, M.D.
Mary A. Keyes, M.D.
Carol L. Mann, CRNA, M.S.
Robert T. Naruse, M.D.
Jeanette F. Peter, CRNA, M.Ed.
Sushma Sangwan, M.D.
Michael J. Sopher, M.D.
Lynne G. Swain, CRNA, M.S.
Barbara M. Van de Wiele, M.D.
Celi E. Verrellino, CRNA, M.S.
Laura Wong, CRNA

Scope and Objectives

The Department of Anesthesiology in the School of Medicine, in conjunction with the Los Angeles County Olive View-UCLA Medical Center, offers a program leading to the M.S. degree in Nurse Anesthesia. Administratively housed at the Olive View-UCLA Medical Center, the program trains qualified registered nurses in the specialty of anesthesiology and prepares graduates for the national certification examination for nurse anesthetists. Graduates attain a high level of clinical competence combined with an extensive body of didactic knowledge relevant to the specialty. The program is designed to lead to careers in the clinical practice of nurse anesthetists, with the opportunity to participate in research in the area.

Master of Science in Nurse Anesthesia

Admission

The following admission requirements must be met:
(1) A Bachelor of Science degree in Nursing or other appropriate undergraduate degree.
(2) Graduation from an accredited nursing program satisfactory to the program and to the UCLA Graduate Division. You may be required to enroll in certain additional undergraduate courses prior to final consideration of the program.
(3) Mandatory evidence of status as a registered nurse in the State of California.
(4) Completion of a minimum of two years of experience as a graduate nurse in an acute care area of nursing, preferably an intensive care unit.
(5) Professional and academic competence attested through three letters of recommendation.
(6) Graduate Record Examination (GRE) General Test scores submitted to the program.
Comprehensive Examination Plan

Students electing this option must demonstrate theoretic and clinical competence in the field. This option is generally recommended for students continuing to doctoral degree study. The oral examination is general in scope and may include information from all aspects of the curriculum. A written comprehensive examination is also required for course completion. Examinations are offered quarterly.

Other Requirements

(1) You must complete all requirements for the Master of Science degree in a minimum of 10 terms, but no more than 12 terms, of consecutive full-time enrollment.

(2) The program does not discriminate on any basis unless a disability is determined by the admissions committee to preclude the safe clinical practice of anesthesia.

(3) You must complete a minimum of 550 cases as the primary anesthetist. You must meet all program requirements for graduation to qualify for the certification examination of the Council on Certification of Nurse Anesthetists.

Graduate Courses

210A. Chemistry and Physics of Nurse Anesthesiology I (2 units). Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Study of principles of chemistry and physics as applied specifically to practice of anesthesia. Mr. Griffiths (F).

210B. Chemistry and Physics of Nurse Anesthesiology II (2 units). Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Continuation of study of chemistry and physics as related to anesthesia management, with specific emphasis on biochemistry as related to acid-base balance and theory of narcosis. Mr. Griffiths (S).

215A. Pharmacology of Nurse Anesthesiology I. Lecture, four hours; discussion, one to two hours. Introduction to basic pharmacological principles as applied to administration of anesthesia. Study of uptake and distribution, mechanism of action, fate, and toxicity as related to anesthetic agents. Ms. Gold and the Staff (F).

215B. Pharmacology of Nurse Anesthesiology II. Lecture/discussion. Study of pharmacology of adjunct drugs influencing anesthesia administration, including their uptake and distribution, mechanism of action, fate, biotransformation, and toxicology. Ms. Gold and the Staff (W).

220. Respiratory Anatomy and Physiology for Nurse Anesthetists (2 units). Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Study of structure and function of respiratory system, with emphasis on anatomy and physiology at cellular level. Ms. Mann (W).

221. Cardiovascular Anatomy and Physiology for Nurse Anesthetists (2 units). Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Integrated study of anatomy and physiology of cardiovascular system as related to management of anesthesia administration. Ms. Grogan (W).

400A. Basic Clinical Anesthesia for Nurse Anesthetists I (2 units). Lecture, three hours; laboratory, 30 hours. Prerequisites: courses 402A, 402B. Correlation of techniques of anesthesia administration with basic science knowledge as applied in the clinical area with supervised practice. S/U grading. Ms. Vercellino (Sp).

400B. Basic Clinical Anesthesia for Nurse Anesthetists II (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400A. Continuation of practice of techniques of anesthesia administration as applied in the clinical area with supervised practice. S/U grading. Ms. Vercellino (Sp).

400C. Basic Clinical Anesthesia for Nurse Anesthetists III (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400B. Continuation of techniques of anesthesia administration as applied in the clinical area with supervised practice. S/U grading. Ms. Vercellino (W).

400D. Clinical Anesthesia for Nurse Anesthetists IV (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400C. Practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Vercellino (W).

400E. Clinical Anesthesia for Nurse Anesthetists V (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400D. Practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Vercellino (Sp).

400F. Clinical Anesthesia for Nurse Anesthetists VI (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400E. Practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Vercellino (Sp).

400G. Clinical Anesthesia for Nurse Anesthetists VII (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400F. Practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Vercellino (F).

401. Legal Aspects and Bioethics (2 units). Lecture, two hours; discussion, 30 minutes to one hour. Prerequisite: consent of department. Introduction to history, bioethics, and legal aspects of nurse anesthesia. Exploration of psychology related to the patient undergoing surgery and anesthesia. Ms. Waugaman (W).

402A. Fundamentals of Anesthesia Practice for Nurse Anesthetists. Lecture, four hours; discussion, one to two hours. Prerequisite: consent of instructor. Introduction to basic principles of anesthesia administration, including preanesthetic assessment, physical examination, techniques and procedures, and anesthesia for specialized techniques and surgery. Ms. Waugaman (W).
402B. Fundamentals of Anesthesia Practice for Nurse Anesthetists (2 units). Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Continuation of techniques and procedures, and anesthesia for specialized techniques and surgery. (W)

597. Preparation for M.S. Comprehensive Examination (2 units). Prerequisite: consent of instructor. Opportunity to pursue comprehensive study in anesthesiology and related areas on individual basis, with opportunity for discussion of material with instructor. S/U grading. Ms. Waugaman (Sp)

598A. Research in Anesthesia I (2 units). Prerequisite: consent of instructor. Opportunity to pursue anesthesiology research outlets for thesis preparation. Independent research of quality suitable for publication required. May be selected instead of oral comprehensive examination for completion of M.S. program. S/U grading. Ms. Waugaman (Sp)

598B. Research in Anesthesia II (2 units). Prerequisite: consent of instructor. Opportunity to pursue anesthesiology research outlets for thesis preparation. Independent research of quality suitable for publication required. May be selected instead of oral comprehensive examination for completion of M.S. program. May be repeated twice for credit. S/U grading. Ms. Waugaman (F,W)

Adjunct Professor
William T. Wickner, M.D.

Instructor
Felice D. Kurtzman, M.P.H.

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 "classical" 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 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.

Requirements for Graduate Degrees

Admission
Admission is through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.

Under special circumstances, new Ph.D. students may be admitted directly to the department, in which case the following criteria apply. In addition to the University's minimum requirements, which include a bachelor's degree (preferably in chemistry or a biological science), students should normally have completed the following: general chemistry, quantitative chemistry, organic chemistry (with laboratory), general physics, mathematics through calculus, and general biology (or bacteriology, botany, zoology, biochemistry, or molecular biology). More advanced courses in these areas are also recommended where possible.

You are expected to take the Graduate Record Examination (GRE) General Test, preferably in October or before, but no later than December of the year prior to expected admission. It is strongly recommended that you also take the GRE Subject Test in either Biology, Chemistry, or Biochemistry. In exceptional circumstances, the GRE test requirements may be waived by the departmental graduate admissions committee. If your native language is other than English, you are expected to take an appropriate examination which tests proficiency in English (e.g., TOEFL) prior to the time of application to this department.

There is no separate application form required for admission to the department, but at least three letters of recommendation are required. Have them sent directly to the Graduate Information Office at the address below.

Departmental brochures and information may be obtained by writing to the Graduate Information Office, Department of Biological Chemistry, 33-257 CHS, UCLA, Los Angeles, CA 90024-1737.

Course Requirements
All graduate students must take the three core courses (Biological Chemistry M248 or M255, CM253, and CM267) unless excused by the graduate adviser. (See additional course requirements under each degree program.)

Master of Science Degree

Course Requirements
In addition to the core course requirements described above for all students, elective courses must be taken to complete the total of nine courses (36 units) required for the degree.

No more than two courses (eight units) in the 500 series may be applied toward the total course requirement, and only one (four units) of the two courses may be applied toward the minimum graduate course requirement (20 units) for the degree.

With consent of the graduate adviser, Biological Chemistry 596, 597, and 598 may be taken if they are appropriate to your program. Course 596 is graded on an S/U or letter basis; 597 and 598 are graded S/U only.

Comprehensive Examination Plan
In general, the department prefers students to enter directly into the Ph.D. program, but if you enter the master's program, the comprehensive examination plan is preferred. Only in exceptional situations is a student approved for the thesis plan. In either plan you must pass the departmental written examination after completing the course requirements. This examination is formulated by the departmental graduate student guidance committee from questions submitted by the various faculty members, who also evaluate your answers to the questions. The committee evaluates your overall performance on the examination. Only course requirements and the written examination are needed to complete the comprehensive examination plan.
Thesis Plan

In addition to coursework, a written thesis is required. A thesis committee helps you plan the thesis research, determines the acceptability of the thesis, administers a final examination (if deemed appropriate), and recommends appropriate action on the granting of the degree. In the event of an unacceptable thesis or performance on the final examination (if one is given), the thesis committee determines if it is appropriate for additional time to be granted to rewrite the thesis or to be reexamined.

Ph.D. Degree

Admission

Admission is through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences. Under special circumstances, students may be admitted directly to the department.

Course Requirements

In addition to the general course requirements listed above, students in the Ph.D. program are expected to complete:

1. Research in a laboratory of your choice through UCLA ACCESS each term during your first year.
2. A total of six units of elective courses in addition to the core courses described above. One of the courses must be a scientific language/instrumentation course (e.g., computer language, statistics, electron microscopy). Elective courses may be selected from those offered by any department.
3. Three courses 596, 597, and/or 599 during terms in which research (596, 599) or study for grades in Molecular and Cellular Life Sciences.

Teaching Experience

All students in the doctoral program are expected to participate in teaching activities by assisting the faculty in a laboratory for medical students (usually one day a week for one term during the second year) and in one undergraduate course offered by the College of Letters and Science in the third year.

Qualifying Examinations

The departmental written examination consists of writing two research proposals, one covering your thesis project and one covering a hypothetical proposal unrelated to your thesis project. The University Oral Qualifying Examination, which must be passed before you can be advanced to candidacy, consists of the presentation and defense of the two written proposals. The doctoral committee determines whether you pass both examinations and whether reexamination is allowed in case of failure. The examinations may be repeated only once. It is expected that both examinations will be completed by the beginning of your third year of graduate work.

Final Oral Examination

The doctoral committee may elect to waive the final oral examination.

Articulated Degree Program

Students may apply for the M.D./Ph.D. program by making simultaneous application for graduate standing in this department and for admission to the School of Medicine. Acceptance by both of the concerned units is necessary. Certain changes in the requirements (e.g., fewer required courses) allow some savings in time compared to separate M.D. and Ph.D. degrees.

Upper Division Courses

CM153G. Macromolecular Structure (6 units).

CM169. Macromolecular Metabolism and Subcellular Organization (6 units).

CM179. Membrane Molecular Biology (6 units).

CM189. Macromolecular Metabolism and Subcellular Organization (6 units).

CM199. Mechanisms in Regulation of Transcription (2 units).

CM209A. Mechanisms in Regulation of Transcription II (2 units).

CM219A. Mechanisms in Regulation of Transcription III (2 units).

CM229A. Mechanisms in Regulation of Transcription IV (2 units).

CM239A. Mechanisms in Regulation of Transcription V (2 units).

CM249A. Mechanisms in Regulation of Transcription VI (2 units).

CM259A. Mechanisms in Regulation of Transcription VII (2 units).

CM269A. Mechanisms in Regulation of Transcription VIII (2 units).

CM279A. Mechanisms in Regulation of Transcription IX (2 units).

CM289A. Mechanisms in Regulation of Transcription X (2 units).

CM299A. Mechanisms in Regulation of Transcription XI (2 units).

CM309A. Mechanisms in Regulation of Transcription XII (2 units).

CM319A. Mechanisms in Regulation of Transcription XIII (2 units).

CM329A. Mechanisms in Regulation of Transcription XIV (2 units).

CM339A. Mechanisms in Regulation of Transcription XV (2 units).

CM349A. Mechanisms in Regulation of Transcription XVI (2 units).

CM359A. Mechanisms in Regulation of Transcription XVII (2 units).

CM369A. Mechanisms in Regulation of Transcription XVIII (2 units).

CM379A. Mechanisms in Regulation of Transcription XIX (2 units).

CM389A. Mechanisms in Regulation of Transcription XX (2 units).

CM399A. Mechanisms in Regulation of Transcription XXI (2 units).

Graduate Courses

201A-201B. Biological Chemistry (5 units each).

Prerequisites: organic chemistry; consent of instructor required for nonmedical students. Primarily for first-year medical students 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 together in same academic year. In Progress and S/U grading.

204. Biological Chemistry Laboratory (3 units).

Discussion, one hour; laboratory, six hours. Prerequisite: consent of instructor required for nonmedical students. Experiments illustrating techniques and procedures in medically related biochemistry; analysis of experimental results. S/U or letter grading.

Mr. Edmond, Mr. Rome, and the Staff (Sp, eight weeks)

205. Biological Chemistry and Nutrition Lecture (Dental Students) (6 units).

Lecture, six hours; computer laboratory. Prerequisite: dental student standing. Biochemical and genetic factors influencing normal and disease states: structure and metabolism of cellular constituents, intermediary metabolism and its regulation, endocrine and neurochemical mechanisms, connective tissue/mineralization. Includes computer laboratory and self-instruction on dietary assessment in dentistry.

Ms. Zamenhof and the Staff (F)

220A-220B-220C. Research Laboratory Rotations (2 to 8 units each).

Prerequisite: consent of instructor. 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 adviser. S/U or letter grading.

Mr. Edwards, Mr. Payne, and the Staff (F, 220A; W, 220B; Sp, 220C)

M221. Cellular and Molecular Neurochemistry. (Formerly numbered M221A.) (Same as Anatomy M221, Neuroscience M240, Pharmacology M221, and Psychiatry M221.) Lecture, three hours; discussion, one hour. Prerequisite: biochemistry. Contemporary neurochemistry topics metabolic specialization and compartments, metabolism and function of ion channels, structure and function of neurotransmitters. Inborn errors of nucleic acid metabolism, molecular imaging, aging, and regeneration. Receptor/effector coupling. S/U or letter grading.

Mr. de Vellis, Mr. Olsen (W)

M223. Membrane Molecular Biology (6 units).

(Lecture, five hours. Prerequisites: course CM253 or consent of instructor, graduate or selected upper division undergraduate standing. 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.


Same as Biology M233, Chemical Engineering M233, Chemistry M233, Microbiology M233, and Radiological Sciences M233.) Prerequisite: graduate standing or consent of instructor. Presentation of technologies, regulatory practices, and policies required for product development and review of current opportunities for new technology development. Topics include biotechnology, bioproducts, bioprocess technologies, large-scale bioprocess technologies, scaleup strategies, industrial recombinant DNA processes, hybridomas, protein engineering, peptide mimetics and rational drug design, monoclonal antibody, microscopic imaging, and intellectual property issues. S/U or letter grading.

Mr. Fox, Ms. Morrison
M248. Molecular Genetics. (Same as Biology M248 and Microbiology M248.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Basic concepts in modern genetics, with examples from both eukaryotic and prokaryotic systems. Emphasis on use of genetic techniques for addressing fundamental questions in biochemistry and molecular biology. Topics include mutagenesis, mutant selection, recombination, genetic mapping, complementation, transposable elements, gene organization, genetic regulation, and molecular evolution.

Mr. Johnson and the Staff (Sp)

251A-251B-251C. Seminars: Transcriptional Regulation (2 units each). Prerequisite: consent of instructor. Advanced courses on mechanisms of gene transcription in both eukaryotes and prokaryotes intended for students actively working or highly interested in transcription. S/U or letter grading.

Mr. Carey

CM253. Macromolecular Structure (6 units). (Formerly numbered CM253.) (Same as Chemistry CM253.) Lecture, five hours. Prerequisites: Chemistry 110A, 110B, 115A, 153B, 153C, 156, or equivalent. Chemical and physical properties of proteins and nucleic acids. Structure, cloning, and analysis of RNA; biosynthesis and processing of RNA; biosynthesis, purification, structure, and analysis of proteins; correlation of structure and biological properties. Concurrently scheduled with course CM153G.

Mr. Eisenberg, Mr. Giliz, and the Staff (F)

M255. Biological Catalysis. (Same as Biology CM255, Chemistry CM255, and Pharmacology M255.) Prerequisites: Biology 100A, 100B, Chemistry 110A, 115A, 153B, or equivalent, consent of instructor. 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. Mr. Cho, Mr. Fukuto, Mr. Sigman (W)

M257. Physical Chemistry of Biological Macromolecules (2 units). (Same as Chemistry CM257.) Prerequisites: Chemistry 110A and 153A, or consent of instructor. Theory of hydrodynamic, thermodynamic, and optical techniques used to study structure and function of biological macromolecules.

Mr. Eisenberg and the Staff

CM259A. Mechanisms in Regulation of Transcription I (2 units). (Same as Chemistry CM259A.) Lecture, four hours; outside study, two hours. Prerequisite: course CM253 or CM267 or consent of instructor. Mechanisms that control transcription in bacteria. Repression and activation at promoters. Sigma factors and polymerase binding proteins. Signal transduction pathways in transcription. Control of termination. Concurrently scheduled with course CM159A. In Progress grading (credit to be given only on completion of course CM259A).

Mr. Gralla (Sp, first five weeks)

CM259B. Mechanisms in Regulation of Transcription II (2 units). (Same as Chemistry CM259B.) Lecture, four hours; outside study, two hours. Prerequisite: course CM259A. 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 CM159B.

Mr. Gralla (Sp, second five weeks)

M263. Metabolism and Its Regulation (5 units). (Same as Chemistry M263.) Lecture, three hours. Prerequisites: courses 201A-201B, or Chemistry 153B, 153C, or 156, and 110A, or equivalent, or consent of instructor. Theory of hydrodynamic, thermodynamic, and kinetic aspects of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of comparative aspects of metabolism in relation to physiological function.

M264A-M264B-M264C. Molecular Basis of Atherosclerosis: Selected Topics (2 units each). (Same as Chemistry M264A-M264B-M264C.) Prerequisite: consent of instructor. Biochemistry, morphology, and physiology of atherosclerosis. Emphasis on chemistry of lipoproteins and role of plasma lipoproteins in regulation of tissue lipid metabolism and development of atherosclerosis. Each course may be taken independently for credit.

Mr. Schumaker, (F, M264A; W, M264B; Sp, M264C)

M265A-M265B-M265C. Seminars: Molecular Embryology (2 units each). (Same as Biology M266A-M266B-M266C.) Prerequisite: consent of instructor. 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.

Mr. De Robertis, Mr. Zipursky

CM267. Macromolecular Metabolism and Subcellular Organization (6 units). (Formerly numbered M267.) (Same as Biology CM223 and Chemistry M267.) Lecture, five hours. Prerequisites: Chemistry 153A, 153B, 153C, consent of instructor. Recommended: course CM153G. Cell cycle; DNA replication and repair; structure and properties of cellular organelles; regulation of cell division; cell transformation; normal and aberrant expression of oncogenes; molecular aspects of development. Concurrently scheduled with course CM169.

Mr. McEntee and the Staff (W)

M268. Seminar: Current Topics in Molecular Biology (2 units). (Same as Biology M268, Chemistry M268, Microbiology M298, Microbiology and Immunology M268, and Molecular Biology M268.) Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit. (F,W,Sp)

596. Directed Individual Study and Research (2 to 12 units). Hours to be arranged. Prerequisite: consent of instructor. S/U grading.

597. Preparation for Examinations (2 to 4 units). Prerequisite: consent of graduate adviser. Individual study for Ph.D. qualifying examinations or M.S. comprehensive examination. S/U grading.


Biomathematics

AV-617 Center for the Health Sciences, (310) 825-5018

Professors

Abdelmonem A. Afifi, Ph.D.
Robert M. Elashoff, Ph.D., Interim Chair
H.K. Huang, D.Sc.
Robert I. Jennrich, Ph.D.
Karen L. Lange, Ph.D.
Carol M. Newton, M.D., Ph.D.
Michael E. Phelps, Ph.D.
Wilfred J. Dixon, Ph.D., Emeritus

Associate Professors

Karin F. Hirji, Ph.D., in Residence
Elliott M. Littard, M.D., Ph.D., Vice Chair
Nathaniel Schenker, Ph.D.

Assistant Professor

A. James Sneyd, Ph.D.

Lecturer

Jeffrey Gombin, Ph.D.

Adjunct Professors

Janet D. Elashoff, Ph.D.
Alan B. Forsythe, Ph.D.
Arthur Peskoff, Ph.D.

Adjunct Assistant Professors

Eli Engel, M.D., Ph.D.
Janet S. Sinacher, Ph.D.

Scope and Objectives

As biology advances rapidly in quantitative research methods, both the need for and possibility of closely associated theoretical research increases. On numerous medical and medical science frontiers—such as genetics, molecular biology, oncology, pharmacology, neurosciences, and physiology—biomathematics is contributing both in its basic research and the development of specialized computer software to support investigation and health care. UCLA has one of the few departments in this relatively new, rapidly evolving field.

The Department of Biomathematics welcomes both undergraduate and graduate students in other majors to its courses in biomedical computing, modeling, and statistics. Premedical majors with mathematical/computer interests can receive early guidance toward an M.D./Ph.D. program in Biomathematics. The department is responsible for statistical and biomathematical training in the medical curriculum.

The department's orientation is away from abstract modeling and toward theoretical research vital to the advancement of current biomedical research frontiers. The doctoral program reflects this in requirements for advanced training in a biomedical research specialty and for the mathematical and computing skills required to contend realistically with complex phenomena encountered in biology and medicine. The art of biomathematical research is developed individually from the first year on. The master's program adapts to the various needs of researchers desiring supplemental biomathematical training, people preparing to provide methodological support to researchers in biology or medicine, or students pursuing a stepwise approach to graduate training in biomathematics.

Requirements for Graduate Degrees

Admission

High academic achievement in one scientific or mathematical field is required. It is not necessary to be proficient in both mathematics and biology, though some prior preparation in both fields is desirable. Both the General and Subject Tests of the Graduate Record Examination (GRE) should be taken. At least three letters of recommendation are required from faculty competent to evaluate your qualifications for pursuing graduate study and a creative research career; additional letters are welcomed and may be requested.
In addition to completing the UCLA Graduate Application Processing forms, you are required to complete a departmental application form, which should be sent directly to the department. All communications with the department, including requests for brochures and for the departmental forms, should be sent to the Chair, Graduate Admissions Committee, Department of Biomathematics, AV-617 CHS, UCLA, Los Angeles, CA 90024-1766. You are admitted to either the M.S. or Ph.D. program after you have achieved admission to the Graduate Division and have been approved by the departmental graduate admissions committee.

Master of Science Degree

Course Requirements

You must complete five graduate-level courses in biomathematics, three of which must be selected from Biomathematics 201, 202, 203, 204. If you successfully completed any of the five courses as an undergraduate, you may petition the department to apply them toward this requirement of specific background in biomathematics, but in accord with Academic Senate regulations they cannot be applied toward the minimum requirements stated below for the master's degree.

A minimum of nine upper division and graduate courses (36 units) taken in graduate standing is required for the degree, at least five (20 units) of which must be at the graduate level. No more than two 596 courses may be applied toward the required nine courses, and none may be applied toward the graduate course requirement.

Ph.D. Degree

Major Fields or Subdisciplines

Each student completes the requirements for a field of special emphasis in biology. Presently approved fields of special emphasis for which courses of study have been developed include genetics, immunology, molecular biology, neurosciences, pharmacology, and physiology. Others may be added in response to students' requests.

Course Requirements

The following courses are required:

- Biomathematics — 201, 202, 203, 204, and eight units from 205, 206, 207, 208A.
- Mathematics — Five graduate courses with a grade-point average of 3.6 or better from an approved list, with two substitutions possible if especially appropriate to your research field. (Consent may be given by the advising committee to count prior graduate courses for full or partial completion of this requirement.)
- Biology — Courses required for the field of major biological emphasis.
- Independent Research — Each student is encouraged to take at least four units of Biomathematics 596 with a member of the Biomathematics Department each year prior to taking the written comprehensive examination. As you progress, there is increasing emphasis on research and encouragement to publish. Failure to advance in capacity for independent, creative research is a primary indication for recommended withdrawal from the program.
- Teaching Experience

The following courses are recommended:

- Biomathematics — By individual study or coursework, you should have strength in differential equations, probability and statistics, and real and complex analysis. Offerings in the Department of Mathematics are especially recommended.
- Statistics — Additional training in biostatistics is highly recommended (see offerings in the School of Public Health).
- Computer Methods — You must be a facile programmer and acquainted with numerical methods needed for your area of research.
- Biology and Biological Chemistry — A broad background is expected, from molecular to organ-system levels. This probably will be provided in requirements for the field of major biological emphasis; supplemental coursework will be advised, if needed.
- Teaching Experience

One teaching preceptorship (Biomathematics 596) is required. You participate fully in the planning and delivery of one course in the Biomathematics Department. The emphasis is on your training in all aspects of preparing for and offering a course; this is not a service-oriented teaching assistantship.

Ph.D. Qualifying Examinations

The following examinations are required:

- Mathematics — A written comprehensive examination to test your competence in biomathematics. Full-time students must take this by the end of two academic years of study and part-time students by the end of three.

The qualifying examination in the field of major biological emphasis usually is the regular comprehensive examination for doctoral students in that field and is taken prior to the examination that advances them to candidacy. Students entering with a Ph.D. in a biological field are exempt from the above requirements. Students with an M.D. are exempt from the required coursework; exemption from the examination may be granted by the advising committee in consultation with advisers from the specialty area.

The University Oral Qualifying Examination, administered by the doctoral committee appointed by the dean of the Graduate Division, critically probes the quality, scope, and feasibility of your proposed dissertation work. It explores the integration and strength of biomathematical, mathematical, and biological expertise in your intended area of research. You advance to candidacy after passing this examination.

Final Oral Examination

A final oral examination is required of all candidates and is a defense of the dissertation, administered by the doctoral committee.

Upper Division Courses

106. Introduction to Cellular Modeling. Lecture, four hours; computer laboratory, two hours. Prerequisites: Mathematics 32A, some computer programming, consent of instructor (undergraduates). 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. Mr. Newton (W)

108. Introduction to Modeling in Neurobiology. Lecture, four hours; computer laboratory, two hours. Prerequisites: Mathematics 32A, some computer programming, consent of instructor (undergraduates). This course is 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. Mr. Newton (Sp)

110. Elements of Biomathematics. Lecture, three hours; laboratory, three hours. Prerequisite: calculus. Analysis of deterministic and probabilistic descriptions of biological phenomena are appropriate. Both approaches are applied to selected examples in physiology and biology. Mr. Engel (F) M153A-M153B. Introduction to Computational Statistics. (Same as Biostatistics M153A-M153B and Statistics M153A-M153B.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 115A, Statistics 152B. Linear and nonlinear regression analysis using package programs. Emphasis on relation between statistical theory, numerical results, and analysis of data. M153A. BMDF, SAS, and SPSS regression programs; general linear model theory; linear regression analysis; transforming and weighting; regression diagnostics; model building. M153B. Analysis of variance and covariance; nonlinear regression programs, analysis, and applications; maximum likelihood analysis; robust regression. Mr. Jennrich (F. M153A, W. M153B)
160. Introductory Biomathematics for Medical and Biological Research. Lecture, four hours; discussion, 90 minutes. Elementary statistics course that focuses on the use of statistics to extract meaning from 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: statistical inference, tests, confidence intervals, linear regression and correlation analysis, 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.

170A. Computer-Based Introductory Biomathematics for Medical and Biological Experimenters. 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, 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 Modelling in Medical and Biological Research. Lecture, four hours; discussion, 90 minutes. Second course in biomathematical methods. Topics include randomization methods, intermediate experimental design, contingency table analysis, analysis of repeated measures, 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.

172. Clinical Trials. Lecture, three hours; discussion, two hours. Prerequisite: Biostatistics 100C or 100D or Statistics 152B or equivalent. Topics include steps in bringing a possible therapy to clinical use; design of studies in animals to assess antitumor response; randomization, historical controls, p-values, size of study, stratification, and points; ethics of human experimentation; informed consent; three phases of human studies; indications for various types of controls, diagnostic factors, survivalship studies, design of prognostic studies; organization of a clinical trial — administration, compensation, protocols, nursing and clinical standards, data collection and management. Mr. Elashoff (W)

190HA-190HB. Honors Research in Biomathematics. Prerequisites: consent of instructor and department chair. 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 eight units. Thesis required.

199. Special Studies in Biomathematics (2 to 8 units). Prerequisites: upper division standing, consent of instructor. Special studies in biomathematics, including either reading assignments or laboratory work or both, designed for proper training of students. (W,Sp)

Graduate Courses

200. Research Frontiers in Biomathematics (2 units). Prerequisite: consent of instructor. Series of presentations on state-of-the-art research in areas of biomathematics. S/U grading. (F, even years)

201. Deterministic Models in Biology. Prerequisite: knowledge of linear algebra and differential equations. Examination of conditions under which deterministic approaches are valid and the conditions where they may be expected to fail. Topics include compartmental analysis, enzyme kinetics, physiological control systems, and cellular/animal population models. Ms. Newton (F)

202. Fourier Analysis in Biology. Prerequisite: knowledge of calculus, linear algebra, and probability. Introduction to theory of Fourier transforms and Fourier series as applied to general functions. Elementary applications to differential equations, mechanics, image reconstruction, X-ray crystallography, branching processes, and time series. Brief review of computational techniques based on fast Fourier transform. Mr. Lange (W)

203. Stochastic Models in Biology. Prerequisite: Mathematics M150A or equivalent experience in probability. Mathematical description of biological phenomena, with particular attention to areas where stochastic modeling leads to active research. Examples of stochastic models from genetics, physics, ecology, and a variety of other biological and medical disciplines. Mr. Lange (Sp)

204. Biomedical Data Analysis. Prerequisite: consent of instructor. Quantity and quality of observations have been greatly affected by present-day extensive use of computers. Problem-oriented study of current methods in statistical data analysis and use of such arising in laboratory and clinical and computer applications in biology. Ms. Sinshheimer (W)

205. Electric Potential Problems in Membranes, Cells, and Tissues. Prerequisite: knowledge of differential equations, electrostatics, or consent of instructor. Review of elementary potential theory in rectangular, spherical, and cylindrical coordinates; modeling threshold electrical properties of cells; membrane electrode measurements of intracellular potentials; potential conditions for current flow through membranes; eigenfunction expansions and singular perturbation analysis of intracellular and extracellular potential distributions in spherical and cylindrical cells and synapses; computation of potential barriers in traversing a membrane pore. Mr. Peskoff (Sp)

206. Introduction to Mathematical Oncology. Lecture, four hours; computer laboratory, two hours. Prerequisites: ordinary, partial differential equations, and ordinary differential equations for Medical and Biological Experimenters. Lecture, three hours; discussion, two hours. Prerequisites: familiarity with basic genetics principles helpful. Topics include population genetics, genetic epidemiology, biological clocks, and population genetics experiments, DNA sequence analysis, and molecular phylogeny. Content varies from year to year.

207A, 207B. Modeling in Genetics. (Formerly numbered 207A, 207B.) Lecture, three hours; discussion, one hour. Prerequisite: upper division probability and statistics. Topics include: population genetics, comparisons between various species. Mr. Newton (W)

208A. Modeling in Neurobiology for Mathematicians. (Formerly numbered 208A.) Lecture, two hours; laboratory, two hours. Prerequisites: introductory ordinary, partial differential equations, programming experience. Introduction to electrochemical bases for nerve function and mathematical and computational methods for studying this; appropriate for physicists, engineers, and mathematicians. Survey of current leading research areas and software systems. S/U or letter grading.

208B. Modeling in Neurobiology for Biologists. (Formerly numbered 208B.) Lecture, four hours; laboratory, two hours. Prerequisites: 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 subroutine. Survey of current leading research areas. S/U or letter grading. Ms. Newton

211. Advanced Topics in Differential Equation Modeling in Biology. Prerequisite: course 201 or consent of instructor. Advanced topics in mathematical physiology, population biology, pattern formation, and biological excitable systems. Analytical and numerical approaches. Taught from research papers. S/U or letter grading. Mr. Sneyd (Sp)


M230. Computed Tomography: Theory and Applications. (Same as Radiological Sciences M230.) Prerequisite: consent of instructor. Computed tomography is a three-dimensional imaging technique being widely used in medicine and is an active research area in medicine. Basic principles of computed tomography (CT), various reconstruction algorithms, special characteristics of CT, physics in CT, and various biomedical applications explored. Mr. Hirji (Sp)

M231. Statistical Methods for Categorical Data. (Same as Biostatistics M210.) Lecture, three hours; discussion, one hour. Prerequisites: Biostatistics 100B or 110B, Statistics 152C or equivalent. Statistical methods for analysis of categorical data and computer-aided techniques. Emphasis on applications of methodology in biomedical and health science. Mr. Land (Sp)

M232. Statistical Analysis of Incomplete Data. (Same as Biostatistics M232.) Lecture, three hours; discussion, one hour. Prerequisites: Biostatistics 100B or 110B, Statistics 152C or equivalent. Discussion of statistical analysis of incomplete data sets, with material from sample survey, econometric, biometric, psychometric, and general linear modeling literature. Topics include missing data in statistical packages, missing data in ANOVA and regression imputation, weighting, likelihood-based methods, and nonrandom nonresponse models. Emphasis on application of methodology to real- world problems, as well as on underlying theory. S/U or letter grading.

M234. Applied Bayesian Inference. (Same as Biostatistics M234.) Lecture, three hours; discussion, one hour. Prerequisites: Biostatistics 100B or 110B, Statistics 152C or equivalent. 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 non-linear regression, model selection, Bayesian hypothesis testing, and numerical methods. S/U or letter grading.

M270. Optimal Parameter Estimation and Experimental Design for Biomedical Systems. (Same as Computer Science M268 and Medicine M270D.) Lecture, three hours; discussion, one hour. Prerequisites: Biostatistics 152C or equivalent. Introduction to optimal estimation and experimental design for biomedical and clinical Bayes, 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 non-linear regression, model selection, Bayesian hypothesis testing, and numerical methods. S/U or letter grading.

M280. Statistical Computing. (Same as Biostatistics M280 and Mathematics M280.) Lecture, three hours. Prerequisites: Calculus 115A, Statistics 152C or equivalent. Introduction to design of statistical programs: computing methods for linear and nonlinear regression, dealing with constraints, robust estimation, and general maximum likelihood methods. Mr. Jennrich (F)

M291. Survival Analysis. (Same as Biostatistics M215.) Lecture, three hours; discussion, one hour. Prerequisites: Biostatistics 110B, Statistics 152C or equivalent. Statistical methods for analysis of survival data. S/U or letter grading. Mr. Elashoff (W)

M301. Analysis of Repeated Measures Designs (5 units). (Same as Biostatistics M301.) Lecture, four hours; discussion, two hours. Prerequisites: Biostatistics 200A, 200B. Presentation of classical and modern theories for analysis of repeated measures designs, with focus on data analysis and robustness. S/U or letter grading. Mr. Elashoff (Sp)
An Announcement of the UCLA School of Medicine.

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 the second, third, and fourth 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 the Announcement of the UCLA School of Medicine.

Scope and Objectives

The desire to explain natural phenomena, including disease, is the basis for students' interest in biological sciences. The Microbiology and Immunology Department in the UCLA School of Medicine is disease oriented. The emphasis is on pathogenesis of infection, malignancy, and immunological response of the host to these changes of immunological dysfunction. All tools available from molecular biology to morphological methods are applied to these problems.

Microbiology and Immunology

43-118 Center for the Health Sciences, (310) 206-5148

Professors

Rafi Ahmed, Ph.D. (Virology)

Benjamin Bonavida, Ph.D. (Immunology)

Irvin S.Y. Chen, Ph.D. (Virology)

Asim Dasgupta, Ph.D. (Virology), Vice Chair for Academic Affairs and Graduate Adviser

John L. Fahey, M.D. (Immunology)

Sydney M. Finegold, M.D., In Residence (Bacteriology)

Sidney H. Golub, Ph.D. (Immunology)

Marcus A. Horwitz, M.D. (Bacteriology)

Dexter H. Howard, Ph.D. (Mycology)

Michael Lovett, M.D., Ph.D. (Bacteriology)

Robert L. Modlin, M.D. (Immunology)

Debi P. Nayak, B.V.Sc., Ph.D. (Virology)

Larry Simpson, Ph.D. (Parasitology)

Jack G. Stevens, D.V.M., Ph.D. (Virology; M. Philip Davis Professor of Microbiology and Immunology, Chair)

Ronald H. Stevens, Ph.D. (Immunology)

Jerold A. Turner, M.D. (Parasitology)

Randolph Wall, Ph.D. (Immunology)

Felix O. Wettstein, Ph.D. (Virology), Vice Chair for Administration

Ruth A. Boak, M.D., Ph.D., Emerita

James N. Miller, Ph.D., Emeritus (Distinguished Teaching Award)

Margret I. Sellers, Ph.D., Emerita (Distinguished Teaching Award)

Henry E. Weimer, Ph.D., Emeritus

Stephen Zamenhof, Ph.D., Emeritus

Associate Professors

David A. Campbell, Ph.D. (Parasitology)

Lawrence T. Feldman, Ph.D. (Virology)

Mitchell Kronenberg, Ph.D. (Immunology)

Otoniel Martinez-Maza, Ph.D. (Immunology)

Assistant Professors

Patricia J. Johnson, Ph.D. (Parasitology)

Andrew H. Kaplan, M.D. (Virology)

M. Carrie Miceli, Ph.D. (Immunology)

Jeffrey F. Miller, Ph.D. (Bacteriology)

Olaf Schneewind, M.D. (Bacteriology)

Stephen T. Smale, Ph.D. (Immunology)

Lecturers

Margery L. Cook, Ph.D. (Virology)

Marcie L. White, Ph.D. (Bacteriology)

Adjunct Professor

Lawrence M. Souza, Ph.D. (Biotechnology)

Adjunct Assistant Professor

Betty Wu-Hsieh, Ph.D. (Immunology/Mycology)

Upper Division Course

199. Special Studies (2 to 8 units). Prerequisite: consent of instructor. Individual projects carried out under direction of a faculty member. Special studies in medicine with appropriate objectives, readings, laboratory work, or other assignments designed for proper training of students. P/NP or letter grading.

498 / Biomathematics / SCHOOL OF MEDICINE
New Ph.D. students may also be admitted through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.

Major Fields or Subdisciplines
You are expected to be competent in both microbiology and immunology. However, you must do your thesis work in one of the following divisions: immunology, medical microbiology, or virology.

Foreign Language Requirement
There is no foreign language requirement for the degree.

Course Requirements
1. Microbiology and Immunology 208, M226A-M226B, M285 are required and must be completed during your first year of study.
2. Course 596 is required. You complete at least two laboratory rotations during your first year of study.
3. Chemistry and Biochemistry CM253 and two courses in molecular biology (Microbiology and Immunology 250, 264) are required.
4. Additional course requirements are determined by your major field and your preceptor.

Teaching Experience
Teaching experience in one laboratory section of Microbiology and Immunology 201 and in one undergraduate course offered by the College of Letters and Science is required unless the requirement is waived by the graduate advisor.

Qualifying Examinations
The departmental written qualifying examination may be taken at the end of your first year, but no later than Winter Quarter of your second year, of graduate study. The examination consists of written tests in all three areas of study (immunology, microbiology, and virology). You select one area as your major and the other two as your minor areas. The examination in microbiology (major or minor) covers the fields of bacteriology, and either mycology or parasitology. The examinations require factual knowledge, the ability to analyze experimental work, and the capacity to design problem-solving experiments and are graded on a pass/fail basis. Each examination may be repeated once if not passed. The makeup examination is administered no earlier than three months and no later than six months after the failure, unless specified remedial work requires a longer period for proper preparation.

You must complete the University Oral Qualifying Examination within three years (nine terms) after entering the program. Advancement to candidacy is awarded after successful completion of this examination. If inadequacies are encountered, you may be required to repeat the examination.

The topic of your research proposal must be in a different area and use a different approach from that of your thesis project and research, but within the fields of interest in the department. You must be able to explain the research and results and demonstrate general knowledge of microbiology and immunology.

Dissertation/Final Oral Examination
The details of the dissertation requirement are supervised by your professor and doctoral committee. The dissertation must demonstrate an original and independent contribution to scientific knowledge acceptable for publication in a major scientific journal and be presented in the University-required format.

The final oral examination is optional with the doctoral committee. However, you are required to present a special seminar based on your dissertation.

Upper Division Courses
M185A. Immunology (5 units). (Formerly numbered CB 148.) (Same as Biology M185A and Microbiology M185A.) Lecture, three hours; discussion, 90 minutes; outside study, 11 1/2 hours. Prerequisites: Biology 9, 100A, 108 or equivalent. Recommended prerequisite or corequisite: Biology 100B, Chemistry 153A, 153L. Introduction to experimental immunobiology and immunocomplexology; cellular and molecular aspects of humoral and cellular immune reactions. Mr. Clark, Mr. Sercarz (F)

199. Directed Individual Research Studies in Microbiology and Immunology (2 to 8 units). Prerequisites: senior standing, consent of instructor (based on written research proposal). Individual research projects carried out under direction of a professor. (F,W,Sp)

Graduate Courses
Undergraduates may enroll in some graduate courses with consent of instructor.

201. Microbiology and Immunology (8 units). Lecture/laboratory for laboratory and medical students. Study of infectious agents of human disease, with emphasis on host-parasite relationships and immunologic phenomena in immunity and disease, including identification of bacteria, fungi, animal parasites, and viruses, and principles of prevention, treatment, and laboratory diagnosis. (F)

202A. Fundamentals of Immunology (2 units). Prerequisite: consent of instructor. Introduction to experimental immunobiology and immunocomplexology; cellular and molecular aspects of humoral and cellular-mediated immune functions. (F)

202B. Medical Bacteriology (2 units). Prerequisite: consent of instructor. Characteristics of bacteria rickettsiae and chlamydiae associated with diseases of humans; host-parasite interactions and immunity; identification and laboratory diagnosis; principles of prevention and treatment; introduction to microbial genetics as it pertains to pathology. (F)

202C. Medical Virology (2 units). Prerequisite: consent of instructor. Biological properties of animal viruses; replication; methods of detection; interactions with host cells and multicellular hosts, introduction to tumor viruses. (F)

202D. Medical Mycology and Parasitology (2 units). Prerequisite: consent of instructor. Morphology, physiology, and pathogenicity of fungi which cause human and animal diseases. Study of morphology, biology, host-parasite relationships, public health problems, and control of protozoa, helminths, and arthropod parasites in and on humans and animals. (F)

206. Molecular Biology of Animal Viruses. Lecture, three hours. Prerequisites: courses in general biochemistry and general microbiology, including virology (consent of instructor may be obtained in special cases). Recommended for advanced undergraduate students with a major in public health, students of microbiology and for graduate students with interest in any field of biology or chemistry. Overview of animal viruses, including viral structure, virus cell interaction, virus replication, and viral pathogenesis. Special emphasis on understanding the molecular mechanism involved in control and regulation of replication, transcription, and translation of viral genome and its components in interaction with host. Mr. Dasgupta (Sp)

210. Medical Mycology (3 units). Lecture, four hours. Prerequisite: consent of instructor. Study of morphological, physiological, and pathogenicity of fungi causing human and animal diseases. Mr. Howard (Sp)

210L. Medical Mycology (2 units). Laboratory, four hours. Prerequisite: consent of instructor. Required of undergraduate students. Laboratory application of principles discussed in course 210. Mr. Howard (Sp)

M215. Interdepartmental Course: Tropical Medicine (2 units). (Same as Medicine M215, Pathology M215, and Pediatrics M215.) Lecture, two and one-half hours. Prerequisites: basic courses in microbiology and parasitology of infectious diseases in School of Medicine or Public Health. Study of current knowledge about disease prevalence and tropical areas of the world. Major emphasis on infectious diseases, with coverage of problems in nutrition and exotic noninfectious diseases. Syllabus supplements topics covered in classroom. S/U grading. Mr. Turner (Sp, alternate years)

M223. Membrane Research Seminar (2 units). (Same as Microbiology M223.) Prerequisite: consent of instructor. Critical discussions of current literature in membrane research, with emphasis on relationship between structure and function in lipid bilayers. May be repeated for credit. Ms. Wisnieski (F,W,Sp)

M226A-M226B. Principles of Microbial Pathogenesis. (Same as Biology M226A-M226B and Microbiology M226A-M226B.) Lecture, one hour discussion, three hours. Prerequisites: courses 202A, 202B, 202C, and 202D, or equivalent, or consent of instructor. Lecture/discussion format designed to analyze basic pathogenesis of infections. Emphasis on molecular and cellular approaches to understand and host-microbial interaction. M226A. Bacterial and Mycotic Infections. M226B. Parasitic and Viral Infections. Mr. Ahmed (Sp, M226B), Mr. Miller (W, M226A)

M233. Principles, Practices, and Policies in Biotechnology (2 units). (Same as Biological Chemistry M233, Biology M233, Chemical Engineering M233, Chemistry M233, Microbiology M233, and Radiological Sciences M233.) Prerequisite: graduate standing or consent of instructor. Presentation of technologies, regulatory practices, and policies required for product development and review of current opportunities for new technology development. Topics include fermentation processes, pilot and large-scale bioprocess technology, scaleup strategies, industrial recombinant DNA processes, hybridomas, protein engineering, peptide mimetics and rational drug design, medical applications, Q/S and intellectual property issues. S/U or letter grading. Mr. Fox, Ms. Morrison

250. Cell and Molecular Biology. Lectures and student seminar presentations. Review of selected current topics in molecular and cellular biology. Topics include recent experimental results on organization, expression, and regulation of genes in eukaryotic cells. S/U or letter grading. Mr. Wall (F)
251. Selected Topics in History of Microbiology (2 units). Lecture, one hour; discussion, one hour. Consideration of current research articles on infectious diseases, their host/parasite relationships, etiology, pathogenesis, epidemiology, diagnosis, and immunity. S/U or letter grading.

Mr. Howard (W)

M252. Seminar: Microbial Pathogenesis (2 units). (Same as Microbiology M252.) Prerequisite: consent of instructor. Limited to 10 students. Student presentations and critical discussion of current literature on various aspects of microbial pathogenesis. May be repeated for credit. S/U or letter grading.

Mr. Miller, Mr. Miller

M256. Seminar: Viral Oncology (2 units). (Same as Pathology M256.) Advanced research seminar designed to consider current developments in the field. Selection of current subjects and publications dealing with tumor viruses, oncogenesis, development, and cellular regulation.

Mr. Baluda

M258A. Molecular Genetic Mechanisms of Immune Response (2 units). (Same as Biology M258A and Microbiology M258A.) Lecture, two hours; discussion, two hours. Prerequisite: course 202A or M285 or Biology CM185B or consent of instructor. Reading and discussion of current research articles on immunoglobulin I and II, immunoglobulin T, T cell response to antigen, receptor, and T cell activation. Lectures supplemented with discussion section focusing on research and analysis of primary research articles. S/U or letter grading.

Mr. Kronenberg, Ms. McMillan, Mr. Smale

M262A. Seminar: Current Topics in Immunobiology of Cancer (2 units). (Same as Biology M293A and Microbiology M262A.) Prerequisite: consent of instructor. Review of recent literature in immunology, biology, and biochemistry of cancer, with emphasis on fundamental studies involving cell-mediated immunity, humoral response, tumor specific antigens, and new techniques. Discussion of reports on scientific meetings. May be repeated for credit. S/U grading.

Mr. Bonavida (F,W,Sp)

M262B. Immunology of AIDS (2 units). (Same as Biology M293B, Epidemiology M214, and Microbiology M262B.) Lecture, one hour; discussion, one hour. Prerequisites: courses 202A, 202B, M285, or equivalent; consent of instructor. Lecture and student discussion of assigned publications. Topics include specific anti-HIV immune responses, activation of immune system by HIV, and bystander mechanisms of HIV-induced immunodeficiency. S/U or letter grading.

Mr. Bonavida, Ms. Giorgi (W)

M262C. Biological Individuality and Immunity (2 units). (Same as Biology M293C and Microbiology M262C.) Prerequisite: course M258C. Review of current literature in the field of immunogenetics, with emphasis on fundamental studies involving genetic and immunologic principles and techniques. Selected topics discussed and results interpreted, conclusions and experimental methods evaluated. (Sp, alternate years)

M262D. Selected Topics in Immunology (2 units). (Same as Biology M293D and Microbiology M262D.) Prerequisite: consent of instructor. Student participation in discussions related to various topics in immunology. May be repeated for credit. S/U or letter grading. (F,W,Sp)

M263. Molecular and Cellular Immunology Seminar (2 units). (Same as Microbiology M263.) Prerequisite: consent of instructor. Critical discussions of current literature in T and B cell immunity, with emphasis on molecular mechanisms.

Mr. Kronenberg, Mr. Sercarz (F,W,Sp)

M264. Molecular Microbiology and Cell Biology (2 units). Prerequisite: consent of instructor. Discussion of selected current topics related to microbiology and cell biology, with special emphasis on understanding of basic phenomena at the molecular level. May be repeated for credit. (F,W,Sp)

M275. Biology of HIV. (Same as Epidemiology M228.) Lecture, three hours. Prerequisites: Biostatistics 100A and Epidemiology 100 or equivalent, two biology courses, consent of instructor. Overview of virologic and immunologic aspects of HIV disease for epidemiology or other health disciplines. Brief discussion of clinical manifestations and biosafety in the laboratory.

Ms. Giorgi (Sp)

M285. Intermediate Immunology. (Formerly numbered M285B.) (Same as Biology CM285 and Microbiology CM285.) Lecture, three hours; discussion, one hour. Prerequisite: course M185A or equivalent. Recommended corequisite: Chemistry 153B. In-depth exploration of topics introduced in course M185A.

Mr. Aguiler, Mr. Kronenberg, Mr. Sercarz (W)

M293. Major Concepts in Oncology. (Same as Oral Biology M253 and Pathology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Designed for graduate students contemplating research in oncology. Topics include cancer, pathology, immunology, genetics, membranes, macro-molecular synthesis and control, cell cycle, growth control, physical, chemical, and viral oncogenesis, epidemiology of cancer, tumor immunology; principles of cancer surgery, radiation therapy, and chemotherapy. S/U or letter grading.

Mr. Hankinson (W)

M298. Seminar: Current Topics in Molecular Biology (2 units). (Same as Biological Chemistry M298, Biology CM298, Chemistry CM298, Microbiology M298, and Molecular Biology M298.) Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit. (F,W,Sp)

596. Directed Individual Study or Research (2 to 8 units). Laboratory, to be arranged. Prerequisite: consent of graduate adviser. S/U grading.

597. Preparation for Ph.D. Qualifying Examinations (2 to 6 units).

599. Research for and Preparation of Ph.D. Dissertation (2 to 12 units). Research on an original problem in the field of microbiology and immunology to be selected by graduate student with advice of adviser. Fields of study may be in bacteriology, immunology, mycology, parasitology, virology, tumor biology, or cell biology.

Molecular and Medical Pharmacology

23-145 Center for the Health Sciences, (310) 825-5294

Professors

Jorge R. Barrio, Ph.D.
Gautam Chauchuri, M.D., Ph.D.
Arthur K. Cho, Ph.D., Vice Chair
Bernard K.K. Fung, Ph.D.
Mark A. Goldberg, M.D., Ph.D.
Edward J. Hoffman, Ph.D.
Sung-Cheng (Henry) Huang, D.Sc.
Louis J. Ignarro, Ph.D.
John C. Mazzotta, M.D., Ph.D.
Richard W. Olsen, Ph.D.
Michael E. Phelps, Ph.D. (Jennifer Jones Simon Professor of Biophysics), Chair
Heinrich R. Scheller, Ph.D., Vice Chair
Werner E. Flacke, M.D., Emeritus
Robert George, Ph.D., Emeritus

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William L. Hewitt, M.D., Emeritus
Donald J. Jenden, Ph.D. (h.c.), B.Sc., M.B., B.S., Emeritus
Peter Lomax, M.D., D.Sc., Emeritus
Denni B. Taylor, M.D., Emeritus

Associate Professors
Denis B. Buxton, Ph.D.
Don H. Catlin, M.D.
Cameron B. Gundersen, Ph.D.
Sherrel G. Howard, Ph.D.
Nagchietari Satyamurthy, Ph.D.

Assistant Professors
Simon R. Cherry, Ph.D.
Samson Choy, Ph.D.
Johannes Czernin, M.D.
Magnus Dahlbom, Ph.D.
Jon M. Fukuto, Ph.D.
Sanjiv Gambhir, M.D., Ph.D.
Carl Hoh, M.D.
Daniel L. Kaufman, Ph.D.
Harley I. Kornblum, M.D., Ph.D.
William Mielega, Ph.D.
Phoebe L. Stewart, Ph.D.

Adjunct and Clinical Professors
Yi-Han Chang, Ph.D., Adjunct
Jamshed Maddahi, M.D., Clinical

Adjunct Assistant Professor
Joy A. Umbach, Ph.D.

Scope and Objectives
The Department of Molecular and Medical Pharmacology is a newly reorganized department with basic and clinical components. Students have opportunities to develop intellectually and experimentally in the interface between these two levels of biomedical science. The department conducts teaching and research programs that begin with molecular interactions and extend to studies of diseases and their treatment in humans. Starting with the biochemistry of drugs, departmental investigators study gene expression and its regulation, cell-cell communication, and integrated organ functions using techniques of structural chemistry and biology, molecular and cellular biology, and cellular and organ imaging. Organic synthesis, genetic engineering, and imaging techniques such as confocal and cryoelectron microscopy, autoradiography, and positron emission tomography are extensively employed. The latter techniques are available in the Crump Institute for Biological Imaging and the UCLA-DOE Laboratory of Structural Biology and Molecular Medicine, which are closely affiliated with the department. The goal of the education program is to provide faculty members and students the opportunity to examine diseases and the basic mechanisms of drugs used in their treatment, and to visualize the changes in the disease state with procedures that monitor cellular and organ function.

The graduate program seeks to prepare students for these interdisciplinary activities with a basic foundation in pharmacology during their 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 and programs are provided formally through available coursework and informally through 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.

Master of Science in Pharmacology
The department offers the Ph.D. degree, and students may obtain the M.S. degree; however, the department normally does not admit candidates for the M.S. degree only.

Ph.D. in Pharmacology
Admission
In addition to meeting University requirements for graduate admission, you must have received a bachelor's degree in a chemical, biological, or physical science or in the premedical curriculum. Graduate Record Examination (GRE) scores, Test of English as a Foreign Language (TOEFL) scores for international students, and three letters of recommendation are also required.

In suitable cases, students who have course deficiencies may be admitted to graduate standing, but any deficiencies must be removed within a specified time.

Prospective students may write for a departmental brochure to the Graduate Student Office, Department of Molecular and Medical Pharmacology, 23-145 CHS, UCLA, Los Angeles, CA 90024-1735.

New Ph.D. students may also be admitted through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.

Major Fields or Subdisciplines
Cardiovascular pharmacology, chemical pharmacology, medical pharmacology, immunopharmacology, neuroendocrine pharmacology, neurotranspharmacology, nuclear medicine (positron emission tomography), pharmacokinetics, biological imaging, psychopharmacology.

Course Requirements
Required: Molecular and Medical Pharmacology 200 (three terms), 211A-211B, 212A-212B, 234A-234B, 237A-237B, 241, 251 (must be taken every term), and two electives from M255, Biological Chemistry CM253, CM267 or Anatomy and Cell Biology M209A, Physiology 201A-201B/M203A-M203B, or one biostatistics course. These requirements will be waived if you have passed equivalent courses with grades of B or better within the past 36 months. All required coursework should be completed by the end of your sixth term.
M221. Cellular and Molecular Neurochemistry. (Formerly numbered M221A.) (Same as Anatomy M221, Biological Chemistry M221, Biophysics M221, and Psychiatry M221.) Lecture; three hours; discussion, one hour. Prerequisite: biology 502. Contemporary neurochemistry topics — metabolic specialization and compartments, metabolic roles of ion channels, structure and function of neurotransmitters. Inborn errors and molecular genetics, molecular imaging, aging, and regeneration. Research/feedback coupling. Mr. Cho (W).

234A-234B-234C. Experimental Methods in Pharmacology (2 units each). Prerequisite: consent of instructor. Survey of experimental methods and instrumentation used in analysis, identification, and study of mechanisms of action of pharmacologically active compounds. Mr. Fukuto, Mr. Melega (F, W, Sp).

236. Neuropharmacology. Prerequisite: neurophysiology. Advanced neuropharmacology, including actions and modes of action of drugs acting on central nervous system and interactions between drugs and nervous tissue, movements of drugs through blood brain barrier, and distribution to central nervous system; problems of central transmission. (W)

237A-237B-237C. Research Frontiers in Cellular and Molecular Pharmacology. Prerequisites: courses 241, consent of instructor. Detailed examination of mechanisms of drug action at organismal, tissue, cellular, and molecular levels, emphasizing receptors, receptor-effector coupling, neurotransmitters, autonomic and central nervous system pharmacology. Mr. Barrio, Ms. Howard, Mr. Olsen (F, W, Sp).

238. Behavioral Toxicology. Prerequisite: consent of instructor. Lectures and discussions designed to examine effects of exposures to a wide variety of chemical and physical agents on behavior of total organism as it adjusts to changes in its physical and social environments. Such effects may be reflected as subtle disturbances of behavior before classic symptoms of toxic states become apparent. Consideration to methodologies by which such disturbances may be measured, to state of present knowledge, and to application of knowledge in regulating risks of both prenatals and postnatal exposure. Particular emphasis on relevance of this knowledge to human behavior. (Sp)

241. Introduction to Chemical Pharmacology. Prerequisite: organic and biological chemistry. Introduction to general principles of pharmacology. Role of chemical properties of drugs in their distribution, metabolism, and excretion. Mr. Cho (W).

251. Seminar: Pharmacology (2 units). Seminars presented by students; faculty guest lectures on a variety of topics; S/U grading. Mr. Cho (F, W, Sp).

253. Seminar: Environmental Toxicology (2 units). Prerequisite: consent of instructor. Oral reports and discussions of current research on chemical pollutants in environment, their effects on biological systems, and mechanism of these effects. Mr. Cho (F, W, Sp).

M255. Biological Catalysis. (Same as Biological Chemistry M255, Biology CM252, and Chemistry CM255.) Prerequisites: biology 100A, 100B, chemistry 110A, 153A, 153B, or equivalent, consent of instructor. Reaction mechanisms in molecular biology, experimental approaches for study of enzymes, including kinetics, isotopic labeling, stereochemistry, chemical reaction mechanisms, and spectroscopy; design of pharmacologically active agents and artificial enzymes. Drug metabolism and interactions addressed on a mechanistic level. Mr. Cho, Mr. Fukuto, Mr. Sigman (W).

M257. Introduction to Toxicology. (Same as Pathology M257.) Prerequisite: course 241 or consent of instructor. Biochemical and systemic toxicology, basic mechanisms of toxicology, and interaction of toxic agents with specific organ systems. Mr. Collins (Sp).

M258. Pathologic Changes in Toxicology. (Same as Pathology M258.) Designed to give students experience in learning normal histology of tissues which are major targets of toxins and the range of pathologic changes that occur in these tissues (liver, bladder, lung, kidney, nervous system, and vascular system). Mr. Van Lancker (W).

261. Introduction to Clinical Pharmacology (2 units). Prerequisite: consent of instructor. Lectures, case presentations, and discussions designed to acquaint graduate students with special problems and effects encountered in clinical use of drugs, including absorption, metabolism and excretion, drug interactions and interference with clinical laboratory analysis. (W)

291. Special Topics in Pharmacology (2 to 4 units). Prerequisite: consent of instructor. Examination in depth of topics of current importance in pharmacology. Emphasis on recent contributions of special interest to advanced Ph.D. candidates, academic staff, or visiting faculty. May be taken twice for credit. (F, W, Sp).

596. Directed Individual Research in Pharmacology (4 to 12 units).

599. Research for and Preparation of Ph.D. Dissertation (4 to 12 units).

Molecular Biology (Interdepartmental)

The Ph.D. degree program in Molecular Biology draws its staff members from participating departments in the health and life sciences and from the Molecular Biology Institute. For details on this interdisciplinary program, see Chapter 5 on the College of Letters and Science.

Neurology

C-128 Reed Neurological Research Center, (310) 206-6584

Chair
Robert C. Collins, M.D. (Francis Stark Professor of Neurology)

Vice Chairs
John C. Mazzotti, M.D., Ph.D.
Mark A. Goldberg, M.D., Ph.D., in Residence (Harbor-UCLA)
Wallace W. Tontellotte, M.D., Ph.D., in Residence (Wadsworth VA)
Claude G. Wasterlain, M.D., in Residence (Sepulveda VA)

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.

For further details on the Department of Neurology and a listing of the courses offered, see the Announcement of the UCLA School of Medicine.

Upper Division Course

199. Special Studies (2 to 8 units). Discussion, one to two hours; laboratory, four to six hours. Prerequisite: consent of instructor. Individual projects carried out under direction of a faculty member. Special studies in neurology, with appropriate objectives, readings, laboratory work, or other assignments designed for proper training of students.

Mr. Collins

C.R. Gallistel, Ph.D. (Psychology)
Louis J. Goldberg, D.D.S., Ph.D. (Oral Biology)
Ronald M. Harper, Ph.D. (Anatomy and Cell Biology)
Vincente Horrubia, M.D. (Surgery)
Bruce D. Howard, M.D. (Biological Chemistry)
Franklin B. Krasne, Ph.D. (Psychology)
Lawrence Kruger, Ph.D. (Anatomy and Cell Biology)
Michael S. Letinsky, Ph.D. (Physiology)
Michael Steven Levine, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
John C. Liebeskind, Ph.D. (Psychology)
Wendy B. Macklin, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Michael T. McGuire, M.D. (Psychiatry and Biobehavioral Sciences)
Paul E. Micevych, Ph.D. (Anatomy and Cell Biology)
Peter M. Narins, Ph.D. (Biology; Distinguished Teaching Award)
Elizabeth F. Neufeld, Ph.D. (Biological Chemistry)
Donald Novin, Ph.D. (Psychology)
Richard W. Olsen, Ph.D. (Molecular and Medical Pharmacology)
William M. Partridge, M.D. (Medicine)
Michael J. Raleigh, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Leonard H. Rome, Ph.D. (Biological Chemistry)
Arnold B. Scheibel, M.D. (Anatomy and Cell Biology; Brain Research Institute)
John D. Schlaug, M.D. (Anatomy and Cell Biology)
W. Donald Shields, M.D. (Neurology, Pediatrics)
Jerome M. Siegel, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Judith L. Smith, Ph.D. (Physiological Science; Distinguished Teaching Award)
Allan J. Tobin, Ph.D. (Biology)
Arthur W. Toga, Ph.D. (Neurology)
John H. Walsh, M.D. (Medicine)
Claude G. Wasterlain, M.D., in Residence (Neurology)
Charles D. Woody, M.D., in Residence (Psychiatry and Biobehavioral Sciences)
Eran Zaidel, Ph.D. (Psychology)
S. Larry Zipursky, Ph.D. (Biological Chemistry)
Edward C. Carterette, Ph.D., Emeritus (Psychology)
George Eisenman, M.D., Emeritus (Physiology)
Donald J. Jensen, Ph.D., Emeritus (Molecular and Medical Pharmacology)
Jose P. Segundo, M.D., Emeritus (Anatomy and Cell Biology)
Bernice M. Wenzel, Ph.D., Emerita (Physiology)

Associate Professors
Keith L. Black, M.D., in Residence (Surgery)
Eric Halgren, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Carolyn R. Houser, Ph.D., in Residence (Anatomy and Cell Biology)
Sherrill G. Howard, Ph.D. (Molecular and Medical Pharmacology, Psychiatry and Biobehavioral Sciences)
Anne M. Morin, Ph.D., in Residence (Neurology)
Diane M. Papazian, Ph.D. (Physiology)

Assistant Professors
Utpal Banerjee, Ph.D. (Biology)
Christopher Evans, Ph.D. (Biology)
Kym Faull, Ph.D., in Residence (Psychiatry and Biobehavioral Sciences)
Jerome Engel, M.D., Ph.D. (Neurology)
Gordon L. Fain, Ph.D. (Ophthalamology, Psychological Science)
Deborah B. Farber, Ph.D., in Residence (Ophthalamology)
Jack L. Feldman, Ph.D. (Psychological Science)
Robin S. Fisher, Ph.D., in Residence (Anatomy and Cell Biology)
Joaquin M. Fuster, M.D., in Residence (Psychiatry and Biobehavioral Sciences)

Adjunct Professors
Robert F. Ackermann, Ph.D. (Neurology)
Catia Serventi, M.D. (Medicine)

Associate Researcher
Dennis J. McGinty, Ph.D. (Anatomy and Cell Biology)

Scope and Objectives

For details on the B.S. program, see Chapter 5 on the College of Letters and Science.

The goal of the interdepartmental program is to educate students for careers in neuroscience research and teaching. Students completing this program should be able to address both traditional and novel problems in neuroscience, armed with contemporary concepts and techniques. The program recognizes that neuroscience studies the structure and organization of nervous systems; intercellular and intra-cellular communication, including the cellular and molecular basis of neurotransmitter production and reception; development, including the molecular and cellular basis of trophic interactions; behavior; cognition; and the neurobiological and molecular bases of neurological and neuropsychiatric disorders.

Ph.D. Degree

Admission

All applicants must satisfy the University minimum requirements. In addition, Graduate Record Examination (GRE) scores are required. Recommended preparation includes mathematics through calculus and courses in general chemistry, organic chemistry, biochemistry, physics, basic biology, and physiology. Three letters of recommendation are required.

Information regarding the program may be obtained by writing to the Neuroscience Office, 73-360 CHS, UCLA, Los Angeles, CA 90024-1761.

Major Fields or Subdisciplines

Molecular neuroscience, cellular neuroscience, systems neuroscience, behavioral neuroscience, clinical neuroscience.

Course Requirements

Basic course requirements include Neuroscience M201, M202, M203, M204, M205, 210A-210B-210C, 211A-211B-211C, one biostatistics course, and three additional advanced neuroscience courses. Each first-year student must also obtain research experience in the laboratories of at least two Neuroscience faculty members.

Teaching Experience

Teaching experience is required for the degree and is available through teaching assistantships or other means.
Qualifying Examinations

A written qualifying examination is required following completion of the core requirements. The objective of this examination is to test your basic knowledge and ability to relate knowledge in different neuroscience areas. After passing the written qualifying examination, you and your advisor select your doctoral committee to administer the University Oral Qualifying Examination.

When you have passed the oral examination, you are advanced to candidacy and may begin work on the dissertation.

Final Oral Examination

The final oral examination is required.

Graduate Courses

M201. Neuroanatomy: Structure and Function of Nervous System. (Same as Anatomy M202.) Lecture, three hours; laboratory, three hours. Prerequisites: B210A or equivalent, consent of instructor. Anatomy of central and peripheral nervous system at the cellular histological and regional systems level. 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. (Same as Anatomy M225.) Mr. Scheibel (F)

M202. Cellular Neurophysiology. (Formerly numbered 202.) (Same as Physiological Science M202.) Lecture, three hours; discussion, one hour. Prerequisites: B210A or equivalent, B150A or Physics 1B or equivalent. Advanced course in cellular physiology of neurons. Action and membrane potentials, channels and channel blockers, gates, ion pumps and neuronal homeostasis, synaptic receptors, drug-receptor interactions, transmitter release, modulation by second messengers, and sensory transduction. Mr. Fain (F)

M203. Molecular Neurobiology. (Same as Psychiatry M209.) Lecture, three hours; discussion, one hour. Prerequisites: B150A or equivalent, B221A or equivalent, basic biochemistry, consent of instructor. Introduction to neurochemistry for neuroscience students. Topics include protein structure and function, lipid structure and metabolism, nucleic acids, molecular biology, pharmacology, Mr. Walsh (F)

M204. Cellular and Molecular Developmental Neurobiology. (Same as Anatomy M204, Biological Chemistry M280, Physiology M204, and Psychiatry M204.) Lecture, three hours; discussion, one hour. Prerequisites: courses M201, M202, and M203, or Biological Chemistry 201A-201B or consent of instructor. Cellular and molecular processes that regulate development of nervous systems of vertebrates and invertebrates. Topics include regional specification in early neurogenesis, generation of neuronal diversity, cell surface interactions and growth factors, neuronal and glial proliferation and migration, axonal outgrowth and guidance, synaptogenesis, trophic interaction, plasticity, regeneration, and aging. Mr. de Vellis, Mr. Grinnell, Ms. Mackin (W)

M205. Behavioral and Systems Neuroscience. (Same as Psychological Science M205 and Psychobiology M205.) Lecture, three hours. Prerequisites: courses M201, M202, M203, and M204, or consent of instructor. Introduction to fundamentals of behavioral and systems neuroscience, with emphasis on role of behavioral analysis in understanding the functioning of nervous system and identifying anatomical circuits, cell physiological processes, and molecular mechanisms that mediate behaviorally defined functions. Mr. Gallistel

M210A-210B-210C. Introduction to Current Literature in Neuroscience (1-1-1 hours). Critically discuss current and recent research literature related to topics of the five core courses in neuroscience graduate curriculum. S/U grading. 210A. Corequisites: courses M201, M202, M203, and M210B, or consent of instructor. Interdisciplinary course designed for students following completion of course M205. 211A-211B-211C. Evaluation of Research Literature in Neuroscience (2 units each). Prerequisites: courses M201, M202, M203, M204, and M205, or consent of instructor. Advanced critical analysis of current research literature in neuroscience. S/U grading.


M240. Cellular and Molecular Neurochemistry. (Same as Anatomy M221, Biological Chemistry M221, Pharmacology M221, and Psychiatry M221.) Lecture, three hours; discussion, one hour. Prerequisite: biochemistry. Contemporary neurochemistry topics—metabolic specialization and compartments, metabolism of neurotransmitters, function of ion channels, structure and function of neurotransmitters, intracellular signals and molecular genetics, cellular imaging, aging, and regeneration. Receptor/refractor coupling. S/U or letter grading. Mr. Veilis, Mr. Olsen (W)

M246. Neuroactive Peptides: Molecular Biology to Function (2 units). (Same as Anatomy M235 and Medicine M235.) Prerequisite: consent of instructor. Presentation of current knowledge of gut and brain peptides and their physiological, anatomical, and pharmacological aspects. Experimental approaches to study biological activity of peptides. Current review of information about each of the major gut and brain peptides. S/U or letter grading. Mr. Brecha, Ms. Sternini

M247. Neural Control of Cardiopulmonary Function. (Same as Physiological Science M247.) Lecture, two hours; discussion, two hours. Prerequisite: Physiological Science 111A or 111B or 133 or 142 or M180A, M180B or equivalent. Cardiovascular homeostasis is accomplished via control systems in central nervous system (CNS) control of respiratory and circulatory pumping systems. Focus on CNS mechanisms underlying generation of respiratory rhythm, sympathetic and parasympathetic tone, (2) determination of patterns of motor outflow, and (3) responses to changes in behavioral state or affective signals. Emphasis on critical reading of literature. S/U grading. Mr. Feldman

254. Interdisciplinary Research Seminar (2 units). Lectures and discussions on many different interdisciplinary approaches to knowledge of brain function in order to foster interdisciplinary approaches to answering questions in a broad range of fields other than that of lecturer; new information in depth from students in fields closely related to subject discussed. S/U grading.

M255. Functional Organization of Behavior (2 units). (Same as Psychiatry M255.) Prerequisite: consent of instructor. Changes in neuronal 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. Mr. Woody

M257. Structure and Function of Limbic System (2 units). (Same as Psychiatry M257.) Prerequisite: consent of instructor. Current knowledge of mammalian limbic system presented by students following surveys of its development, anatomy, intrinsic and extrinsic organization, homeostasis, cortical and subcortical interactions in memory and cognition as part of an integrative limbic system. S/U or letter grading. Mr. Babb

M258. Functional Neuropsychology (2 units). (Same as Psychiatry M258.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Advanced topics on brain mechanisms involved in attention and working memory, and declarative memory, and frontal lobes and primary memory. S/U grading. Mr. Woody

M259. Neurobiology of Sleep (3 units). (Same as Psychiatry M249 and Psychology M296.) Lecture, one hour; discussion, two hours. Critical review of primary research publications concerning neural basis of sleep. Discussion of neural and biochemical components involved in REM sleep. Emphasis on personal sleep behavior and phenomenology, including developmental and comparative aspects. Presentation of relevant clinical phenomena. S/U or letter grading. Mr. McGinty, Mr. Siegel

M260. Neuromuscular Factors in Movement Regulation. (Same as Physiological Science M260.) Prerequisite: Physiological Science 136 or consent of instructor. Interaction of neural and muscular factors in regulation of muscle fiber properties and importance of these properties in neural strategies of movement regulation. S/U or letter grading. Mr. Edgerton

M261. Neuronal Circuit Analysis (2 units). (Same as Anatomy M261.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Seminar with strong emphasis on specific reading assignments. Integrated view of neuronal circuit analysis at advanced level; layered and perform different styles of networks serving cognitive or motor functions. Mr. Schlag (W)

M262. Neural Systems for Motor Control. (Same as Physiological Science M262.) Prerequisite. Physiological Science 147A and 147B. Emphasis on current topics on neural mechanisms related to control of posture, locomotion, and highly skilled arm and hand movements. Emphasis on role of movement-dependent feedback at spinal segments and within somatomotor areas of cerebral cortex, with respect to modification of motor output. Ms. Smith

M263. Neuronal Mechanisms Controlling Rhythmic Motor Movements. (Same as Physiological Science M263.) Prerequisite. Physiological Science C145 or consent of instructor. Advanced topics on brainstem mechanisms responsible for controlling cyclic and stereotypical movements such as mastication and locomotion. Emphasis on cellular and molecular mechanisms controlling neural action between neuronal networks. Introduction to primary literature and techniques used in these areas. Students expected to critically evaluate data and conclusions drawn. Mr. Chandler

M265A-M265B-M265C. Seminars: Neuronal Control of Movement (2 to 4 units each). (Same as Physiological Science M294A-M294B-M294C.) Prerequisite: course M247 or M262 or M263 or consent of instructor. Selected topics on neural determinants of movement behavior. Students required to present two-hour seminar.

M266A-M266B-M266C. Seminars: Cellular Neuroscience (2 to 4 units each). (Same as Physiological Science M295A-M295B-M295C.) Prerequisite: course M202 or consent of instructor. Selected topics in sensory transduction, cellular integration, synaptic processing, central nervous system function, and learning. Students required to present two-hour seminar. Mr. Fain, Mr. Feldman, Mr. Glanzman

271. Neurobiology of Disease (2 units). Analysis of clinical neurological and psychiatric disorders from perspective of basic neuroscience. Mr. Collins

M273. Neural Basis of Memory. (Same as Psychiatry M273.) Lecture, two hours; discussion, one hour. Prerequisites: M202, M204, and M205. Memory and learning versus associative memory. Functions of the hippocampus, declarative memory, and frontal lobes and primary memory. S/U grading. Mr. Woody

274. Computational Neuroscience. Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: courses M201, M202. Systematic introduction to computational neuroscience and hands-on experience in neural simulations. Computational models at synaptic, neuronal, and network levels. Sensory, motor, memory, and attentional systems and some higher cognitive functions, including language and consciousness. S/U or letter grading. Mr. Nenov

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275. Advanced Techniques in Neurobiology (2 units). Lecture, one hour; laboratory, one hour. Prerequisites: basic biology and chemistry. Designed to provide introduction and, when possible, practical demonstration of a number of techniques used in neurochemical research, with emphasis on techniques used for identification, measurement, and visualization of compounds thought to be important as mediators of intercellular communication in central nervous system. S/U or letter grading.

Mr. Evans, Mr. Faull, Mr. Maidment

596. Directed Individual Study or Research (2 to 12 units). Prerequisite: consent of instructor. Mr. Tobin

597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). Prerequisite: consent of instructor. Mr. Tobin

598. Dissertation Research for Ph.D. Candidates (4 to 12 units). Designed for students requiring special instruction or time to work on dissertation. Mr. Tobin

Obstetrics and Gynecology

27-117A Center for the Health Sciences, (310) 206-2056

Chairs
Roy M. Pitkin, M.D., Executive Chair
Jonathan S. Berex, M.D., Vice Chair, UCLA Medical Center
Charles R. Brinkman III, M.D., Chair, Harbor-UCLA
Ezra C. Davison, M.D., Chair, King/Drew
Larry R. Evetts, M.D., Acting Chair, Olive View-UCLA
Lawrence Platt, M.D., Chair, Cedars-Sinai

Scope and Objectives

The medical student program in obstetrics and gynecology is designed to provide firm background 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 post-menopausal 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 their core surgical 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 and a listing of the courses offered, see the Announcement of the UCLA School of Medicine.

Orthopaedic Surgery

76-134 Center for the Health Sciences, (310) 825-2744

Chair
Joseph M. Lane, M.D.

Scope and Objectives

The medical student program in orthopaedic surgery is designed to provide experience in understanding the diagnosis and management of disorders of the musculoskeletal system. Through a combination of didactic instruction and supervised clinical experience, students acquire the clinical skills of history taking and physical examination of the musculoskeletal system. Diagnosis and orthopedic management of bone and soft tissue trauma, skeletal development defects, tumor, spinal disorders, hand and foot disorders, and arthritides are primary objectives. Third-year students work in ambulatory clinics and on inpatient services during their core surgical clerkship. Fourth-year electives provide the opportunity for in-depth experience on rotations at the UCLA Medical Center and affiliated institutions and emphasize subspecialties such as joint replacement, sports medicine, orthopedic oncology, hand and foot surgery, and spinal surgery.

For further details on the Department of Orthopaedic Surgery and a listing of the courses offered, see the Announcement of the UCLA School of Medicine.

Pathology and Laboratory Medicine

1P-109D Center for the Health Sciences, (310) 825-5719

Professors
Judith A. Berliner, Ph.D., in Residence
Alistair J. Cochran, M.D., in Residence
Rita B. Effros, Ph.D., in Residence
Richard A. Gatti, M.D., in Residence
Oliver Henkenson, Ph.D., in Residence
Faramarz Navam, M.D., in Residence
Donald E. Paglia, M.D., in Residence
Lawrence D. Petz, M.D., in Residence
David D. Porter, M.D., Vice Chair
Denis O. Rodgerson, Ph.D., in Residence
Dorothy L. Rosenthal, M.D., in Residence
George S. Smith, M.D., Interim Chair
Harry V. Vinters, M.D.
Marcel A. Baluda, Ph.D., Emeritus
Pasquale A. Cancilla, M.D., Emeritus
Julien L. Van Lancker, M.D., Emeritus
M. Anthony Verty, M.D., Emeritus
Roy L. Walford, M.D., Emeritus

Associate Professors
Sanford H. Barsky, M.D.
Jonathan Braun, M.D., Ph.D.
Thomas A. Drake, M.D., in Residence
Nir Kosovsky, M.D.
James H. McBride, Ph.D., in Residence

Assistant Professors
Linda G. Baum, M.D., Ph.D.
Wayne W. Grody, M.D., Ph.D., in Residence
Elizabeth A. Wag, M.D.

Adjunct Associate Professor
Neil Sidell, Ph.D.

Scope and Objectives

Pathology is, by definition, the science of disease. Its main purpose is to unravel disease mechanisms. Without it, progress in preven-
tion, diagnosis, and therapy are left to chance. Yet, among medical disciplines, it is one of the youngest because scientific concepts of disease, based on direct observation of diseased organs, developed only in the last 150 years. Once normal molecules, cells, and organs have been damaged, the result of the injury manifests itself by distortions of behavior at the molecular, cellular, and organ levels. The study of these injuries and reactions to injuries constitutes a body of knowledge well worth mastering for its own sake. Students, however, must also learn to use the existing tools or develop the new tools needed to dissect the events that follow injury. Although education in methodology is not, in principle, different in pathology from that in all other biomedical sciences, it is very different in scope.

A combined education in breadth and depth is indispensable; it is this education, as it is applied to injuries and reaction to injuries, that is the goal of the Ph.D. program in Experimental Pathology.

Master of Science Degree

Students are only accepted into the program for the purpose of obtaining a Ph.D. in Experimental Pathology. However, the department also awards an M.S. degree in Experimental Pathology in cases where a student is unable to finish the full Ph.D. program but whose completed work is adequate to the standards and minimum requirements set for a master's degree.

The general requirements for the M.S. degree include completion of the core courses (Pathology and Laboratory Medicine 231A, 233, 234A-234F, 250A-250B-250C) and six elective units required of all experimental pathology graduate students. A total of eight units of minimum requirements set for a master's degree.

You must pass the written qualifying examination at the master's level. A thesis is also required, which encompasses individual research.

Ph.D. in Experimental Pathology

Admission

Admission is through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280. Applications are accepted for Fall Quarter only; the deadline is January 5. Completed applications consist of the application form, official transcripts, three letters of recommendation, Graduate Record Examination (GRE) General Test scores and the Subject Test in either Biology, Chemistry, Biochemistry, or Cell and Molecular Biology, and a statement of purpose. The Test of English as a Foreign Language (TOEFL) is required for international students whose native language is not English.

You should have undergraduate preparation in physics, biology, and chemistry and have experience through coursework in specific areas that may include cell biology, neurobiology, physiology, immunology, structural or computational biology, microbiology, virology, integrative biology, plant molecular biology, developmental biology, genetics, biochemistry, or molecular biology.

Course Requirements

The course of study for the first six terms is as follows:

First Year

Fall: Biological Chemistry CM253, one seminar course, one laboratory rotation
Winter: Anatomy and Cell Biology M209A or Biological Chemistry CM267, one seminar course, one laboratory rotation
Spring: One foundations of human disease course, one seminar course, one laboratory rotation

Second Year

Fall: Pathology and Laboratory Medicine 250A
Winter: Courses 234A through 234D, 250B
Spring: Course 250C

Teaching Experience

You are required to serve as a teaching assistant for two terms, normally during your second and third years.

Qualifying Examinations

The written qualifying examination must be completed by the end of your second year (after the core course requirements are satisfied) and consists of the submission of a written grant proposal related to the general areas of your dissertation, yet different from the dissertation. The proposal format is based on the first award application from the Public Health Service Grant application, with minor modifications; the proposal must be submitted by the middle of September of your second year. By the end of September of that year, you must take the University Oral Qualifying Examination, which is administered by your doctoral committee and is a defense of your proposal.

After successful completion of the oral examination, you are advanced to candidacy. Within four months, you must make an oral presentation to your doctoral committee on your proposed doctoral thesis and any progress you have made. Another progress presentation may be required after an additional year, as determined by your doctoral committee.

Final Oral Examination

All candidates are required to defend their dissertation at an oral examination open to the public. The purpose of the dissertation is to demonstrate ability for independent investigation and proficiency in the field.

Upper Division Course

199. Special Studies (2 to 6 units). Supervised laboratory research, 10 hours minimum. Prerequisite: consent of instructor. Fundamental cases of disease processes, using as examples selected lesions or diseases of major organ systems.

Graduate Courses

200A. Dental Pathology (3 units). Lecture, 90 minutes; laboratory, three hours. Prerequisite: consent of instructor. Fundamental cases of disease processes, using as examples selected lesions or diseases of major organ systems.

Ms. Bhuta and the Staff (F)

215. Interdepartmental Course: Tropical Medicine (2 units). (Same as Medicine M215, Microbiology and Immunology M215, and Pediatrics M215.) Lecture, two and one-half hours. Prerequisites: 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 exotic noninfectious diseases. Syllabus supplements topics covered in classroom. S/U grading.

Mr. Turner (Sp, alternate years)

231A. Pathological Anatomy and Physiology (6 units). Lecture, two hours; discussion, six hours; laboratory, four hours; other, six hours. Prerequisites: graduate standing, completion of curriculum satisfying basic requirements for study of human pathology. Lectures, demonstrations, and individual study of a student loan collection of microscopic slide preparations and of specimens from recent autopsies. Kodachrome photomicrographs and projection of microslides. Concentration in area of general pathology.

Mr. Drake and the Staff (F)

231B-231C. Pathophysiology of Disease (6 units each). Prerequisites: course 230A, graduate standing, completion of curriculum satisfying basic requirements for study of human pathology. Lectures, demonstrations, and individual study of a student loan collection of microscopic slide preparations and of specimens from recent autopsies. Kodachrome photomicrographs and projection of microslides. Concentration in area of general pathology. In Progress grading.

Mr. Naeim and the Staff (W,Sp)

232. Topics in Vertebrate Histology (2 units). Introduction to cell biology of vertebrate central nervous system, with special reference to its development, structure, and potential disease processes.

233. General Pathology Seminar (3 units). Lecture, two hours; discussion, one hour. Prerequisite: course 231A. Designed to provide students with in-depth understanding of topics in course 231A. Reading and discussion of current publications pertaining to general pathology, with emphasis on cell and tissue repair, and inflammation/fibrosis.

Ms. Berliner (F)

234A-234F. Molecular and Cellular Foundations of Disease (2 units each). Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: graduate standing, background in biochemistry, molecular biology, and genetics. Investigation of the disease process. Two topics (four weeks each) offered per term; topics include genetic and metabolic disorders, infectious diseases, oncology, immunology, and nutritional disorders.

Mr. McBride and the Staff (W,Sp)

245. Environmental Pathology. Prerequisites: graduate standing, consent of instructor. Designed to explore interrelationships of man with his total environment. Presentation of series of special topics to discuss effect on man of changes in compositions of air, water, soil, and other materials. S/U grading.

250A-250B-250C. Pathology Graduate Student Seminars (2 units each). Limited to and required of all students in experimental pathology. Review and discussion of current literature and research in special topics of experimental pathology.

Ms. Berliner and the Staff (W,Sp)
SCHOOL OF MEDICINE / Physiology / 507

254. Seminar: Experimental Neuropathology (1 unit). Prerequisite: consent of instructor. Weekly seminar series presented by experts working at forefront of research on diseases of nervous system. New experimental approaches and laboratory model systems for studying diseases such as Alzheimer’s and Huntington’s diseases, epilepsy, neuroblastoma, and multiple sclerosis. S/U grading.

Mr. Sidell, Mr. Verity

255. Mapping the Human Genome (3 units). Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: consent of instructor. Basic molecular genetic and cytogenetic techniques of gene mapping. Selected regions of human genomic map scrutinized in detail, particularly gene families and clusters of genes that have remained linked from mouse to human. Discussion of localizations of disease genes. S/U or letter grading.

Mr. Gatti (Sp)

M256. Seminar: Viral Oncology (2 units). (Same as Microbiology and Immunology M256.) Advanced research seminar designed to consider current developments in the field. Selection of current subjects and publications dealing with virus tumors, oncogenesis, development, and cellular regulation. Mr. Baluda

M257. Introduction to Toxicology. (Same as Pharmacology M257.) Prerequisite: Pharmacology 241 or consent of instructor. Biochemical and systemic toxicology, basic mechanisms of toxicity, and interaction of toxic agents with specific organ systems. (Sp)

M258. Pathologic Changes in Toxicology. (Same as Pharmacology M258.) Designed to give students experience in learning normal histology of tissues which are major targets of toxins and the range of pathologic changes that occur in these tissues (liver, bladder, lung, kidney, nervous system, and vascular system). Mr. Van Lanker (W)

262. Biology of Aging (2 units). Lecture, one hour; discussion, one hour. Prerequisite: graduate standing. Introduction to biology of aging, with emphasis on mamalian and cellular aging — survival curves, biochemical, immunological, immunogenetic, and neuroendocrine alterations over the life cycle, accelerated aging, life-extension strategies; major theories of aging. S/U or letter grading.

Ms. Effros, Mr. Walford (W)

M293. Major Concepts in Oncology. (Same as Microbiology and Immunology M293 and Oral Biology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Designed for graduate students contemplating research in oncology. Topics include cancer pathophysiology, genetics, membranes, macromolecular synthesis and control, cell cycle, growth control; physical, chemical, and viral oncogenesis, epidemiology of cancer; tumor immunology; principles of cancer surgery, radiation therapy, and chemotherapy. S/U or letter grading.

Mr. Barsky, Mr. Hankinson (W)

596. Directed Individual Study or Research (4 to 12 units). Individual research with members of the staff or of other departments, the latter for purpose of supplementing programs available in department. S/U grading.


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Pediatrics

12-335 Davies Children’s Center, (310) 825-4128

Chairs

Barbara M. Lippe, M.D., Interim Executive Chair
Robert B. Ettenger, M.D., Vice Chair, Clinical Affairs, UCLA Medical Center
E. Richard Sheehm, M.D., Vice Chair, Academic Affairs, UCLA Medical Center
S. Douglas Frasier, M.D., Chair, Olive View-UCLA
Rosemary D. Leake, M.D., Chair, Harbor-UCLA
David L. Rimmion, M.D., Ph.D., Chair, Cedars-Sinai
Betty Jo Warren, M.D., Interim Chair, King/Drew

Scope and Objectives

The Department of Pediatrics encompasses four teaching hospitals: UCLA, Harbor-UCLA, King/Drew, 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 at any of the four medical centers. 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 the Announcement of the UCLA School of Medicine.

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Physiology

53-237 Center for the Health Sciences, (310) 825-6717

Professors

Francisco J. Bezania, Ph.D.
Michael H. Chase, Ph.D., in Residence
Jared M. Diamond, Ph.D.
Alan D. Grinnell, Ph.D.
Earl Horshmeh, Ph.D., Executive Vice Chair
H. Ronald Kaback, M.D.
Glenn A. Langer, M.D. (Castera Professor of Cardiology)
Michael S. Letinsky, Ph.D.
Kenneth D. Phillips, Ph.D., in Residence
Eduardo H. Rubinstein, M.D., Ph.D.
George Sachs, M.D., D.Sc. (Leon J. Tiber, M.D., and David S. Alpert, M.D., Professor of Medicine)
Oscar U. Scremin, M.D., in Residence

John McD. Tormey, M.D., Vice Chair for Instruction
Julio Vergara, Ph.D.
Ernest M. Wright, D.Sc., Chair

Professors Emeriti

Allan J. Brady, Ph.D.
Jennifer S. Buchwald, Ph.D.
Sergio Cani, Ph.D.
George Eisenman, M.D.
Joy S. Frank, Ph.D.
Donald B. Lindsay, Ph.D.
H. Ronald Ross, M.D.
Ralph R. Sonnenschein, M.D.
Bernice M. Wenzel, Ph.D.
Brian J. Whipp, Ph.D.

Associate Professors

Linda Demer, M.D., Ph.D.
Sally J. Krasne, Ph.D.
Emanuela Mayer, M.D.
Diane M. Papazian, Ph.D.

Assistant Professors

Thomas J. O’Dell, Ph.D.
Nancy L. Wayne, Ph.D.
Hong Zhu, Ph.D., in Residence

Adjunct Professor

Arthur Peskoff, Ph.D.

Adjunct Associate Professors

Christopher Cooper, M.D.
Kenneth P. Roes, Ph.D.

Adjunct Assistant Professors

Kent K.C. Lloyd, D.V.M., Ph.D.
Helen Raybould, Ph.D.

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, neurobiology, communication and information, organ systems and integrative phenomena, and behavioral physiology.

In a recent survey conducted by the Conference Board of the Associated Research Councils, UCLA’s Physiology Department was judged fifth best in the nation in terms of the quality of its faculty. In addition to the Ph.D. program, the department offers postdoctoral training in research and welcomes students interested in articulated M.D./Ph.D. programs.
Ph.D. Degree

Admission
Admission is through UCLA ACCESS to Programs in Molecular and Cellular Life Sciences, 168 MBI, UCLA, Los Angeles, CA 90024-1570, (310) 206-5280.

Under special circumstances, new Ph.D. students may be admitted directly to the department, in which case the following criteria apply. You are expected to pursue the Ph.D. degree and must conform to the general admission requirements set by the Graduate Division. In general, you should have received a bachelor's degree in a biological or physical science or in the premedical curriculum and should have completed courses in mathematics through calculus and differential equations, physics, chemistry (including quantitative analysis, physical and organic chemistry, biochemistry), and biology or zoology. A master's degree is not required for admission.

Successful completion of the first-year curriculum requires knowledge of physical chemistry (at least equivalent to Chemistry and Biochemistry 110A and 156) and differential equations (equivalent to Mathematics 33A). It is strongly recommended that these or equivalent courses be taken prior to admission. If not, these deficiencies must be removed within a specified time after admission.

The Graduate Record Examination (GRE) General Test is required as well as the Subject Test in Biology or in your major field. Three letters of recommendation are required and should be sent to UCLA ACCESS at the above address.

Departmental information may be obtained from the Graduate Student Office, Department of Physiology, 53-237 CHS, UCLA, Los Angeles, CA 90024-1751.

Major Fields or Subdisciplines

Major fields include cellular physiology and biochemistry, molecular physiology, and integrative physiology. Subdisciplines include cellular and molecular electrophysiology, membrane transport, cellular signal transduction, channel and transporter structure and function, muscle physiology, fundamental neurophysiology, neuromuscular physiology, and cardiovascular, gastrointestinal, respiratory, and reproductive physiology.

Course Requirements

During your first year you must take Physiology M204 (or Neuroscience M205), M209A (or Biological Chemistry CM267 if approved by the graduate adviser), M212, M213, and Biological Chemistry CM253. Three laboratory rotations are required. In your second year you complete 12 units of special topics courses (Physiology 220 through 250C or comparable courses in other departments) pertaining to your research interest(s). Additionally you must take courses M270A-M270B-M270C or equivalent courses in other departments during your graduate career.

Teaching Experience

You are required to serve as a teaching assistant for two terms.

Qualifying Examinations

The written comprehensive examination is given during the summer following completion of your second year, by which time you will have nominated your doctoral committee. The purpose of the examination is to assess your ability to read and critically evaluate research papers in your area of interest. The examination is number coded and read by selected faculty members; a pass/fail grade is assigned by the graduate program committee.

The University Oral Qualifying Examination takes place by the end of the Fall Quarter of your third year and is designed to establish that you can independently identify significant research questions, put them in context of existing knowledge in physiology, and design appropriate and realistic protocols for testing hypotheses, and to assure that your dissertation project is appropriate and feasible. You must present an original proposal which is outside your immediate research interest and provide a brief summary of your proposed dissertation project.

Eight to 12 months after the oral qualifying examination, you make a midterm oral presentation at which you apprise your doctoral committee of your research progress, gain approval of any significant changes in research direction, and receive additional help or guidance from your committee to assure your dissertation is completed in a timely fashion.

Final Oral Examination

Although a dissertation defense is optional at the discretion of your doctoral committee, a public oral presentation of your dissertation research is required.

Upper Division Courses

100. Elements of Human Physiology (6 units, prerequisite: dental student standing or consent of instructor. Primarily for first-year dental students. Major organic body functions. With special supplementa-
tion, a suitable introduction to the field for graduate students for whom the 201A-201B course sequence is too extensive. (F)

199. Special Studies (1 to 8 units, prerequisite: consent of instructor. Special studies in physiology, including either reading assignments or laboratory work or both, designed for proper training of students.

Graduate Courses

201A-201B, Organ System Physiology (6 units each, Lecture, six hours, laboratory, three and one-half hours. Prerequisite: medical student standing or enrollment in qualified graduate program, consent of instructor. Recommended corequisites: courses M203A-M203B. Runs throughout School of Medicine's second semester. Lectures, laboratories, and conferences. Properties of biological membranes. Contractility of muscle. Epithelial transport. Carbohydrate, renal, respiratory and gastrointestinal systems. Fluid and electrolyte balance. To receive credit, both courses must be taken together in same academic year. In Progress grading.

M203A-M203B, Basic Neurology. (Same as Anatomy M203A-M203B.) Prerequisites: medical student standing or enrollment in qualified graduate program, consent of instructor. Runs throughout School of Medicine's second semester. Lectures, conferences, demonstrations, and laboratory procedures necessary to understand functions of nervous system. To receive credit, both courses must be taken together in same academic year. In Progress grading.

Mr. Letinsky, Mr. Schlag, and the Staff (W,Sp)

M204. Cellular and Molecular Developmental Neurobiology. (Same as Anatomy M204, Biology M220, Neuroscience M220, Psychiatry M220.) Lecture, three hours; discussion, one hour. Prerequisites: Neuroscience M201, M202, and M203, or Biological Chemistry 201A-201B, or consent of instructor. Cellular and molecular processes that regulate development of nervous systems of vertebrates and invertebrates. Topics include regional specification in early neurogenesis, generation of neuronal diversity, cell surface interactions and growth factors, neuronal and glial proliferation and migration, axonal outgrowth and guidance, synaptogenesis, trophic interaction, plasticity, regeneration, and aging.

Mr. de Vellis (W)

M209A. Molecular Cell Biology (6 units, same as Anatomy M209A and Biology CM220.) Prerequisites: consent of instructor; for undergraduates: Biology 100A, Chemistry 153A, consent of instructor. Introduction to cell biology for graduate students in basic medical science and selected undergraduates. Topics include membrane structure, assembly, and function; biogenesis of organelles, intercellular and intracellular signaling, immunity and gene structure, function and regulation.

Mr. Bok, Mr. Horshmer (F)

M212. Introduction to Cellular Physiology and Biophysics (6 units, same as Biology M237 and Physiological Science M212.) Lecture, five hours. Prerequisites: course M209A or Physiological Science 111A or equivalent, graduate standing for upper division undergraduates: consent of instructor. Development of fundamental physiological and biophysical concepts associated with all membranes, membrane channels and transporters, membrane potential, membrane excitability, electrical signal transmission and transduction, and muscle contraction and their application to study of basic cellular processes. Emphasis in laboratory on development of skills using computer programming languages, spreadsheets, and graphics for modeling and analysis of cellular processes.

Mr. Diamond, Mr. Feldman (Sp)

M220. Methods in Cell Physiology (6 units, prerequisite: consent of instructor. 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.

Mr. Bezanilla, Mr. Vergara (F)
M270A-M270B-M270C. Cell, Molecular, and Integrative Biology Seminars (2 units each). (Same as Anatomy M270A-M270B-M270C.) Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Presentation of weekly seminars and discussion on current topics in cell and molecular biology by faculty members from Anatomy and Cell Biology, Physiology, and other UCLA departments, in addition to invited lecturers. S/U grading. (W, F, Sp)

596. Directed Individual Study or Research (2 to 12 units). Prerequisite: consent of instructor.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 12 units). Prerequisite: consent of instructor.

598. Thesis Research for M.S. Candidates (2 to 12 units). Prerequisite: consent of instructor.

599. Dissertation Research for Ph.D. Candidates (2 to 12 units). Prerequisite: consent of instructor.

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221. Cell Physiology: Excitability (6 units). Prerequisite: consent of instructor. 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.

Mr. Bezanilla, Mr. Vergara (W)

222. Cell Physiology: Cellular Interaction. Prerequisite: consent of instructor. Simple and complex cellular interactions in nervous system. Study of synaptic transmission to higher-level cell-cell interactions, culminating in examination of mechanisms of central nervous system functions.

Mr. Letinsky (Sp)

M223. Membrane Molecular Biology (6 units). (Same as Biological Chemistry M223.) Lecture, five hours. Prerequisites: Biological Chemistry CM253 or consent of instructor. Graduate or selected upper division undergraduate standing. 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.

Mr. Kaback, Ms. Papazian, and the Staff (W)

224. Transport Systems in Cell Membranes. Prerequisite: consent of instructor. Properties of pumps and carriers in cell membranes and ion (Na, K, and Ca) transport across plasma membranes of single cells and epithelia.

Mr. Sachs, Mr. Wright (W)

M225: Comparative Endocrinology: Molecular to Behavioral. (Same as Physiological Science M225.) Lecture, two hours; discussion, two hours. Limited to graduate students. Important concepts in endocrinology, with focus on current research involving invertebrate and vertebrate animal models in areas of reproduction, neuroendocrine control of behavior, metabolism, and insect metamorphosis.

Mr. Schlinger, Ms. Wayne (F)

226. Excitation-Contraction Coupling in Muscle (2 to 6 units). Prerequisite: consent of instructor. Detailed study of relationship between membrane excitation and contractile activation in muscle.

Mr. Vergara (Sp)

227. Biochemistry and Mechanics of Muscle (2 to 6 units). Prerequisite: consent of instructor. Detailed study of biochemistry, energetics, and contractile mechanisms in muscle.

Mr. Hornsher

228. Epithelia: Structure and Function (2 units). Prerequisite: consent of instructor. Lectures and seminars on physiology of epithelial cells, with particular emphasis on membrane transport. S/U grading.

Mr. Wright (W)

229. Ion Permeation and Gating Kinetics of Channels and Carriers in Biological Membranes. Lecture, three hours; discussion, one hour. Prerequisite: graduate standing or consent of instructor. Theoretical methods for modeling ion permeability and gating kinetics of membrane channels and carriers. For description of fluxes, analysis of approaches based on electrodiffusion and statistical mechanics. For study of gating, analysis in depth of current transients, current fluctuations, and single-channel currents. S/U grading.

(W)

250A-250B-250C. Critical Topics in Physiology (2 to 8 units each). Prerequisite: consent of instructor. Advanced treatment of critical topics in physiology by staff for graduate and postdoctoral students in biomedical sciences.

260. Use of Laboratory Animals in Research. Prerequisite: consent of instructor. Introductory course for graduate students in medical and biological sciences, covering principles and practical problems in handling and use of common laboratory animal species.

Allen W. Johnson, Ph.D. (Biobehavioral Sciences)
Marvin Karmo, M.D., in Residence
Barbara Keough, Ph.D.
Keith T. Keman, Ph.D., in Residence (Biobehavioral Sciences)
Michael Steven Levine, Ph.D., in Residence (Neuroanatomy)
Robert P. Liberam, M.D., in Residence
Keh-Ming Lin, M.D., in Residence
Wendy B. Macklin, Ph.D., in Residence (Biobehavioral Sciences)
Stephen H. Marder, M.D., in Residence
Michael T. McGuire, M.D.
Milton H. Miller, M.D., Vice Chair
Jim Mintz, Ph.D., in Residence (Medical Psychology)
Claudia Mitchell-Keman, Ph.D. (Biobehavioral Sciences)
Kazu Nihira, Ph.D., in Residence (Medical Psychology)
Ernest P. Noble, M.D., Ph.D., (Thomas P. and Katherine K. Pike Professor of Alcohol Studies)
Keith H. Nuechterlein, Ph.D., in Residence (Medical Psychology)
Edward M. Ornitz, M.D., in Residence
Alfonso Paredes, M.D., in Residence
Robert O. Pasnau, M.D., in Residence
Russell Poland, M.D., in Residence
Michael J. Raleigh, Ph.D., in Residence (Biobehavioral Sciences)
Don A. Rockwell, M.D., Vice Chair
Mary Jane Rotheram-Borus, Ph.D., in Residence (Biobehavioral Sciences)
Paul Satz, Ph.D., in Residence (Neuropsychology)
Arnold B. Scheibl, M.D.
Eustace A. Seraphettides, M.D., Ph.D., in Residence
Jerome M. Siegel, Ph.D., in Residence (Biobehavioral Sciences)
Marian D. Sigman, Ph.D., in Residence (Medical Psychology)
George F. Sorenson, M.D., in Residence
Robert S. Sparkes, M.D.
Marco B. Sterman, Ph.D., in Residence (Biobehavioral Sciences)
Michael A. Strober, Ph.D., in Residence (Medical Psychology)
Gary L. Tischler, M.D., in Residence, Executive Chair
Bernard Towers, M.D.
Alexander J. Tymchuk, Ph.D., in Residence (Medical Psychology)
J. Thomas Ungerleider, M.D., in Residence
Jaime R. Villablanca, M.D., in Residence (Neuropsychology)
Dora B. Weiner, Ph.D., in Residence (Medical Humanities)
Herbert Weiner, M.D.
Thomas S. Weissner, Ph.D., in Residence (Biobehavioral Sciences)
David K. Welisch, Ph.D., in Residence (Medical Psychology)
Kenneth B. Wells, M.D., in Residence
Louis Jolyon West, M.D.
Charles D. Woody, M.D., in Residence (Biobehavioral Sciences)
Gail E. Wyatt, Ph.D., in Residence (Medical Psychology)
Joel Yager, M.D., in Residence, Associate Chair, Education
Arthur Yudofsky, Ph.D., in Residence (Biobehavioral Sciences)

Professors Emeriti
T. George Bodler, M.D.
Norman O. Brigg, M.D.
Nathaniel A. Buchwald, Ph.D.
Ching-Pio Chien, M.D.
Kenneth M. Colby, M.D.
Barbara F. Crandall, M.D.
Samuel Eiduson, Ph.D.
Barbara Fish, M.D.
Upper Division Courses

M112. Laboratory for Naturalistic Observations: Developing Skills in Fieldwork (Same as Anthropology M1300.) Prerequisite: consent of instructor. Skill of observing and recording behavior in natural settings, with emphasis on field training and practice in observing behavior, gap and individual projects. Discussion of some of the uses and implications for research in social sciences. (W)

M119. Evolution of Intelligence. (Same as Psychology M119K.) Lecture. Two hours. Prerequisites: Psychology 15 or 115, introductory statistics course, junior or senior standing, consent of instructor. Intelligence treated as neural information-processing capacity, its evolution in vertebrates correlated with evolution of enlarged brains. Qualitative approaches in evolutionary biology and neurosciences. Mr. Jerison (W)

M142. Advanced Statistical Methods in Psychology. (Same as Psychology M142.) Lecture, two hours; discussion, two hours. Prerequisites: Psychology 15 or 115, introductory statistics course, junior or senior standing, consent of instructor. Intelligence treated as neural information-processing capacity, its evolution in vertebrates correlated with evolution of enlarged brains. Qualitative approaches in evolutionary biology and neurosciences. Mr. Jerison (W)

M180A. Contemporary Problems in Mental Retardation. (Same as Psychology M180A.) Prerequisites: Psychology 10, 41, and 127 or 130. Corequisites: courses M181A-M181B. Limited to Immersion Program students. Presentation of concepts, issues, and research techniques in the area of mental retardation. Biological, psychological, and community questions concerning causes and treatment of developmental disabilities, as well as systems for care and training of retarded individuals. Lectures, directed reading, and discussion. Mr. Galbraith (W)

M180B. Contemporary Issues in Mental Retardation. (Same as Psychology M180B.) Prerequisite: course M180A. Limited to Immersion Program students. Psychosocial considerations in mental retardation relating literature to ongoing field experiences through lectures, discussions, media, and six student papers. Mr. Fuhlty (Sp)


M190. Ethology: Physiology of Behavior and Learning in Animals. (Same as Psychology M119J.) Prerequisites: Psychology 115, junior standing. Basic concepts of animal psychology for undergraduate students which integrates systematic overview of common forms of behavioral plasticity and standard training procedures in laboratory animals (in behavioral, neurophysiological, and pharmacological studies) with broad biological, evolutionary perspective. Mr. Soltyok (W)

M191. Biological Bases of Psychiatric Disorders. (Formerly numbered 191.) (Same as Biology M191 and Physiological Science M181.) Lecture, three hours; outside study, nine hours. Prerequisite: Biology M175A or Neuroscience M101A or Physiological Science 111A or M180A or Psychology M117A or consent of instructor. Underlying brain systems involved in a number of psychiatric neurologic disorders, including schizophrenia, depression, obsessive-compulsive disorder, as well as neurologic disorders exemplified by both clinical treatment and experimental research. Mr. Levine and the Staff

M192. Special Studies in Psychiatry (2 to 4 units). Prerequisite: consent of instructor. Independent study in the graduate seminar chair, based on written proposal outlining course of study (to be structured by instructor and student at time of initial enrollment). Additional information and course proposal forms are available in Office of Education, CS-202 NIPAH. Mr. Yager

Information on clinical practicums which are offered in conjunction with other educational institutions and UCLA departments may be obtained from the department office.
M221. Cellular and Molecular Neurochemistry. (Formerly numbered M221A.) (Same as Anatomy M221, Biological Chemistry M221, Neuroscience M224, and Pharmacology M221.) Lecture, three hours; discussion, one hour. Prerequisite: biochemistry. Contemp-orary neurochemistry topics — metabolic specialization and compartments, metabolism and function of ion channels, structure and function of neurotransmitters, inborn errors and molecular genetics, molecular imaging, aging, and regeneration. Receptor/effectors coupling. S/U or letter grading.

Mr. de Vellis, Mr. Olsen (W)

M222. Transcultural Psychiatry. (Same as Anthropology M234P.) Lecture, three hours. Prerequisite: consent of instructor. Consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, "culture specific" syndromes, non-Western psychiatries, and questions of "sick" societies. May be repeated for credit.

Mr. Edgerton (Sp)

223A-223B-223C. MMPI Seminars and Case Conferences (2 units each). Prerequisite: psychology intern, psychiatry resident, or consent of instructor. Seminar and case conference on interpretation of Minnesota Multiphasic Personality Inventory (MMPI) — theory, principles, and research into personality types.

Mr. Caldwell (F,W,Sp)


Ms. Sigman, Mr. Tanguay (F,W)

231. Hispanic Mental Health Issues and Treatment (2 units). Prerequisite: consent of instructor. Mental health issues and needs of Hispanics through seminars and videotapes dealing with historical comparison of psychiatry in Mexico and the U.S., analysis of various theoretical perspectives regarding biopsychosocial behavior; distinguishing psychodynamic from cultural factors in treatment of Spanish-speaking patients; treatment of Hispanic families, couples, undocumented persons, and criminal justice system clientele.

Mr. Morales (W)

M234. Affective Disorders (2 or 4 units). (Same as Psychology M280.) Seminar, two hours. General topics related to primary affective disorders (depression, manic depressive illness), including diagnosis, pharmacology, epidemiology, psychology, phenomenology, biology, and treatment. Students enrolled for four units are assigned a more intensive reading list and required to make a presentation or prepare a research paper.

Mr. Gitlen, Ms. Hammen

M235. Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M236Q, Education M222A, and Psychology M295.) Skill of observing and recording behavior in natural settings, with emphasis on field training and practice in observing behavior. Discussion of some uses of observations and their implications for research in social sciences. Students expected to integrate observational work into their current research interests.


Ms. Holroyd (F,W,Sp)

237. Seminar: Behavioral Neuroimmunology (1 unit). (Formerly numbered M237.) Lecture, 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.

238. Survey Research Techniques in Psychocultural Studies. Lecture, 90 minutes; seminar, 90 minutes. Prerequisites: graduate standing, consent of instructor. Techniques for conceptualizing, conducting, and analyzing survey data; instruction in qualitative strategies for enhancing survey research on psychocultural problems.
242. Parent and Child Psychotherapy Seminar (1 unit). Prerequisites: current experience in psychoanalytically oriented child psychotherapy, consent of instructor. Seminar meets throughout year. During Summer Quarter emphasis on initial clinical research evaluation as well as early treatment of the child and family. During Fall, Winter, and Spring Quarters instructors use videotaped sessions and notes from their own clinical work to discuss such topics as diagnostic criteria, family system treatment formulations stressing work with parents and children, and such theoretical and clinical issues as transference, resistance, overdetermined nature of symptoms, and termination. Student presentations encouraged in order to amplify clinical and theoretical issues and to become familiar with ongoing cases which are part of a systematic outcome study.

Ms. McDevoll

243A-243B-243C. Mental Retardation and Chronic Illness Interdisciplinary Core Curriculum (1 unit each). Lecture, 90 minutes. Prerequisite: consent of instructor. Survey series on major topic areas related to mental retardation and chronic illness, covering epidemiology, nosology, assessment, health care delivery systems, basic genetics, nutrition, direct care, and special deficits. Presented in interdisciplinary framework as general information independent of discipline. S/U grading.

Ms. Sana (F,W,Sp)

M246. Psychological Aspects of Mental Retardation. (Same as Psychology M246.) Lecture, 90 minutes. Discussion of psychological aspects of mental retardation, including classification, description, etiology, theory, prevention, treatment, assessment, modern and future developments, and input from other disciplines (ethics, law, religion, welfare systems).

Mr. Mythum

247A-247B-247C. Neurological and Psychological Bases of Behavior (1 unit each). Discussion, two hours. Prerequisites: graduate standing, consent of instructor. Discussion of advances in neuropsychology and neuropsychiatry, with particular reference to modern developmental studies. Faculty members or advanced students present results of their research work in context of available literature. Discussion during and after presentation. S/U grading.

Mr. Levine (F,W,Sp)

M249. Neurobiology of Sleep (3 units). (Same as Neuroscience M259 and Psychology M296.) Lecture, one hour; discussion, two hours. Critical review of primary research publications concerning neuronal basis of sleep. Discussion of neural and biochemical control of REM and NREM sleep after reviewing sleep behavior and phenomenology, including developmental and comparative aspects. Presentation of relevant clinical phenomena. S/U or letter grading.

Mr. Siegel (F)

M250. Medical Anthropology in Public Health. (Same as Anthropology M226, Community Health Sciences M232, and Nursing M260.) Seminar, three hours. Cross-cultural aspects of human behavior as they relate to perception, treatment, incidence, and prevalence of disease processes.

Ms. Brown, Ms. Grimshaw

253. Seminar: Child Development (1 unit). Prerequisite: consent of instructor. Theories of development, systems of child development, and chronological aspects of child development. Pedagogical and clinical readings by students plays major role in each session.

Mr. Siegel

254. Supporting Families of Children with Special Needs (2 units). (Formerly numbered M254.) Lecture, one hour; discussion, 30 minutes. Techniques and issues in counseling families through episodes of treatment, illness, and treatment. Social and psychological stresses on family unit, professional's reactions, community resources, and issues of genetic counseling, placement, and developmental crises. S/U grading.

Mr. Shaprio (Sp)

M256. Functional Organization of Behavior (2 units). (Same as Neuroscience M255.) Prerequisite: consent of instructor. Changes in neuronal properties supporting changes in learned behavior. Different types of research laboratories of clinical and experimental neuro- biologists: two seconds of in-vivo and in-vitro manipulation of neural microcircuits. Mr. Halgren, Mr. Syndulko (Sp)

256. Basic Clinical Child Psychopathology (1 unit). Prerequisite: consent of instructor. Weekly seminar covering basic clinical aspects of child psychopathology. Readings provided for basis of discussion on topics including interviewing of parents and children, diagnosis, and related syndromes. S/U grading.

Mr. Cantwell

257A-257B-257C. Communication Disorders Associated with Developmental Disabilities and Psychopathology. Discussion, one hour; laboratory, 90 minutes; didactic, 90 minutes. Didactic and practical training in communication and its dysfunction as these relate to language disabilities seen in interdisci- plinary medical, psychiatric, and educational setting. Mr. Shapiro (Sp)

258. Functional Neuropsychology (2 units). (Same as Neuroscience M258.) Lecture, two hours; discussion, one hour. Prerequisites: graduate standing, consent of instructor. Interdisciplinary course integrating medical, psychological, and educational approaches to study of human brain function. Mr. Levine (Sp)

259. Legal and Ethical Issues with Vulnerable Populations (3 units). Lecture, 90 minutes; laboratory, three and one-half hours. Discussion of current laws dealing with vulnerable populations; e.g., children, mentally handicapped people, elderly people; philosophies, ethics, ethical codes, issues, and how to resolve them. Use of videotapes and discussion of cases.

260. The Chronically Medically Ill Child and Family. Lecture, three hours; seminar, one hour. Examination from a biopsychological perspective of ramifications of chronic illness affecting lifestyle and development of the child and family, including examination of relevant theoretical models and research. Clinical application to assessment and intervention strategies.

Ms. Betz (F,Sp)

262A-262B-262C. Clinical Fieldwork in Developmental Disabilities (1 unit each, to 4 units each). Prerequisites or corequisites: courses 243A-243B-243C, consent of instructor. Placement and supervision of clinical and consultation activities in interdisciplinary trainees in various community agencies, hospitals, or other related settings among developmentally disabled or chronically medically ill children, youth, or adults. Supervision done jointly by community personnel on site, in collaboration with interdisciplinary faculty. S/U grading.

Mr. Forrest

264. Biofeedback: Theory, Research, and Clinical Application. Seminar, two hours; laboratory, one hour. Introduction to concepts and techniques of biofeedback, including review of experimental literature and applications to various clinical problems, including hypertension, headache, pain and anxiety, sexual dysfunction, cardiac arrhythmias, neuromuscular disorders, etc.). Training in use of portable biofeedback devices. Consideration of research and clinical implications.

Mr. Shapiro (Sp)

285. Mind and Brain in Evolution (2 units). Prerequisite: consent of instructor. Review of fossil evidence on organic evolution of the brain and implications of that evidence for evolution of mind and intelligence, with emphasis on such theoretical and technical issues as transference, resistance, overdetermined nature of symptoms, and termination. Student presentations encourage in order to amplify clinical and theoretical issues and to become familiar with ongoing cases which are part of a systematic outcome study.

Mr. Jenison

286A-286B-286C. Psychophysiological Research (1 unit each). Seminar, 90 minutes. Prerequisite: consent of instructor. Advanced seminar and discussion of ongoing laboratory research, involving concepts, experimental design, measurement, and data analysis. Current topics include research of physiological and subjective reactions to stress, psychophysiological research on diabetes, discrimination and control of blood pressure, and behavioral regulation of postural hypotension.

Mr. Shapiro (F,W,Sp)

M270. Neural Basis of Memory. (Same as Neuroscience M270.) Lecture, two hours; discussion, one hour. Anatomical, physiological, and neurological data integrated into models for how behavioral phenomena of memory arise. Discussion of invertebrate memory, cortical conditions, hypoglycemia and declarative memory, and frontal lobes and primary memory.

Mr. Woody

M271. Psychological Anthropology. (Same as Anthropology M271.) Lecture, three hours. Prerequisite: consent of instructor. Various psychological issues in anthropology, both theoretical and methodological. Areas of interest include such things as cultural theory, culture and personality, and culture psychiatry. Discussion of how symbolic relationships relate to unconsciousness and unconsciousness processes and as they relate to culture. Topics vary from term to term. May be repeated for credit.

Mr. Edgeron (W)

M273. Advanced Seminar: Medical Anthropology. (Same as Anthropology M2630, Community Health Sciences M244, and Nursing M273.) Seminar, three hours. Prerequisite: consent of instructor. 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.

Ms. Browner (W)

274. Neuropsychology and Behavior (3 units). Prerequisites: graduate standing, consent of instructor. Analysis of strategies and approaches used to study behavior of mammalian organisms. Special emphasis on recent developments in electrophysiological recording techniques and how such developments relate to classical concepts of brain function.

Mr. Levine (Sp)


Mr. McGuire (F,W)

276. Neurocognitive Plasticity in Adults (3 units). Critical examination at multiple levels of brain function changes with aging — from structural changes at cellular, subcircuit, and network levels to neurophysiological levels on one hand to functional changes in sensory, motor, mnemonic, and intellectual abilities at other. Evaluation of behavioral, pharmacological, and transcranial stimulation techniques to enhance or restore function.

Mr. Halgren, Mr. Syndulko (Sp)


Ms. Asarnow (Sp)
M279A. Seminar: Human Behavioral Ecology. (Same as Anthropology M229A and Education M281B.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Examination of predictive models from animal behavioral ecology used to study human diet and subsistence; settlement patterns and territoriality; sharing and helping; reproduction and mortality. Comparison with other economic and ecological approaches in anthropology. Mr. Blanton Jones.

M279B. Seminar: Reproduction, Families, and Parenting. (Same as Anthropology M229B and Education M281B.) Prerequisite: consent of instructor. Guided forum for graduate students to discuss and broaden their studies of human reproduction and child rearing from varied viewpoints. Representation and debate of theories, questions, and methods from social and biological sciences. Mr. Blanton Jones.

M279C. Seminar: Selected Topics in Human Ethology. (Same as Anthropology M229C and Education M281C.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Consideration of appropriateness and contributions of using animal behavior methodology in study of human behavior. Analysis of the studies requiring behavioral development, especially longitudinal studies; adaptation; evolution. Origins. Mr. Blanton Jones.

M280. Feminist Perspectives on Women, Reproduction, and Health. (Same as Anthropology M269P and Nursing M410A.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Three-hour seminar on sociocultural and political economic factors that affect reproduction and women's health. Topics include relationships between women's domestic and extra-domestic roles and their health, policies of reproduction, and impact of new reproductive technologies. May be repeated for credit. Ms. Browner (F).

281. Behavioral Therapy in an Educational Setting. Lecture, one hour; laboratory, six to 10 hours. Prerequisite: consent of instructor. Supervised experience in classroom working with exceptional children. Theoretical background furnished through one-hour weekly lecture. Mr. Foxman.

M282. Anthropology of Human Body. (Same as Anthropology M240T.) Seminar, three hours. Exploration of how sociocultural and political dynamics shape perceptions of and understandings about the human body, sex, and gender; how these perceptions and understandings influence social processes. Includes materials from both non-Western and Western societies. Ms. Brown (F).

298. Current Topics in Biobehavioral Sciences (1 to 4 units). Prerequisite: consent of instructor. Open to students at all levels. 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.

403. Individual Case Supervision (1 to 4 units). Prerequisite: consent of instructor and department chair (based on written proposal to be structured by instructor and student prior to enrollment; additional information and proposal forms available in Office of Education, C8-202 NPI&R). 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.

414. Emergency Treatment Attending Rounds (1 unit). Prerequisite: assignment to Emergency Treatment Unit, course M472A (Nursing Care of Children with Developmental Disabilities). Lecture, one hour; discussion, one to two hours; laboratory, 15 minutes. Prerequisite: consent of instructor. Supervision of all critical conditions of children and their effects on the child and family. Content based on normative developmental models with consideration for sociocultural diversity. Emphasis on prevention, systematic assessment, and planning of care for the individual and family. Introduction to implementation of intervention strategies. Series of three courses integrates didactic material and clinical experience. Ms. Betz (F).

416. Treatment Planning Meetings (1 unit). Prerequisite: consent of instructor. Treatment and management problems posed by inpatient psychiatry. Discussion of clinical psychopathology, treatment plans, and interdisciplinary skills. Emphasis on formulating accurate diagnostic assessment and planning effective treatment programs using therapeutic methods of the milieu (somatic therapies, behavioral techniques, family therapy, group process, individual and dyadic treatment, etc.). Weekly Milieu Meeting (1 unit). Prerequisite: consent of instructor. Milieu course meetings designed to explore experientially and didactically multiple aspects of group process on a psychiatric inpatient service. Ms. Betz (W).

425. Teaching Case Conference (1 unit). Prerequisite: consent of instructor. Review of diagnosis and treatment of full spectrum of disorders, with expert off-unit consultants.

426. Child Outpatient Team (1 unit). Prerequisite: consent of instructor. Weekly team meetings to coordinate clinical activities of trainees in Child Outpatient Department. Discussion of literature and theories related to selected cases. SU grading.

449. Parent Training Intervention Workshop (2 units). Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: consent of instructor. Advanced clinical trainees learn behavioral techniques of assessment and treatment of parent/child problems. Lectures, case presentations, and workshops on various skills necessary. Mr. Frankel.

452. School Intervention by Child Psychiatrists. Seminar, two hours. Prerequisite: consent of instructor. Knowledge of children in schools through (1) field experience, (2) a didactic program, and (3) group supervision. Each team selects a local elementary or junior high school as site of field experience in consultation. Supervision focuses on assessing needs of the school and initiating the consultation. Seminars consider theories of consultation, systems theory as applied to schools, organization of school systems, professional roles represented in the school (e.g., teachers, counselors, principals, etc.), and their special problems. In Progress grading.

465. Pediatric Psychopharmacology (1 unit). Prerequisite: child psychiatry fellow or consent of instructor. Designed for all fellows in child psychiatry. Background of clinical psychopharmacology; clinical evaluation of psychotropic drugs with children; clinical indications for various psychotropic drugs. Clinical supervision of individual cases provided along with seminars and discussions of various cases. Mr. Shikin.

471. Grand Rounds (No credit). Prerequisite: second-year resident in Child Service, child psychiatry fellow, or consent of instructor. Each month one second-year child psychiatry fellow presents a major clinical problem. Senior faculty discusses cases. The presenting trainees are expected to cover pertinent literature and assemble critical elements of information on case or problem at hand. Ms. Sessions eligible for Continuing Medical Education credit.

472A. Nursing Care of Children with Developmental Disabilities. (Same as Nursing M410B) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisites: course M472A and/or consent of instructor. Study of philosophical and conceptual models affecting care delivery for persons with developmental disabilities. Emphasis on intervention strategies necessary for primary, secondary, and tertiary prevention. Ms. Betz (W).

472B. Nursing Care of Children with Developmental Disabilities. (Same as Nursing M410C) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisites: course M472B and/or consent of instructor. Exploration and participation in assessment, planning, and delivery of health care to children with developmental disabilities in a variety of settings. Emphasis on expanded role of the nurses.

478. Clinical Genetics Rounds (No credit). Prerequisites: medical graduate, consent of instructor. Weekly clinical rounds on patients seen in the wards during preceding week. House staff and others involved in clinical work may attend. Usually in-depth discussion of medical and genetic aspects of one or more disorders presented. Ms. Crandall.

479. Genetics Clinic Presentation (No credit). Prerequisite: consent of instructor. Weekly clinical teaching session on patients seen in genetics clinic. In-depth discussion on genetics of each disorder. Ms. Crandall and the Staff.

480. Analysis of Human Chromosome Studies (1 unit). Prerequisites: consent of instructor. 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 studies. Mr. Sparks.

481. Chromatography Review (No credit). Prerequisites: premedical course or biochemistry, consent of instructor. Weekly session with presentation of amino acid chromatograms carried out during preceding week. Interpretation of abnormal chromatograms together with technical aspects of tests used. Mr. Cederbaum.

485. Medical Genetics Seminar (No credit). Prerequisites: introductory course, consent of instructor. Weekly seminar series intended for those interested in genetics or in specific topic to be presented. Speakers are invited for their expertise or research in some special area related to genetics and may be from UCLA or elsewhere. Discussion and questions from audience encouraged. Ms. Crandall and the Staff.

596P. Individual Studies in Psychiatry (2 to 12 units). Prerequisite: consent of instructor and department chair (based on written proposal outlining course of study to be structured by instructor and student at time of initial enrollment). Additional information and course proposal forms available in Office of Education, C8-202 NPI&R. Directed individual research and study in psychiatry at graduate level. Ms. Yager.

Radiation Oncology

B265 UCLA Medical Plaza 200, (310) 825-9304

Chairs
H. Rodney Withers, M.D., D.Sc., Chair
Guy J.F. Juillard, M.D., Vice Chair, Clinical Affairs
Scope and Objectives

The Department of Radiation Oncology includes clinical divisions at the UCLA Medical Plaza and Medical Center, Wadsworth 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 Wadsworth VA. The primary clinical mission of the department is the management of patients who have cancer and benign intracranial lesions, although ionizing radiations also are used for preparing patients for bone marrow transplantations and for altering the immune systems of patients with a range of illnesses. Knowledge of the disease in question, the comparative efficacy of radiation therapy and other methods, radiation biology and pathophysiology, and the physical characteristics of varying radiations is essential.

Research interests range from clinical problems through cellular kinetics, radiation modifiers, radiation chemistry, molecular biology, immunology, and basic and applied physics. The educational programs serve medical, dental, nursing, and radiation therapy students, and community and postgraduate physicians 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 offered, see the Announcement of the UCLA School of Medicine.

Associate Professors
Denis B. Buxton, Ph.D., in Residence
James D. Collins, M.D.
Carolyn Kimme-Smith, Ph.D., in Residence
Robert B. Lufkin, M.D.
Nagchettiar Satyamurthy, Ph.D., in Residence

Assistant Professors
Simon R. Cherry, Ph.D.
Magnus Dahloom, Ph.D., in Residence
Kuo Ting (Bruce) Ho, Ph.D., in Residence
Carl K. Hoh, M.D., in Residence
Robert S. Lawey, M.D., M.P.H.
Michael McNitt-Gray, Ph.D., in Residence
William P. Meleaga, Ph.D., in Residence
Maribeth A. Raines, Ph.D., in Residence
Shantanu Sinha, Ph.D., in Residence
Ricky Taia, Ph.D., in Residence
M. Albert Thomas, Ph.D., in Residence

Lecturers
Lan H. Kote, M.S.
Nancy M. McCready, M.S.
Marilyn C. Wexler, M.S.

Adjunct Professors
L. Stephen Graham, Ph.D.
Lawrence E. Williams, Ph.D.

Adjunct and Visiting Associate Professors
Jeffry R. Alger, Ph.D., Visiting
Martin W. Herman, Ph.D., Adjunct
Nicholas J. Mankovich, Ph.D., Adjunct
James W. Sayre, Dr.P.H., Adjunct
Usha Sinha, Ph.D., Adjunct
James S. Whiting, Ph.D., Adjunct

Adjunct Assistant Professors
Guido Germano, Ph.D.
Haziel L. Lewis, Ph.D.
James C. Liu, Ph.D.
David Metcalf, Ph.D.
Peter J. Rosemark, Ph.D.
Daniel J. Valentinio, Ph.D.
Robert E. Wallace, Ph.D.

Requirements for Graduate Degrees

Admission
In addition to the University’s minimum requirements, candidates for admission are required to have a bachelor’s degree with a major in a science. Also, it is expected that all applicants will have had (1) one year of college physics (calculus-based), (2) two years of college mathematics (through differential equations), equivalent to Mathematics 31A, 31B, 32A, 32B, 33A, 33B, (3) one year of college chemistry, and (4) at least one computer science course. Deficiencies in the above courses must be removed prior to advancement to candidacy.

In addition, applicants to the specialty fields of biophysics, medical imaging, and therapeutic medical physics must have acquired a strong foundation in basic physics or a degree in engineering, mathematics, or other sciences with physics training equivalent to a minor in physics (upper division courses in electricity and magnetism, quantum mechanics, atomic structure, statistical mechanics, and mechanics). Students may be accepted with some deficiencies in entrance requirements which must be removed prior to advancement to candidacy.

Scores on the Graduate Record Examination (GRE) General Test, taken in the last three years, should be sent to the department. Three letters of recommendation are required. If you already have a master’s degree, one of the letters should be from your adviser.

A brochure describing the program in biomedical physics may be obtained from the Department of Radiological Sciences, Biomedical Physics Graduate Program, 1V-365 CHS, UCLA, Los Angeles, CA 90024-1721.

Master of Science in Biomedical Physics

Course Requirements

A minimum of 12 courses, including eight core courses (Radiological Sciences 200A, 204, 205, 216, 217, 218, 260A, 260B) and nine additional noncore courses (200B, 202A-202B, 202C, 203, 208A, 208B, 209, 221), are required for the M.S. degree.
UCLA's inverted fountain near Franz Hall.
Graduate Courses

200A. Physics and Chemistry of Nuclear Medicine. Lecture, three hours; discussion, one hour. Prerequisites: consent of instructor. Nuclear and radiobiological aspects of radiopharmaceuticals. Radiochemical separation, decay properties, internal dosimetry, evaluation of biological effects of radiation, and applications to nuclear medicine. Analysis of radiation therapy equipment. Mr. Herman (F, W, Sp)

200B. Nuclear Medicine Instrumentation. Lecture, one hour; laboratory, three hours. Prerequisites: course 200A. Design and implementation of nuclear medicine instrumentation, including well ionization chambers, probes and well collimated detectors, scintillation cameras, and single photon and positron emission computation tomography. Mr. Dahlborn, Mr. Graham (Sp)

201. Medical Radiation Accelerator Design. Lecture, three hours. Prerequisite: course 201B or consent of instructor. Overview of physical principles involved in design of current particle accelerators (electron, proton, heavy particle) and analysis of characteristics of current accelerators and facility design. Mr. Wallace (Sp)


202A. Nuclear Medicine. Prerequisite: course 200B or consent of instructor. Mr. Herman (F, W, Sp)

202B. Diagnostic Radiology. Prerequisites: courses 200A and 205, or consent of instructor. Mr. Herman (F, W, Sp)

202C. Radiation Therapy. Prerequisites: courses 203, 204, 208B, 221.

203. Physics of Radiation Therapy. Lecture, three hours; discussion, one hour. Prerequisites: courses 216, 221. Radiation and units. Radiation dosimetry, clinical applications in treatment planning. Methods of measuring radiation quantities. Calibration of radiation therapy equipment. Mr. Smathers (Sp)

204. Introductory Radiobiology. Effect of ionizing radiation on chemical and biological systems. Mr. McBride (W)

205. Physics of Diagnostic Radiology. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Production of X rays, basic interaction between X rays and matter, X-ray system components, physics principles. Mr. McBride (F, W, Sp)

206. Advanced Instrumentation. Lecture, three hours; discussion, one hour. Prerequisite: course 206S. Introduction to recent advances in digital diagnostic imaging systems, with topics centered on instrumentation including digitizers, image processing interfaces, computer radiation (CR), digital subtraction angiography (DSA), and picture archiving and communication systems (PACS). Mr. Ho, Mr. Sinha (Sp)

207. Dosimetry and Health Physics. Lecture, three hours. Prerequisite: consent of instructor. Dosimetry of ionizing radiation, concepts in radiation protection, recognition of national council on radiation protection and measurement, maximum permissible dose levels. Shielding calculations. Layout and design of radiographic installation. (F)

208A. Medical Physics Laboratory: Medical Imaging. Discussion, two hours; laboratory, four hours. Prerequisite: course 207. Hands-on experience in performing acceptance testing and quality control checks of imaging equipment such as fluoroscopy, digital subtraction angiography, mammography, ultrasound, magnetic resonance imaging, computer tomography, and film processors. Ms. Sinha

208B. Medical Physics Laboratory: Radiation Therapy. Discussion, two hours; laboratory, four hours. Prerequisite: course 203. Hands-on experience calibrating treatment planning and radiation therapy equipment. Mr. Herman

209. Digital Techniques in Radiological Sciences. Lecture, three hours; discussion, one hour. Prerequisites: course 209 and consent of instructor. 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 computer and diagnostic equipment with regard to image acquisition, equipment interfacing, and data analysis. Mr. McNitt-Gray (W)

210. Principles of Medical Imaging. Lecture, three hours; discussion, one hour. Prerequisite: course 208 or consent of instructor. Study of image representation and computational structures for imaging, linear systems theory, image enhancement and restoration, image compression, segmentation, and morphology. Special topics include visualization, medical image processing, computer graphics, and image analysis. Laboratory projects apply concepts developed in class. Ms. Kimme-Smith (Sp)

211. Medical Ultrasonics. Lecture, 90 minutes; laboratory, two hours. Prerequisite: one calculus course for nonbiomedical physics graduate students: consent of instructor. Production of real-time ultrasound images, transducer modeling and design, Doppler and color flow imaging, biohazards of ultrasound, ultrasound phantom design, and ultrasound tissue characterization techniques. Laboratory included. Ms. Kimme-Smith (Sp)

212. Biochemical Basis of Positron Emission Tomography (PET). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Introduction to biochemical processes and application of radioisotopes 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. Mr. Buxton (F)

213. Quantitative Autoradiography. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Application of quantitative autoradiography for estimating brain and heart functions. Topics include 2-deoxyglucose method for metabolic rate; iodoantipyrine method for blood flow; amino acid method for protein synthesis; quantitative receptor autoradiography; neuroanatomy and neurophysiology of autoradiogram and PET scan interpretation. Mr. Ackermann (Sp)

214. Medical Image Processing Systems. Lecture, three hours; discussion, one hour. Prerequisite: courses 209, 210, consent of instructor. Architecture, design, and programming of medical image processing systems and algorithms. Use and development of benchmark programs to evaluate performance of image processing systems. Provides experience with at least five different image processing systems. Mr. McNitt-Gray (Sp)

215. Breast Imaging Physics and Instrumentation. Lecture, three hours; laboratory, two hours. Prerequisites: course 205, consent of instructor. Special requirements of mammography, design of dedicated mammography X-ray units from generators and tubes through screen-film cassettes. Stereotactic biopsy units, cost/benefit controversy of screening mammography, digital mammography, computer-aided diagnostics, telemammography, and breast ultrasound. Ms. Kimme-Smith (F)

216. Fundamentals of Dosimetry. Lecture, three hours; laboratory, one hour. Prerequisite: consent of instructor. Overview of fundamental interactions of radiation with matter. Nuclear decay processes, nuclear reactions, and compartment models. Physical and chemical properties of radioactive preparations used in nuclear medicine. Basic principles of nuclear medicine imaging, SPECT, and PET. Mr. Hoffman (F)

217. Statistics and Data Analysis in Biomedical Physics. Lecture, three hours; laboratory, two hours. Prerequisites: Mathematics: 318, 320, 328 or consent of instructor. Analysis of relationship between computers and diagnostic equipment with regard to image acquisition, equipment interfacing, and data analysis. Ms. Sayre (W)

For students with a medical physics background or a career objective other than a practicing medical physicist, a more sharply focused curriculum may be advised.

Courses 596 and 598 may be applied toward the degree. Eight units of 500-series courses may be applied toward the total course requirement, four units toward the minimum graduate course requirement.

Thesis or Comprehensive Examination Plan

You are required to write a thesis (Plan I) based on a research project or to pass a comprehensive examination (Plan II) consisting of material selected from the core courses. The examination is offered at least once a year and may be repeated once.

Ph.D. in Biomedical Physics

Admission

Admission to the doctoral program requires (1) selecting a specialty, (2) passing either all of the core courses with grades of B or better or the M.S. comprehensive examination, and (3) passing a written specialty qualifying examination which may be repeated once. Radiological Sciences 221 is required of all students. Completion of a master's program is not required.

Qualifying Examinations

The qualifying examination for admission to the Ph.D. program should be taken by the end of your sixth term in residence. Once the qualifying examination is passed and you have selected a research topic in your specialty for the dissertation, you should, within a reasonable timeframe agreed upon with the dissertation advisor, form a doctoral committee and schedule the University Oral Qualifying Examination. This examination covers your mastery of the biomedical physics curriculum, particularly the areas of the proposed dissertation topic.

If you do not complete the dissertation within four years after taking the written qualifying examination, you may be required to take it again.

Final Oral Examination

The final oral examination, or dissertation defense, is required.

Upper Division Course

190. Directed Individual Studies or Research for Undergraduate Students (2 to 4 units). Prerequisites: consent of graduate advisor (based on written proposal outlining course of study or research). Directed individual studies in biomedical physics for undergraduate students to be structured by faculty member and student at time of initial enrollment. Mr. Norman (F, W, Sp)

209. Digital Techniques in Radiological Sciences. Lecture, three hours; discussion, one hour. Prerequisites: course in C or another computer language, consent of instructor. 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 computer and diagnostic equipment with regard to image acquisition, equipment interfacing, and data analysis. Mr. McNitt-Gray (W)

210. Principles of Medical Imaging. Lecture, three hours; discussion, one hour. Prerequisite: course 209 or consent of instructor. 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 the radiological sciences. Mr. Sayre (W)
218. Radiologic Functional Anatomy. Lecture, three hours; discussion, two hours. Prerequisite: consent of instructor. Introduction to human anatomy as visualized through radiological and nuclear medicine imaging modalities such as X ray, CT, MRI, sonogram, PET, and SPECT.

Ms. Kimme-Smith, Mr. McBride

219. Principles and Applications of Magnetic Resonance Imaging. Lecture, three hours; laboratory, one hour. Prerequisite: consent of instructor. Basic principles of magnetic resonance (MR), imaging physics, and contrast mechanisms. Emphasis on hardware, fourier transform imaging methods, structure of pulse sequences, various pulse parameters and reduction of artifacts. Introduction to MR spectroscopy, MR angiography, and fast imaging techniques.

Mr. Sinha (Sp)

220A-220D. Laboratory Rotations in Biomedical Physics (2 units each). Prerequisite: consent of instructor. Laboratory projects to provide students with introduction to the field. One oral and one written presentation required. S/U grading. 220A: Biophysics; 220B: Medical Imaging; 220C: Therapeutic Medical Physics; 220D: Radiation Biology and Experimental Radiation Therapy.

221. Applied Health Physics. Lecture, three hours; discussion, one hour. Prerequisites: course 216, consent of instructor. Basics of radiation safety as applied to medical applications. Introduction to all regulatory issues pertaining to medical uses of radioactivity.

Mr. Smathers (F)

M230. Computed Tomography: Theory and Applications. (Same as Biomathematics M230.) Prerequisite: consent of instructor. 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.

Mr. Huang (W)

M233. Principles, Practices, and Policies in Biotechnology (2 units). (Same as Biological Chemistry M233, Biology M233, Chemical Engineering M233, Chemistry M233, Microbiology M233, and Microbiology and Immunology M233.) Prerequisite: graduate standing or consent of instructor. Presentation of technologies, regulatory practices, and policies required for product development and review of current opportunities for new technology development. Topics include fermentation processes, pilot and large-scale bioprocess technologies, scaleup strategies, industrial recombinant DNA processes, hybridomas, protein engineering, peptide mimetics and rational drug design, medical and microscopic imaging, and intellectual property issues. S/U or letter grading.

Mr. Fox, Ms. Morrison (W)

260A-260B-260C. Seminars: Medical Physics (2 units each). Seminar, one hour. Courses 260A-260B must be taken prior to first Ph.D. oral qualifying examination. Joint critical study by students and instructors of fields of knowledge pertaining to medical physics. Periodic contributions made by visiting scientists. Discussion of research in progress. May be repeated. S/U (course 260A) or letter (courses 260B-260C) grading.

Surgery

72-131 Center for the Health Sciences, (310) 825-7017

Executive Chair
Michael J. Zinner, M.D. (William P. Longmire, Jr., Distinguished Professor of Surgery)

Executive Vice Chair
J. Thomas Rosenthal, M.D.

Vice Chairs
Leonard Makowka, M.D. (Cedars-Sinai)
Edward P. Passaro, Jr., M.D. (Wadsworth VA)
Howard A. Reber, M.D., (Sepulveda VA)
Bruce E. Stabile, M.D., (Harbor-UCLA)
Jesse E. Thompson, Jr., M.D. (Olive View-UCLA)

Scope and Objectives

The Department of Surgery instructs medical students during all four years of medical school. Students are expected to obtain broad knowledge of diseases treated by surgical means and to understand the pathology of these conditions, the therapy that may be applied, and the anticipated results of treatment. They are also encouraged to learn about the impact of surgical illness on the patient and the patient's family and environment.

Third-year students participate in a 12-week core clerkship in clinical surgery, assigned to either Harbor-UCLA Medical Center or a combination of UCLA, Wadsworth VA, and Olive View-UCLA Medical Centers. Each facility has a special orientation depending on the patient population and the individual staff. During the fourth year students may elect to take additional clinical rotations with increasing responsibilities. Additional in-depth elective courses are offered in collaboration with other departments.

For further details on the Department of Surgery and a listing of the courses offered, see the Announcement of the UCLA School of Medicine.

Upper Division Course

199. Special Studies (2 to 8 units). Prerequisite: consent of instructor. Individual projects carried out under direction of a faculty member. Special studies in surgery, with appropriate jeopardy readings, laboratory work, or other assignments designed for proper training of students. P/NP or letter grading.
The excellent reputation of the UCLA School of Nursing has been achieved by the faculty, students, and graduates. The school is recognized nationally and internationally for the quality of the undergraduate and graduate programs.

Faculty members are selected for their expertise, both in clinical areas of specialization and in research, and for their ability to transmit knowledge. In addition, highly skilled nurses practicing in many clinical settings are affiliated with the school and participate in the educational process.

In the curriculum, strong emphasis is placed on clinical competency and research. Faculty members are particularly cognizant of the needs of patients who represent a broad ethnic, racial, and cultural spectrum and have provided an emphasis on cultural diversity within the curricula. The School of Nursing has especially good technological support established to enhance learning; for example, computer and media resources are available for student use and are integral to the environment. The school offers outstanding educational opportunities.

Students are selected for their capabilities, background, and potential for contributions to the profession and are prepared as highly competent professional nurses. Alumni are employed successfully at all levels in many settings and in different geographical areas.

Faculty, staff, and administration are proud of the accomplishments and recognition of the school and its graduates. The school continues to be in the forefront in preparing the future leaders in nursing.
School of Nursing

2-200 Factor Building, (310) 825-7181

Professors
Betty L. Chang, R.N., D.N.Sc., F.A.A.N.
Kathleen A. Dracup, R.N., D.N.Sc., F.A.A.N.
Jacquelyn H. Flaskerud, R.N., Ph.D., F.A.A.N., Associate Dean for Academic Affairs
Charles E. Lewis, M.D., Sc.D.
Mary A. Lewis, R.N., Dr.P.H., F.A.A.N.
Ada M. Lindsey, R.N., Ph.D., F.A.A.N., Dean
Geraldine V. Padilla, Ph.D., Associate Dean for Research
Gwen M. van Servellen, R.N., Ph.D., F.A.A.N.
Donna L. Vredevoe, Ph.D.
Lulu Wolf Hassanplug, R.N., M.P.H., Sc.D., F.A.A.N., Dean Emeritus
Dorothy E. Johnson, R.N., M.P.H., Emerita
Harriet C. Moidel, R.N., M.A., Emerita
Olive Y. Burner, R.N., Ph.D., Emerita
Lina K. Zahr, R.N., D.N.Sc.
Mary A. Woo, R.N., D.N.Sc.
Phyllis A. Putnam, R.N., Ph.D., Emerita

Assistant Professors
Nancy L.R. Anderson, R.N., Ph.D.
Mary P. Cadogan, R.N., Dr.P.H.
Linda K. Ganzter, R.N., Dr.P.H.
Mary M. Gottesman, R.N., Ph.D.
Christine E. Kasper, R.N., Ph.D.
Colleen K. Keenan, R.N., Ph.D.
Jan L. Lee, R.N., Ph.D.
Linda P. Sama, R.N., D.N.Sc.
Mary A. Woo, R.N., D.N.Sc.
Anne K. Wueker, R.N., Ph.D.
Lina K. Zahr, R.N., D.N.Sc.
Olive Y. Burner, R.N., Ph.D., Emerita
Barbara A. Davis, R.N., Ed.D., F.A.A.N., Emerita

Lecturers
Katherine G. Baker, R.N., M.N.
Fern C. Barnett, R.N., Ph.D.
Sharol P. Brown, R.N., M.N.
Patricia A. Carter, R.N., M.N.
Ernestine B. Currier, R.N., M.S.
Bonnie L. Faherty, R.N., Ph.D.
Jan M. Fredrickson, R.N., M.N.
Carol L. Gernberling, R.N., M.N.
Virginia Hart-Kepler, R.N., M.N.
Deborah A. Jenkinsmon, R.N., M.N.
Donna K. McNeese-Smith, R.N., Ed.D.
Ronda D. Mintz-Binder, R.N., M.N.
Susan R. Opas, R.N., M.S.N.
Deborah A. Rice, R.N., M.N.
Dawn S. Stone, R.N., M.N.
Elizabeth W. Thom, R.N., M.N.
Mary W. Wilson, R.N., M.N.

Adjunct Professor
Frances M. Wiley, R.N., M.N.

The UCLA School of Nursing gives direction to the programs since 1954. If you are interested in the academic programs offered, you are urged to attend a counseling session or request a copy of the Announcement of the UCLA School of Nursing by writing to the Student Affairs Office, School of Nursing, 2-200 Factor Building, UCLA, Los Angeles, CA 90024-1702 (310-825-7181).

History and Accreditation
In 1949 The Regents of the University authorized the School of Nursing as one of the professional schools of the UCLA Center for the Health Sciences. This action paved the way for the development of an undergraduate basic program in nursing leading to the Bachelor of Science degree and made possible the establishment of a graduate program leading to the Master of Science degree. In 1965 the Master of Nursing degree was established as an alternate option to the M.S. degree. The Master of Science degree program was discontinued in 1971. The Regents approved the Doctor of Nursing Science degree program in 1986, and in Fall Quarter 1987 the first doctoral students were admitted.

The baccalaureate program has been continuously approved by the California Board of Registered Nursing since 1949. The School of Nursing became an agency member of the Department of Baccalaureate and Higher Degree Programs of the National League for Nursing in 1952. The Accrediting Service of the National League for Nursing has granted full accreditation to the programs since 1954.

Degrees Offered
Bachelor of Science (B.S.)
Master of Nursing (M.N.)
Doctor of Nursing Science (D.N.Sc.)

Bachelor of Science Degree
Note: Course offerings are under revision.

The baccalaureate program leading to the Bachelor of Science degree provides for a close interweaving of general and professional education. The physical, social, and emotional health aspects of nursing are emphasized throughout the curriculum. Clinical nursing experience under the guidance of faculty members is provided in hospitals, outpatient clinics, homes, and community health centers.

Credit by examination is available to qualified students on review of previous education.

Admission
The School of Nursing strives to attain a culturally and ethnically diverse student population. Admission, beginning in the junior year, is based on scholarship, diverse life experiences, and disadvantage. You must have completed a minimum of 84 quarter units, with grades of C or better in prerequisite courses and an overall grade-point average of 2.8 or better. Three letters of recommendation are also required. Diverse life experiences, including previous employment, volunteer work, and community service which reflect leadership, responsibility, multicultural involvement, multilingual abilities, and other unusual skills and knowledge are evaluated. Consideration is given to social and economic disadvantage such as educational background, heavy work schedule during school, housing conditions, family responsibilities, and mastery of physical disabilities. Completed applications should reflect clearly identified career goals and documentation of your potential in nursing.

Applications for acceptance to the baccalaureate program must be filed no later than November 30 for the next Fall Quarter. The School of Nursing admits 45 students each Fall Quarter. In addition to the regular UC Application for Undergraduate Admission and Scholarships which must be returned in the self-addressed envelope included in the packet, an application must be filed with the school by November 30. This application is available directly from the Student Affairs Office, School of Nursing, 2-200 Factor Building, UCLA, Los Angeles, CA 90024-1702.

You can find a discussion of the prenursing curriculum and prehealth advising in "Preparing for a Professional School" in Chapter 5.

Degree Requirements
The Bachelor of Science degree is granted on fulfillment of the following requirements:
(1) You must complete 44 required courses (191 quarter units; unit value of courses ranges from two to eight units) of college work and satisfy the general University requirements.
(2) Of the required 44 courses, at least 20 courses must be in general education, including the courses listed under the "Prenursing Curriculum" in Chapter 5 on the College of Letters and Science.

(3) You must complete at least 24 courses (107 quarter units) of upper division coursework toward the degree, including Nursing 101, 104A, 104B, 105, 109, M115, 120A through 120E, 120G, 184, 190C, 190F, 192, 193, 195, four electives, Biostatistics 100A, Epidemiology 100.

(4) You must maintain an overall grade-point average of C (2.0) or better in all courses taken while a student in the School of Nursing.

(5) You must complete all required nursing courses in the school and receive grades of C or better in the following courses: Nursing 101, 105, 109, 120A through 120E, 120G, 190C, 190F.

(6) You must be enrolled in the School of Nursing during your final three terms in residence; the last nine courses must be completed while so enrolled.

Study Lists — You may not enroll in more than four courses per term unless a petition is approved in advance by the assistant dean.

Honors

Dean's Honors

Dean's Honors are awarded annually to undergraduate students completing the academic year with distinction. To be eligible, you must achieve an overall grade-point average of 3.75 on a minimum of 36 graded units of work completed during the academic year.

Honors at Graduation

Honors are awarded at graduation to students with a superior overall grade-point average. The levels of honors and the requirements for each level are: summa cum laude, an overall average of 3.771; magna cum laude, 3.662; cum laude, 3.504. To be eligible, you must have completed at least 98 University of California units for a letter grade.

School of Nursing Faculty Award

The Faculty Award for excellence in nursing, established in 1965, is awarded to a student graduating from the bachelor's and the master's program with the highest grade-point average in all nursing courses.

Master of Nursing Degree

Note: Course offerings and clinical specialties are under revision.

In the Master of Nursing (M.N.) degree program, students contribute to improving nursing care through the application of advanced knowledge in nursing research, theory, and clinical practice. Throughout the program, the structure for nurse/client relationships and research is provided by the nursing process. This is a deliberate problem-solving activity which includes assessment, diagnosis, intervention, and evaluation. In addition to their clinical specialization sequence, students may elect courses in teaching, consultation, and/or administration as preparation to meet their specific career goals.

Admission

You must provide evidence of the following:

(1) Graduation from a recognized college or university having a National League for Nursing-accredited baccalaureate nursing program satisfactory to the School of Nursing and to the Graduate Division.

Graduation with a baccalaureate degree in nursing from an international institution with a nursing program satisfactory to the School of Nursing and to the Graduate Division. You may be required to enroll in certain undergraduate nursing courses which generally may not be applied toward requirements for advanced degrees.

(2) Status as a licensed registered nurse in the State of California.

(3) An upper division statistics course or a lower division statistics course with content equivalent to Biostatistics 100A, to be completed before entering the school.

(4) An upper division research course taken at an NLN-accredited institution and equivalent to Nursing 193, to be completed before entering the school.

(5) An upper division physical assessment course equivalent to Nursing 192, to be completed before entering the school (not required of students selecting the nursing administration specialty).

(6) Professional and/or academic competence in nursing attested through three letters of recommendation.

(7) A scholarship record satisfactory to the Graduate Division and to the School of Nursing.

(8) A minimum score of 550 on the Test of English as a Foreign Language (TOEFL) for applicants from foreign countries in which English is not the primary language and medium of instruction, whether licensed registered nurses in the U.S. or not (scores must be submitted prior to consideration for admission). Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

(9) A passing score on the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination for international applicants who are not licensed registered nurses in the U.S., prior to consideration for admission.

In addition to the Graduate Division application, you must file the Application for Admission to the School of Nursing, available through the Student Affairs Office, School of Nursing, 2-200 Factor Building, UCLA, Los Angeles, CA 90024-1702. The application deadline for Fall Quarter is March 15. For information on admission to graduate standing, see Chapter 3.

Major Fields or Subdisciplines

The School of Nursing offers graduate studies in the following areas:

- Maternity Clinical Nursing Specialty
- Medical-Surgical Nursing Specialty
- Cardiopulmonary
- Chronic Care
- Critical Care
- Oncology
- Neonatal Critical Care Nurse Practitioner
- Nurse Practitioner Specialty
- Family Gerontology
- Occupational Health
- Nursing Administration Specialty
- Pediatrics Clinical Nursing Specialty
- Psychiatric-Mental Health Nursing Specialty

Degree Requirements

(1) A minimum of six core courses (18 units; unit value of courses ranges from two to four units) and additional coursework in the 100, 200, and 400 series is required for each area of clinical specialization. A total of eight units of 500-series courses may be applied toward the total course requirement for the degree.

(2) A minimum grade-point average of 3.0 is required. Grades of B are required in graduate clinical nursing courses in order to advance to the next clinical course in a series.

(3) A minimum of three terms of full-time enrollment (eight units per term) is required for academic residence.

(4) Successful completion of a comprehensive examination is required.

Course Requirements

You must successfully complete the following:

(1) Core courses: (a) research in nursing (Nursing 204); (b) nursing theory, cultural diversity, and psychology (Nursing 203, 209A, 209B); (c) ethical and legal issues, management, education, and consultation (Nursing 220A, 220B, and/or 220C and/or 220D).

(2) Clinical practice (Nursing 401, 402, 403, 405, 415, 417, 420A through 429C). Clinical course requirements vary for each specialty area; not all courses are required in each specialty.

(3) Clinical specialization.

Additional course requirements vary according to specialty area listed below.

Maternity Clinical Nursing Specialty

The goal of this specialty is to develop clinical specialists who take a leadership role in the nursing management of the childbearing family in all phases of the reproductive cycle. Students develop individualized plans of study to meet their personal and professional goals. Guided options include management of low-risk pregnancy, alternative birthing options,
perinatal nursing, and basic neonatal intensive care. Required courses include Nursing 203, 204, 209A, 209B, 212, 220A, 220B or 220C or 220D, 223, 422A, 422B, 422C.

Medical-Surgical Nursing Specialty
The graduate of the medical-surgical nursing program is a specialist who takes leadership in the care of one or more specific groups of clientele whose health problems may be classified according to biological systems, pathology, acuity levels, medical treatment modalities, physical actions, or psychophysiological functions. Graduates choose from existing clinical options (i.e., cardiopulmonary, chronic care, critical care, and oncology), and within each option they develop individualized plans of study to meet personal and career objectives.

Cardiopulmonary — This option is designed to prepare clinical nurse specialists to meet an increasing demand for improved health services for patients with cardiopulmonary diseases. Several years of experience in acute coronary/pulmonary care settings (medical and/or surgical) and/or in cardiac/pulmonary rehabilitation are highly recommended before entering this option. Graduates are expected to function as cardiopulmonary nurse clinicians, teachers, consultants, or research associates. Required courses include Nursing 203, 204, 209A, 209B, 210, 211, 214, 215, 220A, 220B or 220C or 220D, 423A, 423B, 423C.

Chronic Care — This option enables clinical nurse specialists to gain advanced skills in the assessment and interpretation of patient data and in the care of clients and families during various points in the chronic illness trajectory. The role of clinical nurse specialists in leadership positions, case management, and interdisciplinary teams is an integral part of the option. Graduates are expected to function as expert clinicians, teachers, consultants, or research associates in a variety of health care settings. Required courses include Nursing 203, 204, 209A, 209B, 220A, 220B or 220C or 220D, 223, 233, 423A, 423B, 423C.

Critical Care — The goal of this option is to prepare clinical nurse specialists in general critical care nursing. Students are encouraged to develop critical focus in critical care. At least two years of prior experience in critical care nursing are highly recommended. Graduates are expected to function as clinical care clinicians, educators, consultants, or researchers and to become leaders in a variety of health care settings. Required courses include Nursing 203, 204, 209A, 209B, 216, 217, 220A, 220B or 220C or 220D, 423A, 423B, 423C.

Oncology — This option prepares oncology clinical nurse specialists to provide and direct nursing care for critically and chronically ill cancer patients and their families in a variety of settings and in all phases of the health/illness continuum (prevention, treatment, rehabilitation). Graduates are expected to function as educators and consultants in all aspects of nursing care to patients with cancer and their families, nurses, and others in the broad field of oncology. Critique and application of research findings to clinical cancer nursing care are integrated throughout the program. Individualized plans for clinical practicums are available. Required courses include Nursing 203, 204, 209A, 209B, 220A, 220B or 220C or 220D, 416, 417, 423A, 423B, 423C.

Neonatal Critical Care Nurse Practitioner
The primary goal of this option is the expansion of knowledge and clinical expertise necessary for neonatal critical care nurse practitioners. By combining newly learned physiological, developmental, and psychosocial knowledge, nurses can become highly skilled and caring practitioners for newborns. Two or more years of experience in a Level III nursery are highly recommended. Required courses include Nursing 203, 204, 209A, 209B, 212, 220A, 220B or 220C or 220D, 223, 264, 403, 420A, 420B, 420C.

Nurse Practitioner Specialty
Family Nurse Practitioner Specialty — This specialty prepares family nurse practitioners to take a leadership role in the care of individuals throughout the life span. The focus is on collaborative practice to assure comprehensive quality health care and health maintenance in outpatient, work site, nursing home, or home health settings. Emphasis is on the assessment, treatment, and evaluation of the client’s responses to actual or potential health problems which may be chronic or acute and include primary prevention. Special options are available in occupational health or gerontology, with additional coursework. Required courses include Nursing 203, 204, 209A, 209B, 220A, 220B or 220C or 220D, 226, 402, 429A-429B, 429C.

Gerontology Nurse Practitioner — Courses in the gerontology nurse practitioner option focus on the knowledge and skills needed for leadership roles in primary health care for older adults in ambulatory and long-term care facilities, at home, and in alternative settings. Required courses include those listed under the family nurse practitioner specialty above, Nursing 221, 425A.

Occupational Health Nurse Practitioner — This option integrates principles of occupational health assessment and care with professional ambulatory care of the adult. Practitioners evaluate the individual as seen within the workplace setting as well as within the family group. Primary focus and emphasis are on health status assessment, health promotion, illness prevention, hazard control, screening, surveillance, and rehabilitation of adult workers. Requirements are met through a combination of courses and experiences specific to the delivery of occupational health care services. Required courses include those listed under the family nurse practitioner specialty above, Nursing 412, Environmental Health Sciences 250, 251, Epidemiology 100.

Nursing Administration Specialty
This option focuses on organizational theory, health services and financial management, and the practice of nursing administration. Students gain the basic knowledge and skills required of nursing administrators in a volatile health care environment. Nursing content develops the knowledge of advanced management practice needed to plan and evaluate nursing services. Health services and financial management content provides a framework for organizing, directing, and coordinating health care resources. The program requires six terms of full-time study, and a 10-week spring administrative residency. Stipends for the residency program are provided by the institutions in which the residency is completed.

In addition to the required courses in the School of Nursing, students in this program take courses in the School of Public Health, Department of Health Services, and the John E. Anderson Graduate School of Management. Required courses include Nursing 203, 204, 209A, 209B, 219, 220A, 220C, 220D, 428A, 428B, 428C, and three health services management/financial management courses (Management 409, Health Services 436, and one organizational theory course).

Pediatrics Clinical Nursing Specialty
The goal of this specialty is to develop clinical specialists who take a leadership role in the nursing management of a selected group of neonates, children, and families. Guided options include neonates, children, and families experiencing acute/critical illness, chronic illness, developmental disabilities, or oncology. Required courses include Nursing 203, 204, 209A, 209B, 212 220A, 220B or 220C or 220D; 223, 421A, 421B, 421C.

Psychiatric-Mental Health Nursing Specialty
The primary intent of this specialization is to prepare clinicians who can function in leadership, educational, research, practice, and consultative roles in mental health settings serving individuals, groups, and families from diverse cultural backgrounds. The specific bases for practice are theories and research on personality development, function and dysfunction, biopsychosocial theories of mental illness, and psychotherapeutic approaches to nursing assessment, diagnosis, and treatment of clients’ responses to mental health problems.

This specialty prepares graduates for practice as mental health nurse counselors serving individuals, groups, and families with acute or chronic mental health problems. Students, in consultation with faculty members, select an area of focus among the following settings and/or populations: psychiatric or community mental health settings with adults or children, consultation liaison, or ethnic mental health. Required courses include Nursing 203, 204, 209A, 209B, 220A, 220C, 220D, 405, 424A, 424B, 424C.
Comprehensive Examination Plan

The comprehensive examination is given in written form and is scheduled each term. You are eligible to take the examination during the term in which you are advanced to candidacy and may repeat the examination, in its entirety or in part, twice. You must complete all requirements for the degree within one calendar year after advancement to candidacy.

Concurrent Degree Program

M.B.A./M.N.

The School of Nursing and the John E. Anderson Graduate School of Management offer a concurrent degree program designed for students interested in employment in all sectors of the health care delivery system, including hospitals, corporate health care headquarters, home health care agencies, and long-term care facilities, as well as policy-making bodies and consulting firms. Students must request application materials from both the M.B.A. Admissions Office, John E. Anderson Graduate School of Management, and the School of Nursing Student Affairs Office.

Doctor of Nursing Science Degree

Note: Course offerings are under revision.

The Doctor of Nursing Science (D.N.Sc.) degree program is research oriented with a focus on clinical nursing research. The goal is the development of scholars who, through the conduct of original research and the generation of new knowledge, will build the knowledge base for professional practice. The curriculum allows students to obtain the theoretical and scientific knowledge necessary for scholarly pursuit in nursing.

Admission

Priority is given to graduates of accredited master’s degree programs in nursing. Individuals admitted to doctoral study with a bachelor’s degree in nursing and a master’s degree in a non-nursing field are required to make up clinical speciality deficiencies by taking clinical courses in one of the current master’s clinical speciality programs. Such courses may be taken concurrently with doctoral courses. Individuals admitted to doctoral study with a bachelor’s degree in nursing are required to complete a program of master’s courses in nursing at UCLA as a prerequisite to entry into doctoral courses.

Applications are reviewed on an individual basis by the doctoral program committee. Applicants whose application materials indicate a high potential for success in the doctoral program are interviewed. Preference is given to applicants who demonstrate (1) capacity for original scholarship and nursing research as evidenced by prior publications, (2) consistent research objectives and career goals, (3) research objectives congruent with those of the faculty in the School of Nursing, and (4) scholarly verbal and written communication skills.

You must provide evidence of the following:

1. A master’s degree in nursing; a Bachelor of Science degree in Nursing and a master’s degree in a non-nursing field; or a Bachelor of Science degree in Nursing*. Degrees must be from a National League for Nursing-accredited program satisfactory to the School of Nursing and to the Graduate Division.

2. A scholarship record satisfactory to the Graduate Division and to the School of Nursing, with a minimum grade-point average of 3.5.

3. A combined verbal, quantitative, and analytic score of 1,500 on the Graduate Record Examination (GRE), taken within the past five years. Exceptions to this score may be considered when there is compelling evidence in other areas.

4. An upper division statistics course with content equivalent to Biostatistics 100A, 100D, or Biostatistics 170A.

5. A graduate nursing research course with content equivalent to Nursing 204.

6. A graduate nursing theory course with content equivalent to Nursing 203.

7. A minimum score of 550 on the Test of English as a Foreign Language (TOEFL) for applicants from foreign countries in which English is not the primary language and medium of instruction (scores must be submitted prior to consideration for admission). Refer to “Proficiency in English” under “Graduate Admission” in Chapter 3 for further information.

8. A passing score on the nursing and English portions of the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination for international applicants who are not licensed as registered nurses in the U.S., prior to consideration for admission.

9. Status as a licensed registered nurse; prior to entry into any clinical practicum, evidence of current licensure as a registered nurse in the State of California is mandatory.

10. Four letters of reference affirming your potential for scholarly, investigative, and creative endeavors in nursing.

11. Examples of scholarly papers and/or creative works.

12. A statement of educational objectives, specific focus of research, and program and career goals.

13. Curriculum vitae.

Areas of Study

Students in the doctoral program focus their study in one of three areas: (1) sociocultural diversity — formulation, investigation, and evaluation of social and cultural similarities and differences that influence the perceptions of health and illness, the treatment of illness, and the utilization of health services; (2) psychophysical environment — formulation, analysis, and investigation of the effects of the psychosocial and physical environments (both internal and external) on health/illness states, on cooperation with treatment regimens, and on preventing hospitalization and rehospitalization; (3) health/illness continuum — formulation, analysis, and evaluation of measures to enhance the patient’s ability to promote, maintain, or regain health states and to combat illness states.

Degree Requirements

You must meet the University minimum standards for doctoral degrees. School of Nursing requirements are as follows:

1. Completion of core and cognate courses required for your area of focus.

2. Successful completion of a written qualifying examination and the University Qualifying Examination.


Course Requirements

Core Courses

The following core courses are required of all students in the program:

1. A postgraduate science course (Nursing 202, 206A-206B).


3. One statistics sequence (Biostatistics 251, or Psychology 252A and 253, or Sociology 210A-210B, or equivalent, subject to approval of your faculty adviser and the doctoral program committee chair).

4. One major area of study course (Nursing 226 or 227 or 228).

Cognate Courses

A minimum of 24 units of cognate courses relevant to your major area of study (sociocultural diversity, psychophysical environment, or health/illness continuum) is required and must be approved by your adviser and the doctoral program committee.

*Students who are accepted with deficiencies are required to complete appropriate master’s courses.
Qualifying Examinations
The written qualifying examination must be passed after completion of the basic core courses. The examination evaluates three areas of knowledge: the basic concepts of nursing science, nursing research methods and analysis, and the basic concepts of your selected area of study. Normally no more than one reexamination is permitted.

The University Oral Qualifying Examination, after completing the course requirements, evaluates your dissertation proposal. You are responsible for obtaining the consent of faculty members to serve on your doctoral committee.

After passing the University Oral Qualifying Examination, you may apply for advancement to candidacy. Formal notice is contingent on the approval by the chair of the doctoral committee and the dean of the Graduate Division.

Final Oral Examination
When the dissertation is completed and approved by all committee members, a meeting for oral defense, which may be open to the public, is scheduled. All members of the committee, both certifying and noncertifying, must be present. You are expected to respond to any substantive and/or methodological questions raised during the meeting.

Upper Division Courses

101. Introduction to Art and Science of Nursing (8 units). Lecture, four hours; laboratory, 12 hours; autodidactic laboratory, variable. Introduction to nursing theory and practice. Content includes the following modules: nursing process, pharmacology, interpersonal and technical skills. Methodology includes laboratory, lectures, autodidactic laboratory, and clinical application. Ms. Currier and the Staff

104A. Behavior of Man in Health and Illness (2 units). Prerequisite: consent of instructor. Limited to nursing students. Examination of health/illness continuum from framework of social and biological sciences. Content includes role theory, developmental theory, transcultural communication theory, and other theories relevant to nursing practice.

Ms. Mintz-Binder (F)

104B. Behavior of Man in Health and Illness. Lecture, two hours; discussion, two hours. Prerequisite: course 104A. Examination of health/illness continuum from framework of illness as a stressor and possible responses to such stress. Content includes anxiety, pain, cognitive disturbances, loss, and other responses relevant to nursing practice.

Ms. Mintz-Binder (W)

105. Human Physiology. (Formerly numbered M105.) Lecture, four hours; discussion, one hour. Prerequisite: nursing student standing or consent of instructor. Required of third-year nursing students. Lecture and discussions with emphasis on a correlation approach to anatomy and physiology of human body.

Ms. Kasper

109. Communication in Health Care (3 units). Lecture, two hours; laboratory, three hours. Prerequisite for non-nursing students: consent of instructor. Study of basic communication and group process theory and its application to practice. Laboratory experience, with emphasis on development of each individual's ability to communicate effectively in a dyad and in a small group.

Ms. van Servellen

115. Introduction to Pharmacology and Therapeutics (2 units). (Same as Pharmacology M115.) Prerequisite for non-nursing students: consent of instructor. Systematic review of major drug groups used therapeutically, the most commonly used medications in each group, differences among them, and their mechanisms of action.

Ms. Gold, Ms. Gyllis

120A. Child and Family Nursing (5 units). Lecture, two hours (10 weeks); laboratory, 16 hours (five weeks). Prerequisite: consent of instructor. Introduction to caring for the child through 120D, 120G. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of theoretical concepts of growth and development related to nursing care of the child and its family.

Ms. Opas

120B. Maternity Nursing (5 units). Lecture, two hours (10 weeks); laboratory, 18 hours (five weeks). Prerequisites: courses 101, 105, 109, 120C-120D, 120G. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of theoretical concepts of reproduction to nursing care of the family.

Ms. Konia-Griffin, Ms. Ludington

120C-120D. Medical-Surgical Nursing of Adults and Older Adults (6 units each). Lecture, three hours (10 weeks); laboratory, 18 hours (five weeks). Prerequisites: courses 101, 105, 109. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of theoretical content, including aging process, related to direct nursing-surgical nursing care of the adult/older adult patient.

Ms. Currier, Ms. Wilson (W)

120E. Psychiatric/Mental Health Nursing (5 units). Lecture, two hours (10 weeks); laboratory, 18 hours (five weeks). Prerequisites: courses 120A, 120B, 120D. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of theoretical content related to nursing care of individuals, groups, or communities.

Ms. Mintz-Binder, Ms. Wood

120G. Medical-Surgical Nursing of Adults and Older Adults (5 units). Lecture, two hours (10 weeks); laboratory, 18 hours (five weeks). Prerequisites: courses 101, 105, 109. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of theoretical content, including aging process, related to medical-surgical nursing care of the adult/older adult patient.

Ms. Currier, Ms. Wilson (Sp)

M158. Health in Culture and Society. (Same as Anthropology M158.) Prerequisite: upper division standing. Examination of theories and methods of medical anthropology in relation to cross-cultural health systems, role networks, attitudes and belief systems of the participants. Emphasis on interaction networks in health care systems.

184. Evolution and Dynamics of the Nursing Profession (3 units). Study of evolution of nursing, focusing on historical, ethical, moral, legal, and institutional ramifications of nursing practice. In addition, rights, obligations, and societal and institutional expectations of the professional nurse.

Ms. Faherty

189. Human Sexuality. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Lectures, discussions, and case presentations concerning human sexuality, its joys and pleasures, pitfalls and problems, and implications of an understanding of the underlying anatomy, physiology, psychology, and social aspects of heterosexual and homosexual relationships, including development of gender identity, intercourse, pregnancy, abortion, contraception, and venereal disease.

Ms. Ludington and the Staff

190A. Advanced Child and Family Nursing (7 units). Lecture, two hours; laboratory, 15 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120E, 120G. Clinical concentration related to nursing care of the child and family. Theoretical content integrates concepts related to management of pediatric client care in acute and ambulatory settings. Application of theoretical concepts of growth and development of the child and family.

190B. Advanced Maternity Nursing (7 units). Lecture, two hours; laboratory, 15 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120E, 120G. Clinical concentration in nursing care of the childbearing family. Theoretical content further refines theories, concepts, and nursing practice related to the childbearing family. Application of theoretical concepts of reproduction to nursing care of the family.

190C. Critical Care Nursing (7 units). Lecture, two hours; laboratory, 15 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120E, 120G. Clinical concentration related to nursing in the critical care setting. Theoretical content includes pathophysiology, pharmacology, critical care skills, and treatment modalities in selected clinical situations. Application of theoretical content related to nursing care of the acutely ill medical and surgical adult patient in emergent and critical phases of illness.

Ms. Woo

190D. Perioperative Nursing (7 units). Lecture, two hours; laboratory, 15 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120E, 120G. Clinical concentration related to nursing in the operating room setting. Theoretical content further refines theories, concepts, and practice of perioperative nursing. Application of theoretical content related to nursing care of the patient undergoing surgical intervention.

190E. Advanced Psychiatric/Mental Health Nursing (7 units). Lecture, two hours; laboratory, 15 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120E, 120G. Clinical concentration in nursing care of the adult, geriatric, child, or adolescent client. Experiences include those in inpatient psychiatric nursing, outpatient day treatment programs, individual and child therapy, hospice programs, and crisis intervention units.

Ms. Ferguson and the Staff

192. Physical Assessment. Lecture, three hours; laboratory, three hours. Prerequisites: courses 101, 105, 109. Designed to provide in-depth review and synthesis of physical assessment skills and knowledge covering the life span. Individual study, use of audiovisual aids, physical assessment skills practice in laboratory, and the required text are mandatory.

Ms. Fredrickson and the Staff

193. Introduction to Research. Introduction to planning a research project based on a simple question. Rules for choosing research questions, alternative methods of writing purposes, selecting a sample, choosing a data collection instrument, planning for data analysis, protection of human rights, reading research reports, and writing a research proposal.

Ms. Vredevoe and the Staff

194. Computer Systems in Health Care. Lecture, three hours; laboratory, three hours; field trips. Introductory course in review and evaluation of computer systems in nursing administration, education, and practice. Ms. Chang

195. Nursing Management (3 units). Lecture, two hours; field study, three hours. Corequisite: course 190 series. Management theory applied to nursing practice. Acquisition of basic knowledge of management concepts and skills as practiced in a health care setting.
Graduate Courses

Research in Nursing, Nursing Theory, and Cultural Diversity

202. Philosophical Foundations of Science of Nursing. Prerequisite: doctoral standing or consent of instructor. Designed to explore major schools of thought in contemporary Western philosophy of science, with emphasis on ways in which these schools may and do influence nursing science and practice. Ms. Chang

203. Theoretical Frameworks for Nursing Practice. Lecture, three hours. Focus on application and evaluation of nursing knowledge for advanced practice, including introduction to theory-conceptual base.

204. Research in Nursing: Advanced Course. Prerequisite: course 193 or equivalent divided basic research methodology course. Complex research designs and analysis of multiple variables, with 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.

205A. Qualitative Research Methods in Nursing. Prerequisite: course 204. Emphasis on nursing research designs utilizing field method approach, ethnography, and inductive methods.

205B. Quantitative Research Methods in Nursing. Prerequisite: course 204. Emphasis on research design requiring statistical analysis of data.

206A-206B. Nursing Theory Development. Lecture/seminar, three hours. Prerequisites: courses 204 and 205A or 205B or equivalent. Analysis of methods of measurement of physiological and psychosocial variables relevant to clinical nursing research, with emphasis on purposes, underlying theoretical bases, strengths, and limitations of measurement techniques. Analysis of techniques to develop reliability, validity, sensitivity of measurement instruments.

207. Research in Nursing: Measurement of Clinical Variables. Lecture, two hours; discussion, two hours. Prerequisites: courses 204 and 205A or 205B or equivalent. Analysis of methods of measurement of physiological and psychosocial variables relevant to clinical nursing research, with emphasis on purposes, underlying theoretical bases, strengths, and limitations of measurement techniques. Analysis of techniques to develop reliability, validity, sensitivity of measurement instruments.

208. Research in Nursing: Measurement of Outcomes. Discussion, three hours; fieldwork, six to eight hours. Prerequisites: courses 206A, 207. Measurement theories, including topics related to scaling and tool development as they apply to outcomes. Emphasis on opportunities to develop knowledge and skills through course content and individualized direct involvement in a clinical research project.

209A. Human Responses to Illness. Lecture, three hours; discussion, one hour. Introductory graduate-level nursing theory course, with emphasis on human responses to illness that nurses diagnose and treat. Primary content on cultural diversity. Integration of psychosocial role-based responses with study of culturally based responses. Designed to provide conceptual base that nurses can use in assessing, diagnosing, planning, and intervening in these responses to illness.

210. Respiratory Physiology as it Relates to Nursing. Lecture, three hours; discussion, one hour; seminars. Prerequisite: upper division human physiology course. Advanced treatment of topic presented in lectures and seminars, with emphasis on current research. Application of knowledge to nursing problems.

211. Cardiovascular Physiology as it Relates to Nursing. Lecture, three hours; discussion, one hour; seminars. Prerequisite: human physiology course. Advanced treatment of topic presented in lectures and seminars, with emphasis on current research. Application of knowledge to nursing problems.

212. Discontinuities in Family Health during Reproductive Years. Lecture, two hours; discussion, one hour. Overview of selected problems with health corollaries that are potentially disruptive to the family during childbearing years. Selected problems examined in depth. Pertinent variables affecting family's definition of situation, resources, strategies for coping, and utilization of professional services; their relevance for nursing practice.

214. Human Responses to Cardiovascular Illness. Corequisite: course 211. Introduction to basic methods of assessing cardiovascular function in health and illness, with emphasis on their application in clinical nursing practice.


216. Human Responses to Critical Care I. Lecture, three hours; discussion, one hour. Prerequisites: courses 203 and 211. Advanced examination of pathophysiological concepts and nursing management of critically ill adults. Nursing aspects of selected dysfunctions and implications for critical care clinical nurse specialists.

217. Human Responses to Critical Care II. Lecture, three hours; discussion, one hour. Prerequisites: courses 203, 211. Building on pathophysiological concepts and nursing management of critically ill adults in course 216. Emphasis on synthesis of research, theory, and experiential knowledge and skills to provide advanced preparation for critical care clinical nurse specialists.

218. Essentials of Accounting and Budgeting in Health Care Organizations. Prerequisite: graduate standing in nursing or consent of instructor. Introduction to concepts, issues, and techniques of accounting and budgeting with which a nurse administrator must be familiar. Major topics include cost behavior and analysis, cost accounting, forecasting, capital, operating and cash budgets, and budgetary control systems.

220A. Ethical and Legal Issues in Advanced Nursing Practice (2 units). Recommended (but not prerequisite): minimum of one graduate-level clinical practice course. Focus on ethical and legal issues which have impact on advanced nursing practice and on theories and strategies requisite to addressing these issues.

220B-220C. Advanced Practice Roles (2 units each). (Formerly numbered 220B.) Recommended (but not prerequisite): minimum of one graduate-level clinical practice course. Focus on management, education, consultation, and inter- or professional role development and serving as a foundation for advanced nursing practice. 220B: Management. 220C: Education; 220D: Consultation.

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221. Theoretical Frameworks for Developmental Problems, Middle and Later Years. Aspects of life span development relevant to educational health care needs in middle and later years. Changes in biological, cognitive, and psychosocial processes; implications for prevention and rehabilitative care.

222. Management of Developmental Problems, Early Years. Lecture, two hours; discussion, two hours. Study of selected human developmental theories, hypotheses, and concepts as they relate to children. Problems relevant to nursing examined through critique of pertinent literature. Ms. Gottesman, Ms. Zahr

225. Pharmacology for Advanced Practice Nurses. (Not the same as course 225 prior to Fall Quarter 1994.) Knowledge of pharmacology necessary for advanced practice nurses who have clients/patients with stable acute or chronic conditions.

226. Psychophysiological Environmental Influences on Health/Illness Behaviors and Health Outcomes. Lecture, two hours; discussion, two hours. Prerequisites: courses 206A-206B. Application of theory/research on stress and coping, adverse physical aspects of the environment, personal space and privacy, territoriality and crowding, and perception and cognition, with emphasis on health outcomes of nursing interventions.

227. Nursing's Role in Health/illness Continuum. Lecture, three hours; discussion, one hour. Prerequisites: courses 206A-206B. Application of theory/research on stress and illness-related phenomena of behaviors occurring as health status changes, self-definition as healthy or ill, regimen compliance, sick-role, and societal influences on sick-role.

228. Sociocultural Variations in Health and Illness. Lecture, two hours; discussion, two hours. Prerequisites: courses 206A-206B. Relationship of sociocultural factors to health systems and diagnosis and treatment of illness, ethnomedical systems, and integration of sociocultural variables into clinical nursing research.

232. Human Responses to Chronic Illness I. Lecture, three hours; discussion, one hour. Prerequisites: courses 203, 216. Study of pathophysiological concepts and nursing management of chronically ill adults, addressing nursing aspects of selected dysfunctions and implications for chronic care clinical nurse specialists.

233. Human Responses to Chronic Illness II. Lecture, three hours; discussion, one hour. Prerequisite: course 232. Continuation of critical examination of pathophysiological concepts and nursing management of chronically ill adults presented in course 232. Focus on synthesis of research, theory, and experiential knowledge and skills, providing advanced preparation for chronic care clinical nurse specialist.

250. Medical Anthropology in Public Health. (Same as Anthropology M266, Community Health Sciences M232, and Psychiatry M250.) Seminar, three hours. Cross-cultural aspects of human behavior as they relate to perception, hospitalization, incidence, and prevalence of disease and illness.
M273. Advanced Seminar: Medical Anthropology. (Same as Anthropology M263G, Community Health Sciences M244, and Cultural and Political Economy.) Focus on the interrelation of biology, society, culture, ecology, health, and illness. Biases for written and oral discourse provided through key theoretical works. Ms. Browner (Sp)

M280. Feminist Perspectives on Women, Reproduction, and Health. (Same as Anthropology M269P and Psychiatry M280.) Seminar, three hours. Analysis of sociocultural and political conditions that affect reproduction and women's health. Topics include relationships between women's domestic and extra-domestic roles and their health. Policies of reproduction, and impact of new reproductive technologies. May be repeated for credit. Ms. Browner


M299A-M299B-M299C. Seminar, three hours. Prerequisites: courses 204A-204B, 207, 208, or cognate area course. Seminar to assist students who are beginning careers in scientific research to understand issues of misconduct and scientific integrity. Highlights faculty expertise in research, culminating in communication and dissemination of their research. S/U grading.

M299B-299C-299D. Nursing Research Seminars (1 to 4 units each). Lecture, one hour; discussion, one to four hours. Prerequisites: courses 204A-204B, 207, 208, or cognate area course. Seminar to assist students throughout their dissertations, beginning with selection of a researchable problem and culminating in communication and dissemination of their research. S/U grading.

Functional Preparation

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

Clinical Practice

401. Nursing Assessment and Intervention. Lecture, two hours; laboratory, four to eight hours. Prerequisite or corequisite: course 203. Instruction on development of a diagnostic mode in the assessment and intervention of patient problems. Principles and practice in the identification of patient problems. Principles and practice in the interrelationships between society, culture, ecology, health, and illness. Bases for written theoretical discourse provided through key theoretical works. Ms. Browner (Sp)

405. Assessment in Psychiatric Nursing. Lecture, two hours; laboratory, six hours. Preparatory course for advanced clinical psychiatric practice. Critical analysis of concepts and strategies which affect assessment of psychological behavior. Ms. Wuerker

M410A. Nursing Care of Children with Developmental Disabilities. (Same as Psychiatry M472A.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: consent of instructor. Study of disability conditions of childhood and their effects on the child and family. Content based on normative developmental and socio-cultural considerations. Emphasis on prevention, systematic assessment, and planning of care for the individual and family. Introduction to implementation of intervention strategies. Series of three courses integrates didactic material and clinical experience. Ms. Betz (F)

M410B. Nursing Care of Children with Developmental Disabilities. (Same as Psychiatry M472B.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisites: course M410A and/or consent of instructor. Study of philosophical and conceptual models affecting care delivery for persons with developmental disabilities. Emphasis on intervention strategies necessary for primary, secondary, and tertiary prevention. Ms. Betz (W)

M410C. Nursing Care of Children with Developmental Disabilities. (Same as Psychiatry M472C.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisites: course M410B and/or consent of instructor. Exploration and participation in assessment, planning, and delivery of health care to children with developmental disabilities in a variety of settings. Emphasis on expanded role of the nurse. Ms. Betz (Sp)

412. Perspectives of Occupational Health Nursing Practice (8 units). Lecture, three hours; discussion, two half-day field experiences each term. Prerequisite: consent of instructor. Presentation of current concepts in occupational health within a nursing framework. Analysis of elements of workplace health programs. Discussion of nursing leadership role in ensuring a safe and healthful workplace. Ms. Glazner

416. Concepts in Cancer Nursing. Lecture, three hours; clinical observation and field trips, three hours. Exploration and clinical application of concepts in oncology — biology, psychology, prevention, diagnosis, psychosocial impact, and treatment of cancer— to nursing care. Integration of concepts into the theoretical frameworks for cancer nursing assessment. Individualized clinical observations and field trips. Ms. Sarna

417. Advanced Concepts in Cancer Nursing. Lecture, three hours; clinical observation and field trips, three hours. Prerequisite: course 416 or consent of instructor. Clinical application of advanced concepts in oncology — pathophysiology, epidemiology, prevention, diagnosis, psychosocial impact, treatment, symptom distress, and rehabilitation — to nursing care of patients with specific malignancies. Conceptual and scientific exploration of nursing care problems. Individualized clinical observations and field trips. Ms. Sarna

420A. Clinical Care of Intermediate and Recovering High-Risk Neonates (8 units). Lecture, three hours; discussion, one hour; laboratory, 18 hours. Prerequisite: course 420B. First clinical practicum in care of high-risk neonates. Emphasis on development and refinement of clinical nursing skills in management of newborns and care of the newborn. Ms. Gottesman

420B. Clinical Care of Critically Ill High-Risk Neonates (3 to 10 units). Lecture, three hours; discussion, one to two hours; laboratory, 18 hours. Prerequisite: course 420A. Second clinical practicum in care of high-risk neonates. Emphasis on development and refinement of clinical nursing skills in delivery room stabilization of newborns and care of critically ill neonates. Ms. Gottesman and the Staff

420C. Advanced Clinical Care of High-Risk Neonates (8 units). Lecture, one hour; discussion, one hour; laboratory, 16 hours. Prerequisite: course 420B. Offers student opportunity to assume greater independence in managing care of high-risk neonates at all levels of care. Ms. Gottesman and the Staff

421A. Clinical Nursing Care of Children (8 units). Lecture, two hours; discussion, one hour; laboratory, 15 hours. Prerequisites: courses 203, 223. Application of a theoretical model and the nursing process to a specific, identifiable client population in a pediatric setting, with special emphasis on assessment and diagnosis. Content covers each aspect of the nursing process. Ms. Zahr

421B. Advanced Clinical Nursing Care of Children (8 units). Lecture, two hours; discussion, one hour; laboratory, 15 hours. Prerequisite: course 421A. Role of the clinical nurse specialist in pediatric nursing, with emphasis on practitioner component of the role. Students identify a selected population for whom direct care is planned and implemented within a conceptual framework for nursing interventions. Emphasis on development of a researchable clinical question. Ms. Zahr

424C. Clinical Specialization in Nursing Care of Children (8 units). Lecture, two hours; discussion, one hour; laboratory, 15 hours. Prerequisite: course 424B. Emphasis on developing skill in utilization of assessment, intervention, and evaluation phases of nursing process with childbearing families. Examination of family-centered orientations and theoretical models as they relate to development of nursing practice and care giving. Ms. Konikoff-Griffin

422B. Advanced Clinical Maternity Nursing (8 units). Lecture, two hours; discussion, one hour; laboratory, 15 hours. Prerequisite: course 422A. Emphasis on developing skill in utilization of assessment, intervention, and evaluation phases of nursing process with childbearing families. Examination of family-centered orientations and theoretical models as they relate to development of nursing practice and care giving. Ms. Konikoff-Griffin

422C. Clinical Specialization in Maternity Nursing (8 units). Discussion, one hour; laboratory, 15 hours. Prerequisite: course 422B. Emphasis on developing skill in utilization of assessment, intervention, and evaluation phases of nursing process with childbearing families. Examination of family-centered orientations and theoretical models as they relate to development of nursing practice and care giving. Ms. Konikoff-Griffin

423A. Advanced Clinical Medical-Surgical Nursing (8 units). Lecture, two hours; discussion, one hour; laboratory, 18 hours. Prerequisites: courses 203, 204, 209A, 209B, 222A (may be taken concurrently). Advanced course in theory and practice of nursing care of adults. Emphasis on critical evaluation, integration, and application of scientific and theoretical knowledge within an advanced nursing practice role. Focus on understanding the problems of patients. Ms. Dracup and the Staff

423B. Advanced Clinical Medical-Surgical Nursing (8 units). Lecture, two hours; discussion, one hour; laboratory, 18 hours. Prerequisite: course 423A. Study of clinical specialization and other expanding roles in nursing practice. Emphasis on continued refinement and extension of professional knowledge and skills in a selected clinical area in care of patients with chronic health problems. Practicum planned in congruence with students' career goals. Ms. Baker
423C. Clinical Specialization in Medical-Surgical Nursing (6 units). Discussion, two hours (five weeks); laboratory, 15 hours (10 weeks). Prerequisite: course 423B. Required for medical-surgical nursing specialization. Advanced knowledge and clinical skills provided to equip students to perform in clinical nurse specialist roles. Emphasis on practitioner, educator, consultant, and researcher roles.

Ms. Baker

424A. Clinical Psychiatric Nursing (5 units). Lecture, one hour; discussion, two hours; laboratory, six hours. Prerequisites: course 405, consent of instructor. Focus on process of psychotherapy, with specific emphasis on knowledge and skills of assessment and individual therapy practice.

Ms. van Serveden and the Staff

424B. Advanced Clinical Psychiatric Nursing (8 units). Discussion, three hours; laboratory, 15 hours. Prerequisite: course 424A. Refinement and extension of understanding of the process of psychotherapy of individuals, groups, and families.

Ms. van Serveden and the Staff

424C. Clinical Specialization in Psychiatric Nursing (10 units). Discussion, two hours; laboratory, 24 hours. Prerequisite: course 424B. Supervised internship. Students select setting and population.

Ms. van Serveden and the Staff

425A. Advanced Clinical Gerontological Nursing. Lecture/discussion, three hours; laboratory, three hours. Prerequisite: one graduate nursing theory course. Principles and practice of assessment of psychosocial variables in health problems of the elderly. Emphasis on integrated understanding of multiple variable influences in total health. Application of knowledge and skills of psychosocial nursing intervention in rehabilitation of the chronically ill aged.

425B. Clinical Specialization in Gerontological Nursing (8 units). Discussion, three hours; laboratory, 30 hours maximum. Prerequisite: course 425A. Extension and demonstration of competencies in planning and implementation of nursing programs in health problems of the elderly.

428A. Clinical Nursing Management. Lecture, one hour; discussion, 30 minutes; laboratory, seven and one-half hours. Prerequisite: one organizational theory course. Application of management theory in a health care setting, with emphasis on organizing nursing care of groups of patients. Students work with nurse managers in developing a unit philosophy, objectives, policies, standards of practice, and care evaluation mechanisms.

Ms. McNeese-Smith and the Staff

428B. Advanced Clinical Nursing Management. Lecture, one hour; discussion, 30 minutes; laboratory, seven and one-half hours. Prerequisite: course 428A. Examination of role of the nurse in managing scarce resources, with emphasis on patient classification systems, staffing, and assignment of nursing personnel. Cost-effective management of human and financial resources explored extensively.

Ms. McNeese-Smith and the Staff

428C. Nursing Administration Residency (8 units). Prerequisites: courses 428A, 428B. Required field residency experience. Students apply management theory to administration of nursing services in a variety of health care settings. Provides organizational-based environment in which students can develop skills in management practice.

Ms. McNeese-Smith and the Staff

429A-429B. Preceptorships in Primary Ambulatory Care Nursing (9 units each). Lecture, four hours; laboratory, 15 hours. Prerequisites: courses 264, 402. Theory and clinical practice in nursing management and evaluation of health problems in selected ambulatory population. Emphasis on health maintenance. Attention to developmental and cognitive needs of clients in relation to family, social, and cultural structures.

Ms. Anderson and Ms. Keenan

Special Studies

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA assistant dean 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 eight units may be applied toward M.N. degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

506. Directed Individual Study or Research (4 to 6 units). Prerequisite: consent of instructor. Opportunity for individual graduate students in nursing to pursue special studies or research interests. May be repeated for credit, but only four units may be applied toward graduate degree requirements. S/U grading.

547. Individual Study for Comprehensive Examination (4 to 8 units). May be repeated once for credit, but only four units may be applied toward M.N. degree requirements. S/U grading.

598. Research for Thesis (4 to 6 units). Prerequisite: consent of instructor. Recommended for students who elected thesis plan prior to Fall Quarter 1993. May be repeated for credit, but only four units may be applied toward M.N. degree requirements. S/U grading.

599. Research for Preparation of Doctoral Dissertation (2 to 8 units). Individualized faculty supervision of doctoral dissertation research by student's chair. May be repeated for credit, but only eight units may be applied toward doctoral degree requirements. S/U grading.
The emergence of public health as an independent discipline dates back over a century, when the field was concerned mainly with the epidemic of communicable diseases and some facets of sanitation. Changes in socioeconomic conditions, lifestyle, and other factors have brought such issues as accidents, aging, air pollution, alcoholism, drug addiction, smoking, mental health, homicide, and sexually transmitted diseases to the fore as community health problems. In time the following general statement evolved — "The mission of public health is to fulfill society's interest in assuring conditions in which people can be healthy."

Public health professionals can promote the health of the community through (1) research into the development of methodologies in biostatistics, epidemiology, demography, and techniques of prevention, (2) investigations into factors which influence health behavior, quality of and access to health care, health education, nutrition, environmental problems, and problems of special population groups such as mothers, children, and minorities, and (3) development of research into new areas that impact on the health of the community. Public health professionals are also responsible for translating knowledge of disease and health enhancement into resolution of health problems in the community. They are committed to the prevention of disease, promotion of health, and improvement in the quality of life.

To fulfill its national and international mission, the school (1) educates new professionals and leaders for the private and public sectors, (2) prepares researchers and educators of future professionals, (3) conducts research to define, protect, and improve conditions for a healthy public, and (4) contributes knowledge, expertise, and service to the community. It is the goal of the school to ensure that the protection and improvement of the public's health is accomplished by the most efficient and effective means, consistent with equity for all individuals in the state, the nation, and the world.
School of Public Health

16-071 Center for the Health Sciences, (310) 825-5516

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 deals with five areas of study and program implementation, including behaviors which 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 promotion 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, quality, and distribution of health care services. The school is also responsible for the administration of the interdepartmental degree program in environmental science and engineering.

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. Detaled information can be found in the departmental listings which follow. Help in deciding on a department is available in the school's Student Affairs Office.

For information on the proficiency in English requirements for international graduate students, refer to "Graduate Admission" in Chapter 3.

Other Requirements

Requirements to fulfill each degree objective vary according to the degree and the department. See the departmental listings which follow for specific requirements and procedures.

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*Not admitting new students at this time.
**Offered through the Community Health Sciences Department.

Biostatistics

51-254 Center for the Health Sciences, (310) 825-5250

Professors
Abdelmonem A. Afifi, Ph.D., Dean
Potter C. Chang, Ph.D.
William G. Cumberland, Ph.D.
Robert M. Elashoff, Ph.D., Chair
Donald Guthrie, Ph.D., in Residence
Robert L. Jennrich, Ph.D.
Peter A. Lachenbruch, Ph.D.
Virginia A. Clark, Ph.D., Emeritus
Wilfrid J. Dixon, Ph.D., Emeritus
Olive Jean Dunn, Ph.D., Emeritus
Raymond J. Jessen, Ph.D., Emeritus
Frank J. Massey, Jr., Ph.D., Emeritus

Associate Professors
Dorota M. Dabrowska, Ph.D.
Virginia F. Flack, Ph.D.
Nathaniel Schenker, Ph.D., Vice Chair
Jeremy M.G. Taylor, Ph.D., in Residence

Assistant Professors
Thomas R. Belin, Ph.D., in Residence
Robert E. Weiss, Ph.D.
Weng Kei Wong, Ph.D.

Lecturers
Martin L. Lee, Ph.D.
Jean L. Mickey, Ph.D., Emeritus

Adjunct Associate Professors
Frederick J. Dorey, Ph.D.
James W. Sayre, Dr.P.H.

Adjunct Assistant Professors
Cheryl L. Faucett, Ph.D.
David W. Gjertson, 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, 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. All students receive a balanced education, blending theory and practice.

Requirements for Graduate Degrees

Admission

Application forms and the Announcement of the UCLA School of Public Health may be obtained by writing to the Student Affairs Office, School of Public Health, 16-071 CHS, UCLA, Los Angeles, CA 90024-1772. Both the School of Public Health Application for Admission to Graduate Status and the UCLA Application for Graduate Admission must be completed. Three letters of recommendation (with at least two from former professors) are required before an application is considered complete. It is your responsibility to ensure that the application file is complete.

The preferred deadline for graduate applications is December 15, 1994, for Fall Quarter 1995 admission. Applications received after the deadline have considerably reduced opportunities for financial aid and housing.
Applicants must meet the University minimum requirement of an acceptable bachelor’s degree with a B (3.0) average in upper division coursework and/or prior graduate study. Exceptionally qualified applicants may be considered on an individual basis. Majors in mathematics, computer science, or a field of application in biostatistics are preferred. Your undergraduate preparation should include calculus and linear algebra. If your undergraduate coursework has been deficient in breadth of fundamental training, you must take specified undergraduate courses after admission. Prior field experience is not required as a condition of admission, although a background of public health experience may be considered in your evaluation.

Applicants must also perform satisfactorily on a recent (within the last five years) Graduate Record Examination (GRE). The Medical College Admission Test (MCAT), Dental Admission Test (DAT), or Graduate Management Admission Test (GMAT) may be accepted in lieu of the GRE under certain circumstances. Strong emphasis is placed on the quantitative and analytical components of the GRE; the department does not have a minimum combined score requirement.

Refer to the UCLA Application for Graduate Admission for the Test of English as a Foreign Language (TOEFL) requirement for international applicants.

Master of Science Degree

The Master of Science is a research-oriented degree within the general field of biostatistics. Teaching experience is not required.

See Schoolwide Programs at the end of this chapter for information on the M.P.H. degree.

Admission

In addition to the general requirements for admission, your undergraduate preparation should include Mathematics 31A, 31B, 32A, 32B, 33A, 33B (second-year calculus), or the equivalent.

Course Requirements

The M.S. degree requires a minimum of nine graduate and upper division courses, of which at least five must be graduate courses in the 200 and 500 series. The five required graduate courses must be in biostatistics or mathematical statistics, including at least three courses in biostatistics.

Two-Year Plan

Unless previously taken, the following courses must be included in the degree program: Biostatistics 110A, 110B, 115, 200A, 200B-200C, M215, 240A, 240B, 402A, 402B, 596; any three special topics courses from M210 through 214, courses in the 230 series, and all courses numbered 250 and above, such that at least one of these three courses is in the 200 series; Statistics M152A, 152B.

Other courses in biostatistics or mathematical statistics, or in related areas such as biology, physiology, public health, management, or mathematics, are selected with your advisor’s consent and approved by the chair.

A written report and written comprehensive examination covering the above course material must be completed satisfactorily.

One-Year Plan

The one-year plan is recommended only for exceptional students who have had a one-year course in probability and theoretical statistics and one or more courses in applied statistics.

The following courses must be included in the degree program: Biostatistics 200A, 200B-200C, M215, 240A, 240B, 402A, 402B, two special topics courses in the numbered course sequence defined in the two-year plan, 596.

A written report and written comprehensive examination covering the above course material must be completed satisfactorily.

Comprehensive Examination Plan

The thesis plan is not used. The written comprehensive examination covers the content of the required courses and must be passed. No more than one reexamination after failure is allowed. If you do not take the reexamination at the time specified by the department, you forfeit your right to reexamination.

Ph.D. Degree

The Ph.D. is an advanced research degree that emphasizes depth of knowledge and research skills. The dissertation must demonstrate your ability for independent scholarly investigation.

There is no foreign language requirement for the Ph.D.; teaching experience is recommended but not required.

See Schoolwide Programs at the end of this chapter for information on the Dr.P.H. degree.

Admission

Qualifications for admission are those currently specified by the Graduate Division (see Chapter 3). Normally, students receive an M.S. in Biostatistics at UCLA before admission to the Ph.D. program. Undergraduates with sufficient coursework in mathematics and statistics are considered for admission directly into the Ph.D. program.

Course Requirements

Unless previously taken, the following courses must be included in the degree program: Biostatistics M250A-M250B, 251, 255, Mathematics 276A-276B; at least three special topics courses from the Biostatistics 230, 270, and 280 series. Some substitution is accepted from courses in mathematics and biomathematics.

In addition, your full program of study must be approved by the department and must include, at the graduate level, three areas of knowledge: biostatistics, mathematical statistics, and a third field such as biology, epidemiology, infectious diseases, medicine, microbiology, pharmacology, psychology, zoology, or public health. You are required to participate in the biostatistics consulting laboratory for one term each year and in the advanced seminar in biostatistics each year.

Qualifying Examinations

Written qualifying examinations in biostatistics and mathematical statistics are taken before advancement to candidacy and can be repeated once only. The mathematical statistics examination is taken in the spring of your first year in residence; if failed, it must be retaken the following October. The written qualifying examination is taken in Fall Quarter of your second year.

The University Oral Qualifying Examination is taken before advancement to candidacy and after successful completion of the written examinations. Administered by the doctoral committee, it is usually a defense of the dissertation proposal. A failed examination may be repeated once. The timing of reexaminations is specified by the department in the case of written examinations or by your committee in the case of the oral examination. If you do not take the reexaminations at the specified time, you forfeit your right to reexamination.

Final Oral Examination

The final oral examination, a defense of your dissertation, is required. Reexamination after failure is determined on an individual basis. A copy of the dissertation must be submitted to the Graduate Division and the department.

Upper Division Courses

100A. Introduction to Biostatistics. Lecture, three hours; discussion, one hour; laboratory, one hour. Prerequisites: upper division standing, one biological or physical sciences course. 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 and concepts of statistical analysis. Scheduling 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.

100B. Introduction to Biostatistics. Lecture, three hours; discussion, one hour; laboratory, one hour. Prerequisite: course 100A or equivalent. Not open for credit to students with credit for course 110B. Introduction to analysis of variance, linear regression, and correlation analysis.

100C. Introduction to Biostatistics. Lecture, three hours; discussion, one hour; laboratory, one hour. Prerequisite: course 100B or equivalent. Design of experiments, analysis of variance, multiple and polynomial regression analysis with biomedical applications.

100D. Introduction to Biostatistics. Lecture, three hours; laboratory, two hours. Prerequisite: course 100B or equivalent. Introduction to concepts of probability used in biomedical sciences. Enumeration statistics and nonparametric methods. Comparison of nonparametric with analogous parametric tests. Discussion of power and sample size.
110A. Basic Biostatistics. (Formerly numbered 101A.) Lecture, three hours; discussion, one hour; laboratory, one hour. Prerequisite: Mathematics 31B or equivalent. Not open for credit to students with credit for course 100A. Basic concepts of statistical analysis and applications; randomization; topics include random variables, sampling distributions, parameter estimates, statistical inference.

110B. Basic Biostatistics. (Formerly numbered 101B.) Lecture, three hours; discussion, one hour; laboratory, one hour. Prerequisite: 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.

115. Topics in Estimation. (Formerly numbered 110C.) Lecture, three hours; discussion, one hour. Prerequisites: Statistics M152A, 152B. Small and large sample properties of common estimation techniques arising in biostatistical applications.

M153A-M153B. Introduction to Computational Statistics. (Formerly numbered M101D-M101E.) (Same as Biomatics M153A-M153B and Statistics M153A-M153B.) Lecture, three hours; discussion, one hour. Prerequisites: courses 100B, 110B, or M234. Linear and nonlinear regression analysis using package programs. Emphasis on relation between statistical theory, numerical results, and analysis of data. M153A. EMgraphics, S-PLUS and SPSS regression programs; general linear model theory; linear regression analysis; transforming and weighting; regression diagnostics; model building. M153B. Analysis of variance and covariance; nonlinear regression programs, analysis, and applications; maximum likelihood analysis, robust regression.

199. Special Studies (2 to 4 units). Prerequisites: senior standing, consent of instructor and department chair (based on written proposal). Outlining course of study for undergraduate guided studies under direct faculty supervision. Study to be structured by instructor and student at time of initial enrollment. Only four units may be taken each term.

Graduate Courses

200A. Biostatistics. Lecture, three hours; discussion, one hour, laboratory, one hour. Prerequisites: courses 100A, 100B, 100C, or 110A, 110B, and 115. Topics in methodology of applied statistics, such as design, analysis of variance, regression. S/U or letter grading.

200B-200C. Biostatistics. Lecture, three hours; discussion, one hour; laboratory, one hour. Prerequisites: courses M153A, 200A. S/U or letter grading.

200B. Multiple linear regression, including model validation, influence of observations, regression diagnostics, variable selection, Bayesian inference. S/U or letter grading.

200C. Maximum likelihood estimation, general linear model theory. Topics include large sample properties of common estimation techniques, re-examination of course 110B. Linear and nonlinear regression analysis using package programs. Emphasis on relation between statistical theory, numerical results, and analysis of data. M153A. EMgraphics, S-PLUS and SPSS regression programs; general linear model theory; linear regression analysis; transforming and weighting; regression diagnostics; model building. M153B. Analysis of variance and covariance; nonlinear regression programs, analysis, and applications; maximum likelihood analysis, robust regression.


234. Applied Bayesian Inference. (Formerly numbered M202H.) (Same as Biomatics M204.) Lecture, three hours; discussion, one hour. Prerequisites: courses 200C, Statistics 152C. Bayesian approach to statistical inference, with emphasis on biomedical applications and concepts rather than mathematical theory. Topics include large sample Bayesian inference from likelihoods, noninformative and conjugate priors, empirical Bayes, Bayesian approaches to linear and nonlinear regression, model selection, hypothesis testing, and numerical methods. S/U or letter grading.

236. Analysis of Replicated Measures Designs (5 units). (Same as Biomatics M226.) Lecture, four hours; discussion, two hours. Prerequisites: course 200C, 200B. Presentation of classical and modern theories for analysis of replicated measures designs, with focus on computation and robustness. S/U or letter grading.

240A. Research Resources in Biostatistics (2 units). Lecture, three hours. Introduction to various resources available in statistical research, such as how to obtain access to current index in statistics and introduction to SUN workstation laboratory. Report on recent scientific research in statistics journal required. S/U or letter grading.

240B. Seminar for Second-Year Biostatistics Master's Students (2 units). Lecture, three hours. How to give an oral presentation on research results, including audiovisual techniques for a scientific paper, how to give a short and long talks. Presentation of a paper from their current research related to their master's report required of students. S/U or letter grading.

245. Advanced Seminar: Biostatistics (2 units). (Formerly numbered 204F.) Prerequisite: course 200C. Current research in biostatistics. May be repeated for credit. S/U grading.

252A-M252B. Linear Statistical Models. (Formerly numbered M252A-M252B.) Lecture, three hours; discussion, one hour. Prerequisite: 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. S/U or letter grading.

251. Multivariate Biostatistics. (Formerly numbered 200F.) Lecture, three hours; discussion, one hour. Prerequisite: course M250A or equivalent. Multivariate analysis as used in biological and medical situations. Topics from multivariate distributions, correlation analysis, discriminant analysis, MANOVA, MANCOVA, longitudinal models with random coefficients. S/U or letter grading.

255. Advanced Topics and Probability in Biostatistics. Lecture, three hours; discussion, one hour. Prerequisite: Mathematics 276A-276B or consent of instructor. Topics include conditional, modes of convergence, basic limit results for empirical processes, von-Mises calculus, and notions of efficiency in statistics. Advanced topics for two-sample and regression models, goodness of fit methods, smoothing techniques, and bootstrap.

270. Stochastic Processes. (Formerly numbered 207E.) Lecture, three hours. Prerequisites: upper division mathematics, including statistics and probability. Stochastic processes applicable to medical and biological research.

271. Mathematical Epidemiology. (Formerly numbered 207F.) Lecture, three hours. Prerequisites: course 270 or equivalent, upper division mathematics (including statistics and probability). Mathematical theory of epidemiology with deterministic and stochastic models and problems involved in applying the theory.

273. Statistical Methods for Research Biostatistical Assays. (Formerly numbered 207H.) Prerequisite: course 216. Topics include statistical methods developed for research assays for which standard procedures do not apply.


276. Inferential Techniques That Use Simulation. (Formerly numbered 207M.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 276A-276B. Recommended: Biostatistics 213. Theory and application of recently developed techniques for statistical inference that use computer simulation. Topics include bootstrap, multiple imputation, data augmentation, stochastic relaxation, and sampling/important resampling algorithm.

277. Robustness and Modern Nonparametrics. Lecture, three hours. Prerequisite: Mathematics 276A. Topics include M-estimation, influence curves, breakdown point, bootstrap, jackknife, smoothing, nonparametric regression, generalized additive models, density estimation.
M280. Statistical Computing. (Formerly numbered M207J.) (Same as Biometrics M280 and Mathematics M280.) Lecture, four hours. Prerequisites: Mathematics 115A, Statistics 152C, or equivalent. Introduction to theory and design of statistical programs: computing methods for linear and nonlinear regression, density estimation, random number generators, optimization, and general maximum likelihood methods.

285. Advanced Topics: Recent Developments. (Formerly numbered 207L.) Lecture, three hours; discussion, one hour. Advanced topics and developments in biostatistics M210 through 219 or 270 through 276 or 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. (Formerly numbered 105.) Lecture, three hours; discussion, one hour. Prerequisite: Statistics 152C or 154B. 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.

400. Field Student in Biostatistics (2 or 4 units). 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; four units may be applied toward 44-unit minimum total required for M.P.H. degree.

402A. Principles of Biostatistical Consulting (2 units). Lecture, one hour; discussion, one hour. Prerequisites: course 100B or 110B and Statistics 152B. Presentation of structural format for statistical consulting. Role of statistician and client. Reviews of actual statistician-client interactions and case studies.

402B. Biostatistical Consulting. Discussion, two hours; laboratory, two hours. Prerequisite: course 402A. Principles and practices of biostatistical consulting. May be repeated for credit. S/U grading.

403. Computer Management of Health Data. Lecture, three hours; laboratory, two hours. Prerequisites: at least one statistics course, two research methodology courses, Program in Computing 1 or equivalent, consent of instructor. Concepts of health data management, design and maintenance of large databases on tapes or disks; computing tools and techniques facilitating data retrieval for statistical analysis; techniques of database design and construction useful to biostatisticians, health planners, and other health professionals.

404. Principles of Sampling. Lecture, three hours; discussion, one hour. Prerequisites: course 100B, Epidemiology 100, or equivalent. Statistical aspects of design and implementation of a sample survey. Techniques for analysis of data, including estimates and standard errors. Avoiding improper use of survey data.

405. Demographic Materials and Methods. Lecture, three hours; laboratory, two hours. Prerequisites: course 100A or 110A. Sources of demographic information; description of human populations; calculation and interpretation of statistics used to measure and describe population growth, structure, geographic distribution, mortality, natality, and migration. S/U or letter grading.

406. Applied Multivariate Biostatistics. Lecture, three hours; discussion, three hours. Prerequisites: course 100B, at least two other upper division research courses. Use of multiple regression, principal components, factor analysis, discriminant function analysis, log-linear models, and canonical correlation in biomedical data analysis. S/U grading optional for nondivision majors.

410. Statistical Methods in Clinical Trials. (Formerly numbered 410E.) Lecture, three hours; discussion, two hours. Prerequisite: course 100C or 100D or Statistics 152C or equivalent. Design of studies in areas such as drug trials to assess antitumor response; randomization, historical controls, p-values, size of study, and stratification in human experimentation; various types of controls; prognostic factors, surivivorship studies, and design of prognostic studies; organization of clinical trials — administration, comparability, protocols, clinical standards, data collection and management. S/U grading optional for nondivision majors.

411. Statistical Methods for Longitudinal Data. (Formerly numbered 410F.) Lecture, three hours. Prerequisites: course 100C or 100D or Statistics 152C or equivalent, Epidemiology 100. Design and analysis of longitudinal or panel studies. S/U grading optional for nondivision majors.

412. Statistical Methods for Case-Control Studies. (Formerly numbered 401G.) Lecture, three hours. Prerequisites: courses 100C and 100D, or 115. Statistical designs, sampling statistics, and analytic models of case-control studies. Special topics such as exploratory analyses, multiplicity of analyses, cross-validation, small sample performance of variance estimators, measurement error in covariates, and incomplete data. S/U or letter grading.

419. Special Topics: Applied Statistics. (Formerly numbered 401H.) Lecture, three hours; discussion, one hour. Prerequisite: course 100C. Specific topics in applied statistics not covered in other courses in professional series.

420. Database Management Systems. (Formerly numbered 203A.) Lecture, three hours; laboratory, two hours. Prerequisites: course 403 or equivalent. 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.

421. Systems Analysis for Health Data. (Formerly numbered 203B.) Lecture, three hours; laboratory, two hours. Prerequisite: course 420. Health data computer processing as a total system; review of selected health information systems, statistical packages, and computer languages; design, development, testing, and maintenance of a computer system for managing health data.

495. Teacher Preparation in Biostatistics (2 units). Prerequisites: 19 units of course or cognate courses in area of specialization, consent of department chair. 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 units). Prerequisite: 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 eight units may be applied toward master's degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

502. UCLA/Hawaii Western Consortium Exchange (4 to 16 units). Prerequisite: 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 at University of Hawaii, Manoa, as part of UCLA/UH Western Consortium Exchange Program. Only the equivalent of eight quarter units taken at UH may be applied toward degree. Extra units may be applied toward department requirements by petition to Public Health Student Affairs Office. UH letter-graded courses appear on UCLA transcript with letter grades, while UH Cr/NCr-graded courses appear on UCLA transcript with letter grades. UH letter-graded courses taken at University of Hawaii, Manoa, as part of UCLA/UH Western Consortium Exchange Program. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research (2 to 8 units). Prerequisite: graduate standing. Individual guided studies under direct faculty supervision. Only four units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit.

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations (2 to 8 units). Prerequisite: graduate standing. 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 units). Only four 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 8 units). May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.
Requirements for Graduate Degrees

Admission
Application forms and the Announcement of the UCLA School of Public Health may be obtained by writing to the Student Affairs Office, School of Public Health, 16-071 CHS, UCLA, Los Angeles, CA 90024-1772. Both the School of Public Health Application for Admission to Graduate Status and the UCLA Application for Graduate Admission must be completed. Three letters of recommendation are required, two from former professors and one from an employer (if no employer, three former professors) before an application is considered complete. It is your responsibility to ensure that the application file is complete.

The preferred deadline for graduate applications is December 15, 1994, for Fall Quarter 1995 admission. Applications received after the deadline have considerably reduced opportunities for admission, financial aid, and housing.

Applicants must meet the University minimum requirement of an acceptable bachelor's degree with a B (3.0) average in upper division coursework has been deficient in mathematics, biological sciences, social sciences; one course in physical sciences; and others that constitute an adequate preparation for the proposed area of specialization.

If your prior work in the biological, physical, mathematical, and social sciences does not constitute adequate preparation for your proposed area of specialization, you must include courses in those sciences in your graduate program; these may not be applied toward the minimum requirements for the degree.

Specific Concentration Requirements
Applicants interested in population and family health are expected to have some prior experience in the health field (paid or volunteer) and preferably a bioscience or behavioral science background.

Master of Science in Public Health
The Master of Science is a research-oriented degree within the general field of public health. It includes the preparation of a thesis or comprehensive examination major written report. Teaching experience is not required.

See Schoolwide Programs at the end of this chapter for information on the M.P.H. degree.

Course Requirements
You must complete at least one year of graduate residence at the University of California and a minimum of 10 full courses, at least five of which must be graduate courses in the 200 or 500 series. Only one 596 course (four units) and one 598 course (four units) may be applied toward the total course requirement; only four units of either course may be applied toward the minimum graduate course requirement. Community Health Sciences 597 may not be applied toward the degree requirements. No more than 18 full courses may be required for the degree.

Required school core courses include Biostatistics 100A, 100B, and Epidemiology 100. Each core course may be waived if you have taken a similar course elsewhere and can pass the waiver examination.

Community Health Sciences 210, 211A-211B, 212, Biostatistics 406, and four to six department courses (selected from an approved list) are required. Electives, selected in consultation with an adviser, must include the Community Health Sciences 270 series, 283, and research methods courses. Normal program length is six terms.

Only courses in which you receive a grade of C – or better may be applied toward the requirements for a master's degree. You must maintain an average of no less than 3.0 (B) in all courses required or elected during graduate residence at the University of California.
**Thesis Plan**

If the thesis option is approved, a thesis committee is established. The committee approves the thesis prospectus before you file for advancement to candidacy. The thesis must be acceptable to the thesis committee.

**Comprehensive Examination/Report Plan**

If the comprehensive examination/report option is approved, a guidance committee of faculty members is appointed. A written comprehensive examination on your major area of study must be passed. If you fail, you may be reexamined once.

The preparation of a major written research report is required; it must be approved by the guidance committee which also may certify successful completion of all degree requirements.

**Master of Science in Preventive Medicine and Public Health**

The program is not admitting new students at this time.

**Ph.D. in Public Health**

The Ph.D. is an advanced research degree that emphasizes depth of knowledge and research skills. The dissertation must demonstrate your ability for independent scholarly investigation.

There is no foreign language requirement for the Ph.D.; teaching experience is recommended but not required.

See Schoolwide Programs at the end of this chapter for information on the Dr.P.H. degree.

**Admission**

In addition to the University minimum requirements, the department requires (1) satisfactory performance on the Graduate Record Examination (GRE), (2) completion of the M.S. in Public Health or an appropriately related field (students with an M.P.H. need to satisfy the course requirements of the M.S. in Public Health before or after admission), (3) at least a 3.0 junior/senior undergraduate grade-point average, at least a 3.5 GPA in graduate studies or demonstrated superiority in graduate work, and at least a B in each of the mandatory core courses, (4) a positive recommendation by one or more faculty members in the department, (5) approval by the doctoral admissions committee and the department chair. Screening examinations may be required by the department.

You must satisfy the core requirements for the M.P.H. or M.S. in Public Health (depending on your background) at a level acceptable to the doctoral program. Coursework may be waived by examination if equivalent courses have been taken elsewhere.

**Major Field or Subdiscipline**

Behavioral sciences and health education.

**Course Requirements**

The courses needed to pass the written examination in your major field depend on the area and field you select.

The minor must be in a field cognate to the major field in public health. A strong minor is required, with at least four full graduate courses (16 units) or equivalent from a department that grants a Ph.D. Biostatistics is the only department considered cognate to a major in public health.

**Qualifying Examinations**

Before advancement to candidacy, you must pass a written examination in the major field, complete the requirements in a minor field, and pass an oral qualifying examination on the major and minor fields. Normally no more than one reexamination is allowed. When you are ready to take the University Oral Qualifying Examination, a doctoral committee is nominated.

After passing the University Oral Qualifying Examination, you may be advanced to candidacy and commence work on a dissertation in your principal field of study. The doctoral committee guides your progress toward completion of the dissertation.

**Final Oral Examination**

A final oral examination is required of all candidates.

**Lower Division Course**

19. Peer Health Counselor Training, Limited to students in Peer Health Counselor Program. Analysis of student health care issues as related to campus health delivery system and to health care consumer. Identification of health needs, determination of appropriate resources, delivery of preventive and self-care education, and delineation of peer health counselor's role. Ms. Park

**Upper Division Courses**

100. Behavioral Sciences and Health Education. (Formerly numbered 183.) Lecture, three hours; discussion, one hour. Development of broad appreciation of psychosocial factors as they affect health and their implications for public health. Review of theories, models, and modalities of health education for health promotion and disease prevention interventions.

130. Nutrition and Health (2 units). (Formerly numbered 161.) Prerequisites: one biology course, one chemistry course, consent of instructor. Not open for credit to nutrition majors. Basic and clinical nutrition theory and practice for students in health sciences curricula.

132. Health, Disease, and Health Services in Latin America. (Formerly numbered 174E.) Prerequisite: consent of instructor. Introduction to health, disease, and health services in Latin America, with emphasis on epidemiology, health administration, medical anthropology, and nutrition.

187. Health Education for Teacher Credentials (2 units). Limited to students in teacher education credential program. Required for California State Instructional Credential. Teaching/learning process as applied to personal and community health. Topics include psychoactive drugs (alcohol, tobacco, and narcotics), human sexuality, nutrition, and community health resources. Mr. Lindeman

189. Community Cancer Education. Lecture, three hours; project and fieldwork, one hour. Prerequisites: Biology 30 or equivalent, consent of instructor. Exploration of process of cancer education through community resources. Case study of student designed community field-study proposal and presentation. Ms. Brown

M197A. Introduction to Indo-American Studies. (Same as Asian American M197A.) Lecture, three hours. Prerequisite: junior/senior standing in Asian American studies or at least one course in Southeast Asian or Indian history or consent of instructor. Introductory study of Indian American immigration experiences and cultures, including historical background, demographics, immigration policies and effects, and adaptation experiences. Class projects include sample survey of quality of life, annotated bibliography, and review of creative works of authors. Mr. Kar (Sp)

199. Special Studies (2 to 4 units). Prerequisites: senior standing, consent of instructor and department chair (based on written proposal outlining course of study). Individual undergraduate studies under direct faculty supervision. Study to be structured by instructor and student at time of initial enrollment. Only four units may be taken each term.

**Graduate Courses**

200. Global Health Problems. Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Review of health profile of the world in the 20th century. Global health problems and methods by which they have been dealt in context of the Alma Ata goal of "Health for all by year 2000."

210. Community Health Sciences. (Not the same as course 210 prior to Fall Quarter 1994.) Lecture, three hours. Prerequisite: one social sciences 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.

211A-211B. Program Planning, Research, and Evaluation in Community Health Sciences. (Formerly numbered 210, 211, 217.) Lecture, three hours; discussion, one hour; outside assignments, eight hours. Prerequisite: course 210. Course 211A is prerequisite 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 evaluation of community-based public health programs. Course organized into three modules.

212. Advanced Social Research Methods in Health. (Formerly numbered 281.) Lecture, four hours; laboratory, two hours; outside assignments, eight hours. Prerequisites: courses 211A-211B. Biostatistics 100B, 406, consent of instructor. Problems 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.

213. Research in Community and Patient Health Education. (Formerly numbered 256B.) Lecture, three hours; discussion, two hours. Prerequisites: course 210, consent of instructor. 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.

214. Issues in Program Evaluation. (Formerly numbered 289.) Discussion, three hours; reading and research paper, one hour. Prerequisite: course 212 or consent of instructor. Advanced seminar which explores problems of planning and implementing evaluation research in context of local demonstration projects.

Mr. Berkovic

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215. Advanced Topics in Health Survey Research Methods. (Formerly numbered 293.) Lecture, two hours; discussion, two hours. Prerequisite: course 212 or consent of instructor. Special topics in health survey research methods. Design of special purpose surveys and their application to the study of public health functions and memory aids; measurement error, including response bias, social desirability, response validity; telephone interviewing; obtaining data on sensitive issues; ethics and confidentiality of survey research. Ms. Goldstein

M216. Qualitative Research Methodology. (Formerly numbered M273.) (Same as Anthropology M284.) Discussion, three hours; laboratory, one hour. Prerequisite: consent of instructor. Intervention, in-service, field experience in qualitative research methodology. Emphasis on using qualitative methods and techniques in research and evaluation related to health care. Ms. Scrimshaw

218. Questionnaire Design and Administration. (Formerly numbered 217.) Lecture, two hours; discussion, one hour; laboratory, one hour; outside assignments. Prerequisites: courses 211A-211B, consent of instructor. Field experience in designing, developing, and administering data collection instruments, with particular emphasis on questionnaires. Ms. Bourque

230. Family and Sexual Violence. (Formerly numbered 278E.) Lecture, three hours; community, three to four hours. Cross-cultural aspects of human behavior as they relate to perception, treatment, incidence, and prevalence of disease and illness. Ms. Scrimshaw

M232. Medical Anthropology in Public Health. (Formerly numbered M271.) (Same as Anthropology M266, Nursing M250, and Psychiatry M250.) Seminar, three hours. Cross-cultural aspects of human behavioral as they relate to perception, treatment, incidence, and prevalence of disease and illness. Ms. Neumann

M236. Human Resources and Economic Development. (Formerly numbered M272.) (Same as Education M252C.) Examination, in context of the developing countries, of interactions among economic development, population growth, levels of health and nutritional status, and educational investments. Mr. Jamison (Sp)

237. Evolving Paradigms of Prevention: Interventions in Early Childhood. Seminar, three hours; fieldwork, three hours. Prerequisite: graduate standing, consent of instructor. Introduction to use of early childhood interventions as means of preventing adverse health and developmental outcomes. Concepts of developmental research; evaluation of models of service delivery, evaluation and cost-benefit issues, funding, and other policy issues. Mr. Halton

238. Evolving Paradigms of Prevention: Interventions in Adolescence. (Formerly numbered 298N.) Seminar, three hours. Prerequisites: graduate standing, consent of instructor. Introduction to organizing principles which underlie health assessment and intervention in adolescent populations (identity formation, access to care, knowledge/attitudes/behavior influences) and provide a basis for understanding pivotal issues in health enhancement, morbidity, and mortality. Mr. Anderson, M. Yancey

M240. Culture and Human Reproduction. (Formerly numbered M276.) (Same as Anthropology M262P.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Examination of cultural aspects of human behavior related to reproduction. Cross-cultural exploration of biological and behavioral factors, with particular reference to human adaptation. Ms. Scrimshaw

242. Advanced Seminar: Population and Family Health (2 units). (Formerly numbered 279P.) Prerequisites: doctoral standing, consent of instructor. Current research in population and family health. May be repeated for credit. SU grading.


M244. Advanced Seminar: Medical Anthropology. (Formerly numbered M274.) (Same as Anthropology M263Q, and Psychiatry M273.) Seminar, three hours. Prerequisite: consent of instructor. 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. Ms. Neumann


246. Women's Roles and Family Health. Lecture, two hours; discussion, two hours; assignments, eight hours. Prerequisite: consent of instructor. Emphasis on how social organization of the family, relationships among family members, and extramural roles of family members contribute to or detract from psychological well-being of spouses, parents, and children. Ms. Ansell

M267. Structure and Function of Nutrients Impli- cated in Etiology of Chronic Disease. (Same as Epidemiology M267.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: one prior course in public health and science majors. Mr. Longnecker

271. Health-Related Behavior Change. (Formerly numbered 280.) Prerequisite: consent of instructor and behavioral science approach to natural determinants of change, as foundation for planned change in health-related behavior at community, group, and individual levels. Ms. Siegel

M272. Social Epidemiology. (Formerly numbered 283E.) Lecture, two hours; discussion, one hour. Prerequisite: Epidemiology 100 or consent of instructor. Relationship between sociological, cultural, and psychosocial factors in etiology, course, and distribution of chronic diseases. Topics include hypertension, coronary heart disease, and cancer. Emphasis on lifestyles and other socioeconomic factors associated with chronic diseases. Ms. Siegel

M274. Health Promotion. (Formerly numbered M285E) (Same as Sociology M249A.) Lecture, three hours. Prerequisite: course 210 or consent of instructor. Sociocultural factors affecting differential patterns of health behavior, illness behavior, and sick-role behavior. Mr. Berkman

276. Alcohol and Drug Abuse. Social Policy Perspectives (3 units). (Formerly numbered 292P.) Prerequisite: consent of instructor. Alternative models of alcohol and other drug addictions examined and implications assessed for public policy regarding their control. Prevention, treatment, and evaluation of drug abuse in California and national surveys, with primary emphasis on alcohol abuse and abuse.

277. Advanced Community Health Education. (Formerly numbered 293D.) Lecture, two hours; discussion, two hours. Prerequisite: 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. Mr. Morisky

278. Social and Behavioral Perspectives on Work and Health. (Formerly numbered 297.) Lecture, two hours; discussion, two hours; assignments, eight hours. Prerequisite: consent of instructor. Emphasis on social organization of the family, relationships among family members, and extramural roles of family members contribute to or detract from psychological well-being of spouses, parents, and children. Ms. Ansell

280. Community Organization Seminar. (Formerly numbered 487.) Seminar, three hours. Prerequisite: course 487 or consent of instructor. Advanced seminar on theoretical and practical problems in community organization, with readings and term papers. Prerequisite: one prior course in public health and science majors. Mr. Brown
280. International Health Education: Training and Development. (Formerly numbered 489.) Prerequisites: course 210 and one upper division research methods or epidemiology course, or consent of instructor. Introduction to an international perspective of health education and health promotion. Survey of current developments in health education in both developed and developing countries. Ms. Li

281. Alcohol and Abuse among Women. (Formerly numbered 293.) Prerequisite: consent of instructor. Discussion of psychosocial aspects of abuse of alcohol and other drugs among women. Topics include etiology, prevention, treatment, hormonal influences, and role of the family. Emphasis on current theoretical perspectives and research findings.

282. Communication in Health Promotion and Education. Lecture, two hours; discussion, two hours. Prerequisites: course 210, consent of instructor. Graduate seminar intended to explore the role and meaning of health communication, mass media, and personal communication strategies for health promotion programs. Equal emphasis on communication theory, models, and empirical research literature and on specific applications in health programs and case studies. Mr. Kar

283. Aging and Health Behavior. (Formerly numbered 283B.) Discussion, three hours. Prerequisite: course 210 or consent of instructor. Graduate seminar intended to explore environmental determinants of health-related behaviors among the aged. Mr. Berkovic

284. Ecology of Mental Health. Lecture, three hours. Prerequisites: course 210, Epidemiology 100, and Biostatistics 100A, or consent of instructor. Analysis of occurrence and distribution of mental disorders in the community and relationships to social structure. Problems of classification, definition, measurement in sociopsychiatric epidemiology, sociocultural and social-psychological factors in mental disorders. Mr. Goldstein

285. Aging, Health, and Society. 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. Mr. Wallace

286. Seminar: Behavioral Sciences and Health (2 to 4 units). Lecture, two hours. Prerequisite: consent of instructor. Recent significant contributions of behavioral sciences to understanding health and illness, with selection of topics each term. May be repeated for credit. S/U grading. Mr. Berkovic, Mr. Goldstein

288A-288B. Current Problems in Health Education. (Formerly numbered 288A.) Lecture, one hour; discussion, three hours. Prerequisites: course 210 and three other public health and/or social sciences courses, or consent of instructor. Current problems and findings in health education content areas, such as nutrition, mental health, family health, consumer health, safety, and communicable and chronic diseases. In Progress and S/U grading.

290. Race, Class, Culture, and Aging. (Formerly numbered 296.) Lecture, three hours; discussion, one hour. Prerequisite: course 210 or consent of instructor. The experience of aging for African American, Latino, and Asian elderly examined in context of their families, communities, and the nation. Exploration of cultural and structural influences on health and long-term experience of these elders. Mr. Wallace

291. Health Policy and the Aged. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Examination of political, economic, and social forces that shape health policy for the aged, including issues surrounding new technology, regionalization, organization of services at federal, state, and county levels, and medical/legal issues. Ms. Gifford

292. Communication and Media Development in Health Promotion/Education. Lecture, three hours; field practice, two units. Corequisite: course 210 or social sciences courses or consent of instructor. Selected aspects of communications planning, social marketing, mass media, and communications evaluation theory and practice. Ms. Glik

293. Social and Behavioral Research in AIDS: Roundtable Discussion (2 units). (Formerly numbered 298B.) Review and discussion of research programs directed toward identification of psychosocial, behavioral, environmental, and community factors related to prevention and control of AIDS. Mr. Morisky

294. Social and Behavioral Factors of AIDS/HIV: A Global Perspective. (Formerly numbered 298B.) Prerequisites: course 210 and Epidemiology 100 or prior social sciences courses or consent of instructor. Overview of social and behavioral factors which influence both the transmission as well as prevention of HIV/AIDS throughout the world. Mr. Morisky

295A-295B. Advanced Research Topics in Behavioral Sciences and Health Education (2 to 4 units each). Prerequisite: consent of instructor. Advanced study and analysis of current topics in behavioral sciences and health education. Discussion of current research and practice in research specialty of faculty member teaching course. May be repeated for credit. S/U grading.

296A. AIDS Prevention. Mr. Morisky

296M-296Z. Advanced Research Topics in Population and Family Health (2 to 4 units each). Prerequisite: consent of instructor. Analysis and synthesis of current topics in population and family health. Discussion of current research and literature in research specialty of faculty member teaching course. May be repeated for credit. S/U grading.

298M. Advanced Research Methods. Ms. Bourque

400. Field Studies in Public Health (2 or 4 units). Prerequisite: consent of instructor. 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. Four units approved toward 44-unit minimum total required for M.P.H. degree.

411. Issues in Cancer Prevention and Control. (Formerly numbered 288A.) Lecture, two hours. Prerequisite: Medicine 293 and three courses in behavioral sciences and medical education core, or consent of instructor. Provides students with working knowledge of cancer control objectives for the nation, rationale and various phases of cancer control research, and presentation of cancer control interventions, including cancer detection, prevention, cancer screening, and dietary and psychosocial interventions. Ms. Bastani, Ms. Berman

M417. Injury Prevention Strategies and Countermeasures (2 units). (Same as Epidemiology M417.) Prerequisites: Epidemiology 293 and three units beyond 100 level of public health. Consent of instructor. Lectures with discussion on injury prevention strategies and countermeasures, including critical review of effectiveness in the public health context. Emphasis on major public health injury problems from assaultive, self-inflicted, or unintentional causes. S/U or letter grading. Mr. Kraus, Ms. Sorensen

430A. International Health Agencies and Programs. (Formerly numbered 470A.) Prerequisite: consent of instructor. Historical development and functions of international health organizations. Key problems and trends in international health. Bilateral programs, military health programs, and international programs directed toward identification of psychosocial, behavioral, environmental, and community factors related to prevention and control of AIDS. Mr. Morisky

430B. Advanced Issues in International Health. (Formerly numbered 470B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. In-depth field practice in health care and cultures of foreign recipient less-developed countries and disbursement of technical and financial assistance. Mr. Neumann

431. Research in Women's Health: Theories and Methods. (Formerly numbered 471A.) Prerequisite: consent of instructor. Interdisciplinary perspective critically examining research on women's health. Overview of scientific inquiry and methods; gender roles; status attainment and medical sociology. Review of current data on women's health. Ms. Upchurch

432. Perinatal Health Care: Principles, Programs, and Policies. (Same as Obstetrics and Gynecology M432.) Prerequisites: course 210, three hours; discussion, one hour. Prerequisite: consent of instructor. Comprehensive examination of perinatal health care, including prenatal epidemiology, outcome measures, public health programs, controversies surrounding new technology, regionalization, organization of services at federal, state, and county levels, and medical/legal issues. Ms. Gifford

433. Perinatal Health: Demographic Applications. (Formerly numbered 298S.) Lecture, two hours. Prerequisite: consent of instructor. Examination of aspects of population dynamics; reproductive biology (male and female); contraceptive methods; fertility-related behaviors and STDs; methods to measure contraceptive effectiveness. Ms. Upchurch

434A. Maternal and Child Health in Developing Areas. (Formerly numbered 472B.) Prerequisite: course 231 or consent of instructor. 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. Mr. Galal, Ms. Neumann

434B. Recent Developments in Maternal and Child Health in Disadvantaged Countries (2 units). (Formerly numbered 472B.) Prerequisite: course 231 or consent of instructor. Analytic in-depth understanding of recent advances in maternal and child health, with special reference to developing countries.

435. Seminar: Advanced Issues in Women's Health (2 units). (Formerly numbered 286S.) Prerequisites: courses 246 or 431, consent of instructor. Provides a more advanced and in-depth understanding of how women's "knowledge" and considerations of women's place in scientific discourse. Examination of a series of case studies as a starting point for discussion. Ms. Leslie, Ms. Upchurch

436A-436B. Child Health, Programs, and Policies. (Formerly numbered 436.) Prerequisite: Health Services 100. Course 436A is prerequisite to 436B. 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. Mr. Halton

437. Preventive Medicine and the Family. (Formerly numbered 473E.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Comprehensive review and evaluation of scientific background and application of preventive medicine, with primary focus on the family and the disadvantaged. Mr. Neumann

438. Research Seminar: Community Child Health Services (2 units). (Formerly numbered 473F.) Discussion, one hour; laboratory, one hour; field trips, two hours. Prerequisite: consent of instructor. Examination and development of evaluation strategies for existing community child health services at the local level and development of evaluation strategies for selected topics in programmatic areas. Emphasis on collaboration, consultation skills, with participation of local health department personnel.

439. Health Services in Child Day Care. (Formerly numbered 473G.) Lecture, two hours; discussion, two hours; one field trip, three hours. Prerequisite: consent of instructor. Assessment of needs, planning, and development of health and nutrition services for young children in day care and related child development programs.

440. Child Health Policy. (Formerly numbered 473H.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Analysis of development and evaluation strategies for existing community child health services at the local level and development of evaluation strategies for selected topics in programmatic areas. Emphasis on collaboration, consultation skills, with participation of local health department personnel.
441. Planning and Development of Family Health Programs. (Formerly numbered 475.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Course is given in consultation with the Middle East Center towards planned community health/family planning projects in the U.S. and in developing countries. Phases include community needs identification; goal setting; budget and work plan development; funding; staffing; evaluation design; data and cost analysis; and project presentation. Ms. Neumann

443. Assessment of Family Nutrition. (Formerly numbered 477.) Prerequisite: course 231 or consent of instructor. Assessment of nutritional status of families in developing countries, with special reference to limited resources, terrain, and cross-cultural considerations, stressing anthropometric methods and techniques. Mr. Harrison, Ms. Neumann

444. Anthropometric and Dietary Aspects of Nutritional Assessment. (Formerly numbered 478.) Lecture, two hours; laboratory, two hours. Prerequisite: course 443 or consent of instructor(s). Practical skills in anthropometric and dietary assessment, including selection of subjects, data gathering and handling, and analysis and presentation. Ms. Neumann

450. Food and Nutrition Planning: Policies and Programs in World Context. (Formerly numbered 479.) Lecture, two hours; discussion, two hours. Prerequisite: course 434A or consent of instructor. Discussion of policies regarding improvement of food supplies and their global impact on health of disadvantaged families, including review of effect of many factors, with emphasis on need for multidisciplinary action, food and nutrition planning, and external assistance. Ms. Jelliffe

456. Nutrition Education and Training: Third World Considerations. (Formerly numbered 479D.) Lecture, two hours; discussion, one hour; student participation, one hour. Prerequisite: course 434A or consent of instructor. Problems and priorities in nutrition education and training for families and health workers in Third World countries, including new concepts in primary health care services, mass media, communications, and governmental and international interventions. Ms. Jelliffe

467. Health Issues in the Middle East. Prerequisite: course 200 or 231 or 434A or consent of instructor. Recommended: background in Islamic or Middle Eastern studies. Current health issues and development of public health in the Middle East and implications for socioeconomic development. Review of economic, demographic, and cultural variation of the region to provide background for discussion of trends and patterns of health and nutritional status of population in the area. Mr. Galal

470. Introduction to Occupational Health Education. (Formerly numbered 294.) Lecture, one hour; discussion; two hours; outside assignment, one hour. Prerequisites: course 210, two sociology or anthropology courses or equivalent, consent of instructor. Health education theory and practice as applied to occupational health and safety. Emphasis on design and evaluation of education programs dealing with health and safety issues for workplace settings. Mr. Jelliffe

474. Self-Care and Self-Help in Community Health. Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Review of background, principles, concepts, programs, and research concerning the emerging field of self-care in health. Mr. Katz

480. Health Education in Clinical Settings. Lecture, two hours; discussion, two hours. Prerequisites: courses 271, 282, Health Services 100, consent of instructor. Analysis of role, methods, and techniques of health education pertaining to hospitals, clinics, and patient education. Observation and discussion of clinical activities in the medical center in relation to the process of health education.

482. Practicum: Health Education (4 or 8 units). Discussion, two hours; fieldwork, 20 to 40 hours. Prerequisites: courses 210, 271, consent of instructor. Study of community and group-felt needs as reflected in behavior. Analysis of data for understanding, planning, implementing, and evaluating need-directed health education and medical care programs. Ms. Sonni

483. Social Interventions for Health Promotion and Evaluation. Lecture, two hours; discussion, one hour; seminar, one hour. Prerequisites: courses 210, 271, or equivalent, one social sciences or research methods course, consent of instructor. Selected social intervention strategies for health promotion and health education programs. Emphasis on theories, planning assumptions, methodologies, and impacts of selected strategies within contexts of planned change in health-related behaviors. Mr. Kar

487. Community Organization for Health. (Formerly numbered 487.) Lecture, three hours; fieldwork, four to six hours. Prerequisites: course 210, three public health, sociology, or anthropology courses or equivalent. Theory and practice of community organizations, including models and strategies of community organization and their application to health problems and health policy. Particular attention to use of community organization for health promotion and to change public policy. Mr. Brown

490. Professional Writing for Public Health (2 units). Prerequisite: consent of instructor. Practice in writing reports, grant proposals, abstracts, and article-length research papers. Analyzing rhetorical and stylistic features of essays in various professional journals to help participants improve both their prose style and their editorial abilities. S/U or letter grading.

495. Teacher Preparation in Public Health Education. (6 units). Prerequisites: 18 units of cognate courses in area of specialization, consent of department chair. 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 units). Prerequisite: 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 eight units may be applied toward master's degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

502. UCLA/Hawaii Western Consortium Exchange (4 to 16 units). Prerequisite: 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 at University of Hawaii, Manoa, as part of UCLA/UH Western Consortium Exchange Program. Only the equivalent of eight quarter units taken at UH may be applied toward degree. Extra units may be applied toward department requirements by petition to Public Health Student Affairs Office. UH letter-graded courses appear as S/U grades. Grade points from these courses are not counted in UCLA grade-point average.

596. Directed Individual Study or Research (2 to 8 units). Prerequisites: graduate standing, consent of instructor. Individual guided studies under direct faculty supervision. Only four units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit. S/U grading.

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations (2 to 8 units). Prerequisites: graduate standing, consent of instructor. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.
such as air pollution, environmental chemistry, environmental management, environmental toxicology, industrial hygiene, and water quality. Graduates of the department pursue careers in the private or public sector as researchers, educators, managers, policymakers, and/or practitioners.

The department offers M.S. and Ph.D. degrees in Environmental Health Sciences and, through the School of Public Health, the M.P.H. and Dr.P.H. degrees with a specialization in environmental health sciences. In addition, a unique doctoral degree (Doctor of Environmental Science and Engineering — D.Env.) is offered by the interdepartmental Environmental Science and Engineering Program which is administered through the department.

Requirements for Graduate Degrees

Admission

Descriptive brochures and applications for the department, as well as for the Environmental Science and Engineering program, may be obtained together with the Announcement of the UCLA School of Public Health by writing to the Administrator, Department of Environmental Health Sciences, 56-070 CHS, UCLA, Los Angeles, CA 90024-1772.

The preferred deadline for graduate applications is December 15, 1994, for Fall Quarter 1995 admission. Applications received after the deadline have considerably reduced opportunities for admission, financial aid, and housing.

Master's Applicants

The department requires the following:

1. A bachelor's (or master's) degree in chemistry, physics, biology, engineering, or other appropriate field. Preparation should include at least one year of chemistry (including organic chemistry or biochemistry), physics, biology, and mathematics through calculus.
2. A junior/senior grade-point average of at least 3.0.
3. A combined (verbal and quantitative) Graduate Record Examination (GRE) score of at least 1,200.
4. A score of at least 550 on the Test of English as a Foreign Language (TOEFL) for international students whose native language is other than English.

Master of Science Degree

The Master of Science is a research-oriented degree which includes the preparation of a thesis or comprehensive examination and a major written report. Academic areas of concentration include air pollution, environmental chemistry, environmental management, environmental toxicology, industrial hygiene, and water quality. See Schoolwide Programs at the end of this chapter for information on the M.P.H. degree.

Course Requirements

You must complete at least one year of graduate residence at the University of California and a minimum of 10 full courses, at least five of which must be graduate courses in the 200 or 500 series. However, you must also take additional courses as required by your area of concentration. No more than 18 full courses may be required for the degree. Only one 598 course (four units) and one 596 course (four units) may be applied toward the total course requirement; only four units of either course may be applied toward the minimum graduate course requirement. Environmental Health Sciences 597 may not be applied toward the degree requirements.

Required school core courses include Biostatistics 100A, 100B, and Epidemiology 100. Required department core courses include Environmental Health Sciences 101, 201 (may be repeated for credit), 210, 230, 240, 250, 410A, 410B, M411, 598 (courses 101 and 210 are not required of industrial hygiene majors). Each core course may be waived if you have taken a similar course elsewhere and can pass the waiver examination.

Only courses in which you receive a grade of C – or better may be applied toward the requirements for a master's degree. You must maintain an average of no less than 3.0 (B) in all courses required or elected during graduate residence at the University of California.

Thesis Plan

If the thesis option is approved, a thesis committee is established. The committee approves the thesis prospectus before you file for advancement to candidacy. The thesis must be acceptable to the thesis committee.

Comprehensive Examination/Report Plan

If the comprehensive examination/report option is selected, you complete a research activity (Environmental Health Sciences 596) of at least eight units and prepare an in-depth written report on it which must be approved by your advisor and one other faculty member approved by the department chair. A written comprehensive examination on your major area of study, prepared by a committee of faculty members, must also be passed. If you fail, you may be reexamined once.

Ph.D. Degree

The Ph.D. is an advanced research degree that emphasizes depth of knowledge and research skills. The dissertation must demonstrate your ability for independent scholarly investigation. Academic areas of concentration include air pollution, environmental chemistry, environmental management, environmental toxicology, industrial hygiene, and water quality.

There is no foreign language requirement for the Ph.D.

See Schoolwide Programs at the end of this chapter for information on the Dr.P.H. degree.

Course Requirements

You must fulfill the minimum requirements of the Graduate Division (see "Requirements for Graduate Degrees" in Chapter 3). Courses in your major field are recommended by your advisor and guidance committee. As required, are courses in a minor field related to environmental sciences in a department outside the School of Public Health that grants a Ph.D. or in the Department of Biostatistics. This usually consists of three or four full courses, as specified by the department offering the minor.

Qualifying Examinations

Before advancement to candidacy, you must pass a departmental written examination in the major field and an oral qualifying examination. Normally not more than one reexamination is allowed. You must also complete the requirements in the minor field set forth by the offering department. When you are ready to take the University Oral Qualifying Examination, a doctoral committee is nominated.

After passing the University Oral Qualifying Examination, you may be advanced to candidacy and commence work on a dissertation in your principal field of study. The doctoral committee guides your progress toward completion of the dissertation.

Final Oral Examination

A final oral examination is required of all candidates.

Upper Division Courses

100. Introduction to Environmental Health. (Formerly numbered 155.) Lecture, three hours; discussion, one hour. Prerequisites: one course each in chemistry and biology, consent of instructor. Introduction to environmental health, including coverage of sanitary principles and chronic and acute health effects of environmental contaminants.

Mr. Eckhert, Mr. Mustafa
101. Environmental Health. (Formerly numbered 150.) Lecture, three hours; discussion, one hour. Prerequisites: one course each in chemistry and biology, consent of instructor. Broad covering of environmental health, including airborne and waterborne pollutants; pollutants from urban industrial and agricultural wastes; pollution from pesticide chemicals, mining, and energy production and consumption; chemical food additives; and occupational exposure to chemical and physical hazards.
Mr. Echert, Mr. Mustafa

199. Special Studies (2 to 4 units). Prerequisites: standing, consent of instructor and department chair (based on written proposal outlining course of study). Individual undergraduate guided studies under direct faculty supervision. Study to be structured by student and instructor at time of initial enrollment. Only four units may be taken each term.

Graduate Courses

201. Seminar: Health Effects of Environmental Contaminants (2 units). (Formerly numbered 255.) Prerequisites: courses 101, 210, 230, 250, consent of instructor. Emphasis on health effects of air, water, and soil contaminants on man and review of relevant literature. May be repeated for credit.

202. Seminar: Environmental Chemistry (2 units). Seminar, one hour. Prerequisites: courses 100 or 101, 410A, and 410B, or consent of instructor. Same as Biochemistry 210D. Survey of environmental chemistry and toxicology in terms of pollution, health hazards, and control measures. May be repeated for credit.
Mr. Que Hee

210. Public Health and Environmental Microbiology. (Formerly numbered 208.) Lecture, three hours. Prerequisites: one course each in biology, organic chemistry, and biochemistry, consent of instructor. Basic principles: cycling of matter, fates of natural and man-made compounds in the environment, wastewater treatment and drinking water microorganisms and treatment, and public health microorganisms.

211. Science and Politics of Environmental Regulation. (Formerly numbered 259B.) Lecture, three hours. Prerequisite: consent of instructor. Analysis of how science, law, administration, economics, and political influence state and national environmental regulation from formulation to implementation, including rule making, public participation, federalism, enforcement, and judicial review.

212. Applied Ecology. (Formerly numbered Environ-mental Science 259B.) Prerequisite: one ecology course or consent of instructor. Application of ecological theory and principles to solving environmental problems, including conservation biology, assessment of environmental impacts, and restoration ecology and mitigation of environmental impacts.
Mr. Ambrose

220. Biological Effects of Air Pollution. (Formerly numbered 152.) Lecture, three hours; discussion, one hour. Prerequisites: one course each in chemistry and biology, consent of instructor. Survey of biological effects and assessment methods of air contaminants present in urban, industrial, and occupational environments.

225. Atmospheric Transport and Transformations of Airborne Chemicals. (Formerly numbered 250B.) Prerequisites: science, engineering, or public health majors, one year of calculus, and one course each in physics, organic chemistry, and physical chemistry, or consent of instructor. Role of regional and long-range transport, and atmospheric lifetimes 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.
Mr. Winer

230. Environmental Management. (Formerly numbered 154.) Lecture, four hours; discussion, one hour.
Prerequisites: Economics 100, Political Science 142 or 143, Mathematics M112A, 115A, or equivalent. Introduction to foundations and principles of environmental management, decision making, and evaluation of environmental policies and programs.
Mr. Davos

231. Environmental Decision Systems Analysis. (Formerly numbered 254.) Lecture, four hours; discussion, one hour. Prerequisite: course 230. Techniques and models of system analysis and concepts of general system theory as applied to comprehensive study, planning, evaluation, and management of environmental decision systems. Experimentation.
Mr. Davos

232. Environmental Policy Decision Making. (Formerly numbered 454.) Prerequisites: courses 230, 231, consent of instructor. Foundations, principles, and modeling of environmental policy decision making. Critical analysis of normative and behavioral models of action choices for protection and enhancement of environmental health, and development of an alternative model.
Mr. Davos

235. Quantitative Methods for Environmental Assessment. Lecture, four hours; discussion, one hour. Prerequisites: bachelor's degree in science, engineering, or public health, one term of statistics, and one year of advanced mathematics, or consent of instructor. Introduction to quantitative methods for evaluating health effects and environmental impacts of human activities; concepts of environmental assessments and planning. Assignments include statistical analysis, econometric methods. Examples from U.S. and California regulations, policy, project environmental assessments.
Mr. Dukler

239. Pollution Prevention Forum Series (2 to 4 units). (Same as Urban Planning M239.) 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.
Mr. Froines, Mr. Gottlieb

240. Environmental Toxicology. (Formerly numbered 253A.) Lecture, four hours; discussion, one hour. Prerequisite: consent of instructor. Principles of toxicology, dose response, physical, chemical, or biological agents that adversely affect man and environmental review.

241. Environmental Toxicology: Trace Contaminants. (Formerly numbered 253B.) Lecture, three hours; discussion, one hour. Prerequisite: one organismic chemistry course. Essentials of toxicology in relation to trace contaminants.
Mr. Froines

249. Toxics Reduction: Science, Engineering, and Policy Issues. (Same as Urban Planning M262A Chemical Engineering M290U.) Lecture, three hours; discussion, one hour. Prerequisites: Urban Planning 260A and 260B, or consent of instructor. Public health experts, industrial engineers, and planners are asked to address risks biologically active chemicals present and to suggest means of accounting in planning process. Examination of potential for toxins reduction and current state of government and industry action in this area.
Mr. Allen, Mr. Froines, Mr. Gottlieb, Ms. Roque

250. Introduction to Occupational Safety and Health. (Formerly numbered 156.) Prerequisite: consent of instructor. emphasis on critical evaluations of the literature. Attention to health effects of environmental contaminants. Study of air, water, and soil contaminants, and occupational exposure to chemical and physical hazards.
Mr. Allen, Mr. Froines, Mr. Gottlieb, Ms. Roque

252D. Properties and Measurement of Airborne Particles. (Formerly numbered 257E.) Prerequisites: one year each of chemistry, physics, and calculus. Basic theory and application of aerosol science to environmental health, including properties, behavior, sampling, and measurement of aerosols and quantitative problems.
Mr. Hinds

252E. Identification and Measurement of Gases and Vapors. (Formerly numbered 257F.) Lecture, three hours; discussion, one hour. Prerequisites: one term of other, two hours. Prerequisites: course 250, one year each of chemistry, physics, and calculus, consent of instructor. Theoretical and practical aspects of industrial hygiene sampling and measurement of gases and vapors.
Mr. Que Hee

252F. Industrial Hygiene Measurements Laboratory (3 units). (Formerly numbered 257G.) Corequisites: courses 252D, 252E. Limited to industrial hygiene majors. Laboratory methods of sampling, measurement, and analysis of gases, vapors, and aerosols found in occupational environment.
Mr. Hinds, Mr. Que Hee

252G. Industrial and Environmental Hygiene Assessment. Lecture, one term, two hours; laboratory, four hours. Prerequisites: courses 101, 250, 252D, 252E, 252F. Environmental and industrial hygiene sampling techniques and assessment via walk-through surveys, lectures, group work, laboratory calibration, applications to current problems, and emphasis on chemical, physical, and ergonomic hazards.
Mr. Froines, Mr. Hinds, Mr. Que Hee

253. Physical Agents in the Work Environment (2 units). (Formerly numbered 157H.) Lecture, two hours; four field trips. Prerequisites: courses 250, 255, consent of instructor. Industrial processes and operations, occupational and health hazards that arise from them.
Mr. Froines, Mr. Hinds, Mr. Que Hee

255. Control of Airborne Contaminants in Indus-try. (Formerly numbered 257I.) Lecture, two hours; laboratory, two hours. Prerequisites: courses 250, 252D, 252E, 252F. Time of year, physics, consent of instructor. Principles and applications of control technology to industrial environments, including general and local control, air ventilation, air cleaning equipment, and respirator protection.
Mr. Hinds

256. Biological Monitoring in Occupational/Envi-ronmental Health. (Formerly numbered 257J.) Lecture, two hours; discussion, one hour, assignments, two hours. Prerequisites: courses 101, 250, 252E. Biostatistics 100A, consent of instructor. Principles and application of biological monitoring for assessment of occupational exposure to organic and inorganic chemicals.
Mr. Que Hee

257. Critical Review of Scientific Basis of Occupa-tional Standards. (Formerly numbered 259A.) Prerequisites: courses 240, 250, 251, Epidemiology 100, consent of instructor. Designed to provide students with opportunity to review scientific basis for association of selected occupational exposures with disease. Specific emphasis on critical evaluations of the literature. Attention specifically to interface of science and regulatory standards.
Mr. Que Hee

258. Identification and Analysis of Hazardous Wastes. (Formerly numbered 259B.) Lecture, three hours; discussion, one hour; laboratory, one hour; one field trip. Prerequisites: courses 250, 252E, and 252F. Basic statistics and principles of instruction. 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, methods, concepts, and regulation and practice of handling hazardous wastes.
Mr. Que Hee (odd years)
461. Water Quality and Health. (Formerly numbered 451.) Lecture, three hours; discussion, one hour. Prerequisites: courses 101, 401, consent of instructor. Introduction to water quality, with coverage of hydrology, water chemistry, and trace chemical contaminants that may affect human health. Various treatment methods and health implications. Ms. Valentine

452. Environmental Hygiene and Appropriate Technologies (2 units). (Formerly numbered 452.) Prerequisite: consent of instructor. Environmental sanitation of water supplies in rural and developing areas. Review of water quality problems and solutions for nonurban, developing community. Technical, socioeconomic, and cultural problems associated with maintenance and delivery of high quality water.

470. Environmental Hygiene Practices (2 units). Prerequisites: courses 101, 230, 401, Epidemiology 100, consent of instructor. Field principles and practices of environmental sanitation as applicable to the sanitarian. Topics include theory, code enforcement, and inspection procedures for applicable environmental topic areas.

Mr. Gomez

495. Teacher Preparation in Environmental Health Sciences (2 units). Prerequisites: 18 units of core courses in area of specialization, consent of instructor. Chair. 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 units). Prerequisite: consent of instructor. Process of making student intern in the graduate program; contact chair. May not be applied toward master's degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

502. UCLAHawaii Western Consortium Exchange (4 to 16 units). Prerequisite: consent of UCLAH graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of UCLAH students in courses taken under cooperative arrangements with UH, including courses that may be applied toward master's degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

410A. Instrumental Methods in Environmental Sciences. (Formerly numbered 450.) Lecture, two hours; laboratory, four hours. Prerequisites: course 101, Chemistry 11A, 11CL, consent of instructor. Techniques in spectroscopy and mass spectrometry and field applications to assess quantity of environmental pollutants in air, food, and water, and to assess degree of exposure to such factors as noise and radiation.

Ms. Valentine

410B. Instrumental Methods Laboratory in Environmental Health Sciences. (Formerly numbered 410.) Lecture, one hour; discussion, one hour; laboratory, four hours; other, two hours. Prerequisites: course 101, one year each of physics, chemistry, and biology, consent of instructor. Techniques in spectroscopy and mass spectrometry and field applications to assess quantity of environmental pollutants in air, food, and water, and to assess degree of exposure to such factors as noise and radiation.

Mr. Que Hee, Mr. Suffet

M411. Environmental Health Sciences Seminar (2 units). (Same as Environmental Science M411.) Prerequisite: consent of instructor. Required of graduate students in environmental health sciences for one term each year. Current topics in environmental health sciences and environmental science and engineering. May be repeated for credit. S/U grading.

Scope and Objectives

Enlightened management of the environment is necessary to maintain a suitable quality of life. Such management requires scientists trained in a multiplicity of environmental disciplines. These interdisciplinary, interactive skills are developed through the UCLA graduate Environmental Science and Engineering Program, leading to the Doctor of Environmental Science and Engineering (D.Env.) degree.
The goal of the program is to prepare professional environmental analysts to deal with the complexities of various courses of action on the environment and resources, to develop recommendations for sound environmental policies, and to devise means to implement policies adopted.

The present focus of the program, that of interdisciplinary training in the environmental sciences and its application, is a successful one. Graduates have been employed in technical assessment and management positions with governmental agencies, consulting firms, and industrial firms concerned with environmental-related projects.

No undergraduate major is offered; however, studies can be arranged along several routes. Students with majors in the natural sciences, geography/environmental studies, public health, or engineering who have environmental or energy problem solving as a professional goal may wish to supplement their course preparation in consultation with the program faculty.

Although participating faculty members are mainly from the College of Letters and Science and the School of Engineering and Applied Science, the program is administered through the School of Public Health.

**Doctor of Environmental Science and Engineering**

**Admission**

In addition to meeting University minimum standards, you must have an excellent scholastic record (3.0 GPA in undergraduate work and 3.5 in graduate work) and must be acceptable to the admissions committee. Your overall academic record, including a minimum combined Graduate Record Examination (GRE) score of 1,200, must reflect exceptional verbal and quantitative skills. Three letters of recommendation are required. You must hold a master’s degree in engineering, public health, or one of the natural sciences to be formally admitted to the program.

In exceptional cases, students with graduate training in fields of science and engineering who have not earned a master’s degree may be considered for admission. In these cases you must show evidence of graduate training equivalent to the master’s degree, including some research experience. Students with a bachelor’s degree may be informally affiliated with the program while earning a master’s degree in one of the participating departments.

All students must have taken the following preparation courses: (1) one semester or two quarters of introductory biology with laboratory; (2) one year of general chemistry with laboratory, including analytical methods, and one term of organic chemistry; (3) one course or equivalent experience in elementary programming and use of computer hardware and software; (4) one course in introductory geology with laboratory; (5) one year of calculus and one course in elementary statistics; (6) one year of introductory physics with laboratory. Any of the courses may be taken after you arrive at UCLA.

As English language skills are essential to completion of the curriculum, applicants for whom English is a second language are required to score successfully on the Test of English as a Foreign Language (TOEFL). If you are accepted into the program with identified language deficiencies, you must remove the deficiencies before being advanced to candidacy.

Subject to available funds, the program offers fellowships or graduate student researcher appointments to eligible first-year students. Prospective students may write for descriptive brochures to the Environmental Science and Engineering Program, School of Public Health, 46-081 CHS, UCLA, Los Angeles, CA 90024-1772.

**Major Fields or Subdisciplines**

Specialties within the program include, but are not limited to, the assessment and management of hazardous substances in the air, soil, and water environments, migration of contaminants in groundwater, air pollution abatement, health risks of toxic substances, mitigation of ecosystem impacts, environmental assessment, and environmental problems common to the U.S. and Latin American countries. Research projects are conducted on a wide range of air and water pollution problems with biological and health impacts. Also, you may slant your work toward greater emphasis either on the science engineering aspect or on the science policy aspect of your specialty.

**Course Requirements**

Course requirements consist of core courses, breadth courses, the environmental science and engineering seminar, and problems courses.

**Core and Breadth Courses** — Sixteen courses are required (one of which may be waived based on prior coursework), including four core courses offered by the program faculty. At least seven courses must be at the graduate level. Courses are selected from the following categories, with electives chosen in consultation with your faculty adviser.

- **Environmental Science** — Seven courses, including Environmental Health Sciences 212 (core), 225 (core), 240, 264 (core), and electives in environmental biology, microbiology, or ecology, in environmental geology, and in atmospheric sciences.

- **Environmental Engineering** — Five courses, including Civil and Environmental Engineering 150, 155, and three electives.

- **Environmental Management, Law, and Policy** — Four courses, including Environmental Health Sciences 235 (core), Urban Planning M264, and two electives.

**Seminar** — You are required to enroll in Environmental Science and Engineering M411 twice per year.

**Problems Courses** — Problems courses constitute intensive multidisciplinary team research projects directed toward the solution of current environmental problems. Before proceeding to the problems course sequence, you must have completed a minimum of three core courses and seven breadth courses and have the approval of the program faculty. Twenty-four quarter units of the Environmental Science and Engineering 400 series (problems course sequence) are required. Enrollment in more than one problems course per term is not allowed. Normally problems course credit is earned only through courses offered by the program. However, you may petition the faculty for permission to earn problems course credit through multidisciplinary environmental projects offered in other departments at UCLA.

**Qualifying Examinations**

The written qualifying examination is normally taken during your second year in residence, after completing the core courses and most of the breadth courses. If all or parts of the examination are failed, one and only one repeat is allowed — at the next offering. The written examination covers the material in the core courses, the breadth courses, and selected topics in classical and contemporary subjects in the program's areas of interest.

When you have completed all other course requirements and are in the final term of the problems courses, a doctoral committee is established. The committee conducts the University Oral Qualifying Examination, which explores the depth, breadth, and extent of your preparation, with appropriate emphasis on practical problems and situations. After successful completion of the oral examination and the problems course requirements, you are advanced to candidacy.

In case of failure, you may repeat the oral examination once after completing any additional coursework or individual study the doctoral committee may recommend.

**Internship**

Once you have been advanced to candidacy, an 18- to 24-month internship in your field of interest is arranged at an outside institution. Arrangements for the internship are primarily your responsibility and must be approved by the doctoral committee and program director. Supervision during the field training experience is by your doctoral committee and the field program supervisor. During the internship, you must register for eight units of a 599 course in each academic-year term.

**Dissertation/Final Oral Examination**

A dissertation is required and should be a scholarly treatment of the problem area in which you have worked, but not a description of the totality of the experience. It should show evidence of critical thought and originality. No later than nine months after advancement to candidacy and the beginning of the internship,
you are required to present a written prospectus, including an outline, of the dissertation and defend it before your doctoral committee. After completing the internship, you must defend the dissertation before your doctoral committee. The final oral examination may be waived by unanimous consent of your doctoral committee. If the dissertation and your performance on the final oral examination are judged satisfactory, you are awarded the degree of Doctor of Environmental Science and Engineering (D.Env.).

Graduate Courses

400A. Environmental Science and Engineering Problems Course (8 units). Prerequisite: consent of instructor and program director. Primarily intended for students enrolled in environmental science and engineering doctoral program. 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).

400B. Environmental Science and Engineering Problems Course (8 units). Prerequisites: successful completion of course 400A, consent of instructor and program director. 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 units). Prerequisites: successful completion of course 400B, consent of instructor and program director. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems.

400D. Environmental Science and Engineering Problems Course (8 units). Prerequisites: successful completion of course 400C and of internship approved by doctoral committee and program director. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems.

410. Environmental Science and Engineering Workshop (2 units). Prerequisite: consent of instructor. Primarily intended for students enrolled in environmental science and engineering doctoral program. Development of analytical or experimental skills essential to solution of environmental problems studied within courses 400A through 400D.

M411. Environmental Health Sciences Seminar (2 units). (Formerly numbered 411.) (Same as Environmental Health Sciences M411.) Prerequisite: consent of instructor. Required of graduate students in environmental health sciences for one term each year. Current topics in environmental health sciences and environmental science and engineering. May be repeated for credit. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: 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.

598. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisite: consent of instructor and program director. Supervised investigation of advanced environmental problems. S/U grading.

SCHOOL OF PUBLIC HEALTH / Epidemiology / 543

Epidemiology

71-254 Center for the Health Sciences, (310) 825-8579

Professors

Lawrence R. Ash, Ph.D.
Robert Deets, M.D., M.S.
Ralph R. Freidich, D.V.M., Dr.P.H., Chair
Sander Greenland, Dr.P.H.
Robert W. Haile, Dr.P.H.
Jesse F. Kraus, Ph.D.
Hal Margolstein, Ph.D.
Barbara R. Knudson, M.D., Dr.P.H.
Allan R. Barr, Sc.D., Emeritus
Ruth A. Boak, Ph.D., M.D., Emerita
John M. Chapman, M.D., M.P.H., Emeritus
John F. Schacher, Ph.D., Emeritus
Telford H. Work, M.D., M.P.H., D.T.M.H., Emeritus

Assistant Professor

Matthew P. Longnecker, M.D., Sc.D.

Lecturers

Jonathan D. Frisch, Ph.D.
Marlene Jozan, M.D., Dr.P.H., Assistant Researcher
Cseginele S. Sullivan, Dr.P.H.
Ann H. Coulson, Senior Lecturer Emerita, Research Epidemiologist

Adjunct Professors

Brian E. Henderson, M.D.
Thomas M. Mack, M.D., M.P.H.
John M. Peters, M.D., M.P.H., Sc.D.

Adjunct Associate Professors

Davida E. Coady, M.D., M.P.H.
James R. Greenwood, Ph.D., M.P.H.
Susan M. Preston-Martin, Ph.D., M.P.H.
Gary H. Splevy, M.D., M.P.H.

Adjunct Assistant Professors

Roberta M. Malmgren, Ph.D.
Marc A. Strassburg, Dr.P.H.

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. Also, 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 health problems in population groups rather than in individuals.

Epidemiology is a young field with constantly expanding boundaries. The range of activities that may be at least partly epidemiologic includes determination of the health needs of populations, investigation and control of disease outbreaks, study of environmental and industrial hazards, evaluation of preventive or curative programs or treatments, and evaluation of the effectiveness and efficiency of intervention or control strategies. Many tools of epidemiology are borrowed from other fields such as microbiology, immunology, medicine, statistics, demography, and medical geography.

There is a growing core of purely epidemiologic methodology which includes not only statistical methodology and principles of study design, but a unique way of thinking that is beyond the rote memorization of rules. The contribution of epidemiology to any study involving groups of people is being increasingly recognized and demanded.

Epidemiologists may work in many settings, including international health agencies, state and local health departments, federal government agencies and health programs, health maintenance organizations, colleges and universities, and numerous research projects privately and publicly sponsored.

The objectives of the Department of Epidemiology fall into three broad categories — research, teaching, and community service. Degrees offered include the M.S. and Ph.D. in Epidemiology and, through the School of Public Health, the M.P.H. and Dr.P.H. with a specialization in epidemiology.

Requirements for Graduate Degrees

Admission

Application forms and the Announcement of the UCLA School of Public Health may be obtained by writing to the Student Affairs Office, School of Public Health, 16-071 CHS, UCLA, Los Angeles, CA 90024-1772. An Epidemiology Handbook may be obtained by writing to the Department of Epidemiology, 71-254 CHS, UCLA, Los Angeles, CA 90024-1772. Both the School of Public Health Application for Admission to Graduate Status and the UCLA Application for Graduate Admission must be completed. Three letters of recommendation are required, two from former professors and one from an employer (if no employer, three former professors) before an application is considered complete. It is your responsibility to ensure that the application file is complete.

The preferred deadline for graduate applications is December 15, 1994, for Fall Quarter 1995 admission. Applications received after the deadline have considerably reduced opportunities for admission, financial aid, and housing.

Applicants must meet the University minimum requirement of an acceptable bachelor's degree with a B (3.0) average in upper division coursework and/or prior graduate study. Exceptionally qualified applicants may be considered on an individual basis. No screening examination is required for admission. If your undergraduate coursework has been deficient in breadth of fundamental training, you must take specified undergraduate courses after admission. Prior field
experience is not required as a condition of admission, although a background of public health experience may be considered in your evaluation. In addition, you must be accepted by the Department of Epidemiology.

Applicants must also perform satisfactorily on a recent (within the last five years) Graduate Record Examination (GRE) General Test. Medical College Admission Test (MCAT) or Dental Admission Test (DAT) scores are accepted only for applicants already holding M.D. or D.D.S. degrees. Applicants at the master’s level must have a minimum GRE combined (verbal and quantitative) score of 1,100. Applicants at the doctoral level need a minimum GRE combined (verbal and quantitative) score of 1,200. The analytical section is not required.

Refer to the UCLA Application for Graduate Admission for the Test of English as a Foreign Language (TOEFL) requirement for international applicants.

Master’s Applicants
Your prior program of study should include adequate preparation in mathematics, physical sciences, biological sciences, and social sciences, and typically includes two courses each in mathematics, biological sciences, social sciences; one course in physical sciences, and others that constitute an adequate preparation for the proposed area of specialization.

If your prior work in the biological, physical, mathematical, and social sciences does not constitute adequate preparation for your proposed area of specialization, you must include courses in those sciences in your graduate program; these may not be applied toward the minimum requirements for the degree.

Master of Science Degree
The Master of Science is a research-oriented degree within the general field of epidemiology. It includes the preparation of a thesis or comprehensive examination/major written report. Teaching experience is not required.

See Schoolwide Programs at the end of this chapter for information on the M.P.H. degree.

Course Requirements
You must complete at least one year of graduate residence at the University of California and a minimum of 56 units (38 units of core courses and 18 units of electives), at least 20 units of which must be in the 200 or 500 series. A maximum of one course from Epidemiology 290 or 291 and one 396 course (four units) may be applied toward the total course requirement. If you intend to write a thesis, four units of course 398 may also be applied toward the 18-unit elective requirement.

Required core courses include Epidemiology 200, 201A-201B, 220, 290 or 291, Biostatistics 100A or 110A, 100B or 110B, one additional statistics course (four units) in regression or multivariate methods to be approved by the department; and Biostatistics 403 or Epidemiology 410A-410B or equivalent. Equivalent courses must be approved by the department. Each core course may be waived if you have taken a similar course elsewhere and can pass the waiver examination. A waiver course does not reduce the unit requirements. Elective courses include all those offered by the department with the exception of those stated above.

All courses included for advancement to candidacy, except Epidemiology 290 or 291, must be taken for a letter grade (not on an S/U grading basis). You must maintain an average of no less than 3.0 (B) in all courses required or elected during graduate residence at the University of California. In addition, you must maintain an average of no less than 3.0 (B) in courses 200, 201A-201B, and 220.

A thesis or comprehensive examination must be completed before graduation.

Thesis Plan
If the thesis option is approved, a thesis committee of faculty members is appointed by the dean of the Graduate Division on recommendation of the department. The committee approves the thesis prospectus before you file for advancement to candidacy. The thesis must be acceptable to the thesis committee.

Comprehensive Examination Plan
If the comprehensive examination option is selected, a guidance committee of departmental faculty members is appointed. A comprehensive examination on your major area of study must be passed. If you fail, you may be reexamined once.

Master of Science in Preventive Medicine and Public Health
The program is not admitting new students at this time.

Ph.D. Degree
The Ph.D. is an advanced research degree that emphasizes depth of knowledge and research skills. The dissertation must demonstrate your ability for independent scholarly investigation. There is no foreign language requirement for the Ph.D.; teaching experience is recommended but not required.

See Schoolwide Programs at the end of this chapter for information on the Dr.P.H. degree.

Admission
In addition to the University minimum requirements, the department requires (1) satisfactory performance on the Graduate Record Examination (GRE), (2) at least a 3.0 junior/senior undergraduate grade-point average and at least a 3.5 GPA in graduate studies, and (3) approval by the department admissions committee, an academic adviser, and the department chair.

Course Requirements
You must fulfill the course requirements for the M.S. degree in Epidemiology with an average of no less than 3.3 (B+) in Epidemiology 200, 201A-201B, and 220. Equivalent courses taken at other institutions may be used to fulfill these requirements subject to approval by the department. Continuation in the doctoral program is contingent on satisfying the 3.3 (B+) grade-point requirement. You must also take courses 202A, 202B or one additional statistics course beyond the M.S. requirements, at least three terms of course 292, and one pathobiology course (four units). The statistics and pathobiology courses must be approved by the department. In addition, you must take at least 12 units of graduate-level courses (excluding 500-level courses) outside the department, which must be selected with the approval of your academic adviser. If you have prior postbaccalaureate coursework, you may petition for substitution of part or all of the 12-unit requirement. Recommendation for the degree is based on your attainments rather than on the completion of specific courses.

Qualifying Examinations
Before advancement to candidacy, you must pass the departmental written doctoral examination and the University Oral Qualifying Examination. Normally no more than one reexamination is allowed for the written examination. A doctoral committee is nominated and, if approved, administers the University Oral Qualifying Examination. After completing the course requirements and passing both the written and oral examinations, you may be advanced to candidacy and complete work on a dissertation in your principal field of study.

Final Oral Examination
A final public defense of your dissertation is required.

Upper Division Courses
100. Principles of Epidemiology. ( Formerly numbered 112.) Lecture, two hours; discussion, four hours. Prerequisite: 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. Ms. Coulson, Mr. Kraus

199. Special Studies (2 to 4 units). Prerequisites: senior standing, consent of instructor and department chair (based on written proposal outlining course of study). Individual undergraduate guided studies under direct faculty supervision. Study to be structured by instructor and student at time of initial enrollment. Only four units may be taken each term.

Graduate Courses
200. Epidemiology I. (Formerly numbered 114.) Lecture, two hours; laboratory, four hours. Prerequisites: Biostatistics 100A (may be taken concurrently), one full biological sciences course, consent of instructor. Not open for credit to students with credit for course 100. Introduction to epidemiology, including factors governing health and disease in populations. Mr. Frechich, Ms. Visscher
204A. Epidemiologic Methods I and II (6 units each). (Formerly numbered 211C-211D.) Lecture, four hours; discussion, two hours; other, 12 hours. Prerequisites: Biostatistics 100A, 100B, at least two upper division biology or social sciences courses, consent of instructor. Advanced methods of epidemiologic analysis. Topics include the relating prevalence and incidence, methods of clustering and seasonality, measures of effect, sources of bias, regression to the mean, estimation and hypothesis testing in epidemiology. Models for risk and rates, cohort analysis. S/U or letter grading. Mr. Greenland

205. Topics in Theoretical Epidemiology (2 units). (Formerly numbered 223.) Prerequisite: consent of instructor. Selected topics from current research areas in epidemiology. May be repeated for credit with a change in topic. Emphasis on theoretical research. Prerequisites: courses 100 or 200, consent of instructor. Mr. Greenland

206. Epidemiologic Methods II (6 units). (Formerly numbered 224.) Lecture, one hour; discussion, one hour. Prerequisites: courses 100, 410A or Biostatistics 403 or equivalent, Biostatistics 200 or equivalent, Biostatistics 100A or 110A, consent of instructor. Presentation of epidemiologic, biologic, psychological, and clinical characteristics of AIDS and HIV-1 infection. Discussion of policy implications and intervention strategies. S/U or letter grading. Mr. Ash (even years)

224A. Helminthic Diseases of Man. (Formerly numbered 220A.) Prerequisite: consent of instructor. May be taken concurrently with course 224B. Comprehensive overview of systematic, morphology, biology, host/parasite relationships, public health problems, and control of nematodes, trematodes, and cestodes parasitic in man and animals. Mr. Ash (even years)

224B. Helminthic Diseases of Man (2 units). (Formerly numbered 220B.) Laboratory, four hours. Prerequisites: consent of instructor. Diagnosis of nematodes, trematodes, and cestodes parasitic in man and animals. Pathology produced by these infections. Mr. Ash (odd years)

227. AIDS: A Major Public Health Challenge. (Formerly numbered 212D.) Prerequisites: course 100 or 200 or equivalent, Biostatistics 100A or 110A, consent of instructor. Presentation of epidemiologic, biologic, psychological, and clinical characteristics of AIDS and HIV-1 infection. Discussion of policy implications and intervention strategies. S/U or letter grading. Mr. Detels

M228. Biology of HIV. (Same as Microbiology and Immunology M275.) Lecture, five hours. Prerequisites: courses 100 or 200, consent of instructor. Sexually transmitted disease, medical/behavioral aspects, epidemiology and control in developed and developing countries. S/U or letter grading. Ms. Visscher

240. Cardiovascular Epidemiology. (Formerly numbered 212E.) Lecture, two hours; discussion, two hours. Prerequisites: courses 100 or 200, consent of instructor. Topics include definition, pathogenesis, descriptive epidemiology, magnitude of risk factors, strategies for prevention, lipoprotein metabolism, epidemiology of diabetes, hypertension, and chronic lung disease. Mr. Longnecker

241. Epidemiology of Neurologic Disease (2 units). (Formerly numbered 212F.) Lecture, two hours. Prerequisites: courses 100 or 200, consent of instructor. Epidemiologic characteristics of selected chronic neurologic disorders, with particular emphasis on etiology, blindness control. Mr. Visscher

242. Epidemiology of Cancer. (Formerly numbered 215A.) Prerequisites: course 100 or 200, consent of instructor. Etiologic concepts and mechanisms. Pathogenesis, diagnosis, and classification of neoplastic diseases. Epidemiologic principles and methods as applied to cancer. Classical studies in cancer epidemiology. Models of causal association. Mr. Haile

243. Epidemiology of Cancer (2 units). (Formerly numbered 215B.) Lecture, one hour; discussion, one hour. Prerequisites: course 242, consent of instructor. Current issues in cancer epidemiology, including etiologic research, screening programs, prevention. Mr. Haile

244. Research Methods in Cancer Epidemiology (2 units). (Formerly numbered 212G.) Lecture, three hours. Prerequisites: courses 100 or 200, consent of instructor. May be repeated for credit with change in topic. Emphasis on study design, data analysis, and control of confounding. Mr. Mack

248. Nutrition Epidemiology (2 units). (Formerly numbered 216.) Lecture, two hours; discussion, one hour. Prerequisites: courses 100-200 or equivalent. Dietary intake patterns, risk factors for cardiovascular disease. Mr. Longnecker

249. Cancer Epidemiology. (2 units). (Formerly numbered 217.) Lecture, four hours; discussion, two hours. Prerequisites: courses 100-200 or equivalent. Study of cancers of specific organs or systems. Mr. Mack

251. Epidemiology of Nonintentional Injuries. (Formerly numbered 212J.) Lecture, three hours; discussion, two hours. Prerequisites: course 100 or 200, Biostatistics 100A, consent of instructor. Pertinent epidemiologic and biologic aspects of nonintentional trauma, including those from motor vehicle crashes, occupational exposures, falls, and other major external causes, which focus on research approaches, data sources, analytical techniques, and evaluation. Mr. Morgenstern

252. Epidemiology of Assault, Homicide, and Suicide (2 units). (Formerly numbered 212K.) Lecture, two hours; discussion, one hour. Prerequisites: course 100 or 200, consent of instructor. Presentation and evaluation of epidemiologic research approaches to study of violent injury, including description of incidence, injury design, risk factor analysis, and control evaluation. Mr. Kraus

253. Acute Traumatic and Chronic Repetitive Injuries from Work-Related Exposures (2 units). Lecture, two hours; discussion, one hour. Prerequisites: course 100 or 200 or equivalent, Biostatistics 100A, consent of instructor. May be repeated for credit with change in topic. Emphasis on study design, data analysis, and control of confounding. Mr. Morgenstern

255. Genetic Epidemiology (2 units). (Formerly numbered 226.) Prerequisites: course 100, or 200, consent of instructor. Proper design, analysis, interpretation, and application of analytical methods used by genetic epidemiologists. Discussion of methods for familial and nonfamilial genetic disease analysis and study design, genetic marker-disease association studies, and the role of family history in disease analysis. Mr. Haile

256. Meta-Analysis in Epidemiology (2 units). Lectures, 90 minutes; laboratory, 30 minutes. Prerequisites: courses 201A-201B, Biostatistics 406 or one multicovariate analysis course beyond 100C or 200C. Designed to teach epidemiology doctoral students how to conduct and evaluate a meta-analysis of epidemiologic data. Mr. Longnecker

257. Epidemiology of Chronic Disease. Prerequisite: course 100 or 200. Lectures and discussions include descriptive epidemiology, and risk factors for heart disease and cancer; discussion sessions focus on recent articles; laboratory sessions feature use of spreadsheets for graphic display of data. S/U or letter grading. Mr. Morgenstern
270. Epidemiology and Health Policy (2 units).
(Formerly numbered 217.) Prerequisites: courses 100 or 204A-204B, Biostatistics 100A or 110A, Health Services 100, consent of instructor. Application of epidemiologic methods and findings in health services research, population health planning, and health policy to provide framework for integrating causal inference with decision making. Emphasis on conceptual and methodologic issues confronting researchers, clinicians, planners, administrators, and legislators. Mr. Morgenstern

276. Structure and Function of Nutrients Implicated in Etiology of Chronic Disease. (Same as Community Health Sciences M267.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisite: one prior organic chemistry course. Basic nutrition course for public health and science majors. Mr. Longnecker

280. Parasitic Diseases and Global Health. (Formerly numbered 212F.) Prerequisite: consent of instructor. Overview of major human parasitic diseases in terms of their biology, occurrence, distribution, and transmission in nature; diseases they cause and impact they have on health of populations; interaction with other disease states; and interventional strategies for their control. Mr. Ash

281. Epidemiology for Developing Countries. (Formerly numbered 415.) Prerequisites: courses 100 and 200, Biostatistics 100A, consent of instructor. Uses of epidemiology for assessing the burden of illness in the community, establishment of program priorities, and developing disease intervention or prevention strategies. Mr. Frenichs

282. Rapid Epidemiologic Surveys in Developing Countries. (Formerly numbered 418.) Prerequisites: courses 100 and 200. Biostatistics 100A, 100B, consent of instructor. Microcomputer-assisted planning and organizing of epidemiologic surveys in developing countries, including teaching of methods for two-stage cluster sampling, training interviewers, and use of microcomputers to develop questionnaires, select sample population, process and analyze data, and prepare final report. Mr. Frenichs

290. Seminar—Epidemiology— Infectious and Tropical Disease (2 units). (Formerly numbered 222.) Prerequisite: consent of instructor. Ongoing discussion of current epidemiological research contained in recent medical literature. May be repeated for credit. S/U or letter grading.

291. Seminar—Epidemiology—Methodology (2 units). (Formerly numbered 221.) Prerequisites: courses 100 or 200, consent of instructor. Review of current epidemiologic research contained in recent medical literature. May be repeated for credit. S/U or letter grading.

292. Advanced Seminar—Epidemiology (2 units). (Formerly numbered 229.) Prerequisites: course 201B, consent of instructor. Current research in epidemiology. May be repeated for credit. S/U grading.


295. Teacher Preparation in Epidemiology (2 units). Prerequisites: 18 units of cognate courses in area of specialization, consent of department chair. 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 units). Prerequisite: 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 eight units may be applied toward master's degree minimum total course requirement; may not be applied toward minimum graduate course requirement. S/U grading.

502. UCLA/Hawai‘i Western Consortium Exchange (4 to 16 units). Prerequisite: 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 at the University of Hawai‘i, Manoa, as part of UCLA/ UH Western Consortium Exchange Program. Only the equivalent of eight quarter units taken at UH may be applied toward degree. Extra units may be applied toward department requirements by petition to Public Health Student Affairs Office. UH letter-graded courses appear on UCLA transcript with letter grades, while UH Cr/NCr-graded courses appear as S/U grades. Grade points from these courses are not counted in UCLA grade point average.

596. Directed Individual Study or Research (2 to 8 units). Prerequisites: graduate standing, consent of instructor. Individual guided studies under direct faculty supervision. Only four units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit.

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations (2 to 8 units). Prerequisites: graduate standing, consent of instructor. 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 units). Prerequisite: consent of instructor. Only four 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 8 units). Prerequisite: consent of instructor. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

Health Services

31-269 Center for the Health Sciences, (310) 825-2594, 825-7863

Professors


Associate Professors

Emily K. Abel, Ph.D. Glenn A. Melnick, Ph.D. Robert O. Valdez, Ph.D.

Assistant Professors

Roshan Bastani, Ph.D., in Residence William E. Cunningham, M.D., M.P.H. Gerald F. Kominski, Ph.D., Associate Chair Mark S. Limin, M.D., M.P.H.

Lecturers

Bruce W. Bennett, Ph.D. Geraldine Dalek, M.P.H. William Gurthner, M.P.H. Joe Hatley, M.P.A. Diana W. Hilberman, M.S.P.H. Hwai-Tai Lam, Ph.D. Ahene Lebowitz, Ph.D. Joyce Mann, Ph.D.

Adjunct and Visiting Professors


Adjunct and Visiting Associate Professors

Raymond D. Goodman, M.D., M.P.H., Adjunct Shoshanna Soffer, Dr.P.H., Visiting

Visiting Assistant Professor

John C. Lammers, Ph.D.

Assistant Field Program Supervisor

Diana W. Hilberman, M.S.P.H.

Scope and Objectives

The field of health services examines the organization and financing of various activities to...
prevent and treat disease. This includes programs in both the public and private sectors at all levels — local, state, and federal. Faculty members come from such diverse fields as economics, management, law, statistics, operations research, planning, medicine, history, sociology, and political science. These diverse backgrounds are harmonized by their devotion to the analysis of problems in the financing and delivery of health services, with focus on populations rather than individual patients.

The Department of Health Services offers both practice-oriented and research-oriented graduate programs. The primary professional degree, the Master of Public Health (M.P.H.), includes training in various aspects of health administration such as policy formulation, health planning, organization, and management. For more advanced professional work, the Dr.P.H. degree offers education in the full scope of public health services and prepares candidates for leadership in community health work at all jurisdictional levels.

For those interested in careers in research and teaching, the department offers M.S. and Ph.D. degrees in Health Services. These programs maintain close ties with related activities in the Schools of Dentistry and Medicine, including the Robert Wood Johnson Clinical Scholars Program, the Program in Prevention, and the Cancer Control Division. The RAND/UCLA Center for Health Policy Study and the RAND/UCLA Center for Health Care Financing Research afford opportunities for joint activities with the RAND Health Sciences Program. Graduates of the academic degree programs pursue careers in universities, as well as in public and private agencies involved in health services research and health policy analysis.

Requirements for Graduate Degrees

Admission

Application forms and the Announcement of the UCLA School of Public Health may be obtained by writing to the Student Affairs Office, School of Public Health, 16-071 CHS, UCLA, Los Angeles, CA 90024-1772, or to the Department of Health Services, 31-289 CHS, UCLA, Los Angeles, CA 90024-1772. The School of Public Health Application for Admission to Graduate Status and the UCLA Application for Graduate Admission must be completed. Three letters of recommendation are required, two from former professors and one from an employer (if no employer, three former professors) before an application is considered complete. It is your responsibility to ensure that the application file is complete.

The preferred deadline for graduate applications is December 15, 1994, for Fall Quarter 1995 admission. Applications received after the deadline have considerably reduced opportunities for admission, financial aid, and housing.

Applicants must meet the University minimum requirement of an acceptable bachelor’s degree with a B (3.0) average in upper division coursework and/or prior graduate study. Exceptionally qualified applicants may be considered on an individual basis. No screening examination is required for admission. If your undergraduate coursework has been deficient in breadth of fundamental training, you may be required to take specified undergraduate courses after admission. Prior field experience is not required as a condition of admission, although a background of public health experience may be considered in your evaluation. In addition, you must be accepted by and accommodated in the Department of Health Services.

Applicants must also perform satisfactorily on a recent (within the last five years) Graduate Record Examination (GRE). The Medical College Admission Test (MCAT), Dental Admission Test (DAT), or Law School Aptitude Test (LSAT) are not accepted. However, in some cases, individuals with a medical, dental, or law degree may waive the GRE requirement. Certain other criteria must be met, including licensure to practice in California. A written request must accompany applications of those individuals desiring a waiver of this requirement. Graduate Management Admission Test (GMAT) scores are accepted only for applicants to the joint M.B.A./M.P.H. program. Applicants at the master’s level must have a minimum GRE combined (verbal and quantitative) score of 1,100. Applicants at the doctoral level need a minimum GRE combined (verbal and quantitative) score of 1,200. The analytical section is not required.

Refer to the UCLA Application for Graduate Admission for the Test of English as a Foreign Language (TOEFL) requirement for international applicants.

Master’s Applicants

Your prior program of study should include adequate preparation in mathematics, physical sciences, biological sciences, and social sciences, and typically includes two courses each in mathematics, biological sciences, social sciences; one course in physical sciences; and others that constitute an adequate preparation for the proposed area of specialization.

If your prior work in the biological, physical, mathematical, and social sciences does not constitute adequate preparation for your proposed area of specialization, you must include courses in those sciences in your graduate program; these may not be applied toward the minimum requirements for the degree.

Master of Science Degree

The Master of Science is a research-oriented degree within the general field of health services. It includes the preparation of a thesis or comprehensive examination/major written report. Teaching experience is not required.

See Schoolwide Programs at the end of this chapter for information on the M.P.H. degree.

Course Requirements

You must complete at least one year of graduate residence at the University of California and 17 full courses, at least five of which must be graduate courses in the 200 or 500 series. Only one 596 course (four units) and one 598 course (four units) may be applied toward the total course requirement; only four units of either course may be applied toward the minimum graduate course requirement (10 courses).

Health Services 597 may not be applied toward the degree requirements.

Required school core courses include Biostatistics 100A, 100B, and Epidemiology 100. Each core course may be waived if you have taken a similar course elsewhere and can pass the waiver examination.

Required department core courses include Health Services 200A-200B-200C, 237A-237B, 237C. You are strongly encouraged to take Biostatistics 200A, 200B, and Epidemiology 201A-201B. Elective courses should be selected from the 200 or 500 series in consultation with your advisor.

Only courses in which you receive a grade of C- or better may be applied toward the requirements for a master’s degree. You must maintain an average of no less than 3.0 (B) in all courses required or elected during graduate residence at the University of California.

Thesis Plan

If the thesis option is approved, a thesis committee is established. The committee approves the thesis prospectus before you file for advancement to candidacy. The thesis must be acceptable to the thesis committee.

Comprehensive Examination/Report Plan

If the comprehensive examination/report option is approved, a guidance committee of faculty members is appointed. A written comprehensive examination on your major area of study must be passed. If you fail, you may be reexamined once.

The preparation of a major written research report is required; it must be approved by the guidance committee which also must certify successful completion of all degree requirements.

Master of Science in Preventive Medicine and Public Health

The program is not admitting new students at this time.

Ph.D. Degree

The Ph.D. is an advanced research degree that emphasizes depth of knowledge and research skills. The dissertation must demonstrate your ability for independent scholarly investigation.
132. Financial and Managerial Accounting for Health Services Organizations. (Formerly numbered 141.) Prerequisites: course 100 or equivalent, consent of instructor. Introduction to financial and managerial accounting and its application to the health services industry.

133. Introduction to Health Economics. (Formerly numbered 148.) Prerequisite: consent of instructor. Presentation of tools of economic analysis. Topics include introductory concepts of microeconomics, theory of demand for health insurance and health care, substitution of health personnel, hospital cost functions, and costs and benefits of health programs. Mr. Salehi

134. Introduction to Comprehensive Health Planning. Lecture, four hours; fieldwork, four hours. Prerequisite: one upper division microeconomics, statistics, calculus, or political science course. Concepts underlying health planning, state of the art, and some relevant literature. Mr. Melnick

136. Introduction to Health Services Research. (Formerly numbered 136A.) Prerequisites: Biostatistics 100A or equivalent, consent of instructor. Review of the field of health services research. Uses of quantification techniques, statistical considerations, statistical constructs (as well as methodologies) from social and behavioral sciences and epidemiology to studies of workings of health services. Mr. Lewis

199. Special Studies (2 to 4 units). Prerequisites: senior standing, consent of instructor and department chair (based on written proposal outlining course of study). Individual undergraduate guided studies under direct faculty supervision. Study to be structured by instructor and student at time of initial enrollment. Only four units may be taken each term.

Graduate Courses

200A-200B-200C. Health Systems Organization and Financing. (Formerly numbered 230A-230B.) Lecture, four hours; discussion, two hours. In-depth analysis of health services systems in the U.S., using relevant theories, concepts, and models. 200A-200B. Prerequisite: health services major. 200C. Prerequisites: courses 200A-200B, and health services major or consent of instructor.

204A-M204B-M204C. Seminars: Pharmaceutical Economics and Policy (1 unit, 1 unit, 2 units). (Formerly numbered M204.) (Same as Economics M240L-M240M-M240N.) Seminar, three hours every other week for three terms. Prerequisites: course 236 or equivalent, Economics 201A-201B-201C or equivalent, or consent of instructor, graduate standing in public health or economics. Various topics in economics of pharmaceutical industry, including pricing of innovations, drug regulation, and economic impact of pharmaceuticals. In Progress grading.

214. Measurements of Effectiveness and Outcomes of Health Care. Lecture, three hours. Prerequisites: courses 200A-200B-200C. 422, and Biostatistics 100A or equivalent, or consent of instructor. Historical perspective for development of health status measures and their utilization in assessment of outcomes/theoretical constructs (as well as methodologies) from social and behavioral sciences and epidemiology to studies of workings of health services. Mr. Comanor, Mr. Intriligator, Mr. Schweitzer

216. Law and Health Services Organizations. Lecture, one hour; discussion, two hours. Prerequisites: course 100 or equivalent, three social sciences courses, consent of instructor. Legal and social movements, public health activities, childbirth, and AIDS. Ms. Abel

223. Governmental Health Services and Trends. Prerequisites: course 100, two additional upper division social or behavioral sciences courses, consent of instructor. Systematic analysis of interface between organized programs of personal health services and governmental agencies at all jurisdictional levels. Study of changing relationships between traditional public health and newer medical care and quality control functions. Mr. Shinick

233. Health Policy Analysis. Lecture, two hours; discussion, two hours. Prerequisites: course 100 or equivalent, three social sciences courses, consent of instructor. Conceptual and procedural tools for analysis of health policy, emphasizing role of analysis during various phases of the life cycle of public policy. Mr. Valdez

234. Health Services Organization and Management Theory. (Formerly numbered 430.) Prerequisites: courses 100 or equivalent, 131, two upper division social sciences courses or equivalent, consent of instructor. Application of contemporary organization and management theory to systems that provide personal health care services. Environmental characteristics, structural, and processes of health services organizations.

235. Law, Social Change, and Health Service Policy. Prerequisites: course 100, two upper division political science or sociology courses or equivalent, consent of instructor. Legal and social changes and their influence on health care and policy formulation for environmental, preventive, and curative health service programs. Ms. Roemer

236. Microeconomic Theory of the Health Sector. (Formerly numbered 236.) Lecture, four hours; discussion, two hours. Prerequisites: Biostatistics 100A, 100B, consent of instructor. Exploration of problems in application of statistical and other quantitative methods in health services research. Critique of adequacy of studies designs, appropriateness of analyses, and degree to which conclusions are supported by data.

237A-237B. Special Topics in Health Services Research Methodology. Lecture, one hour; discussion, three hours. Prerequisites: Biostatistics 100A, 100B, consent of instructor. In-depth consideration of problems in application of statistical and other quantitative methods in health services research. Ms. Rice, Mr. Valdez

238. Politics of Health Care. (Formerly numbered 138.) Prerequisite: course 100 or equivalent. Concepts and procedures for political analysis; national, state, and local politics in health care; examination of selected case studies. Mr. Valdez and the Staff

239. Aging and Long-Term Care. Prerequisites: courses 100, 238, Community Health Sciences 270, or equivalent, consent of instructor. Long-term care of the chronically ill elderly examined from perspectives of public and sociodemographic trends, including the costs and benefits of health service programs. Mr. Salehi

240. Health Care Issues in International Perspective. Prerequisites: two health administration courses, two upper division social sciences courses, or equivalent, consent of instructor. Analysis of crucial issues in health care, manpower policy, economic support for health facilities, and the organization of health service delivery, regulation, planning, and other aspects of health care systems. Ms. Roemer

100. Health Services Organization. (Formerly numbered 130.) Lecture, four hours; discussion, one hour. Prerequisites: four units of social sciences, structure and function of American health care system, issues and forces shaping its future.

131. Structure and Function of Health Care Facilities. Lecture, two hours; discussion, two hours. Prerequisites or corequisites: course 100, consent of instructor. Introduction to structure, organization, and function of health care facilities.
241. Women, Health, and Aging: Policy Issues (2 or 4 units). Ms. Abel. Lecture; three hours; discussion, one hour. Prerequisites: two upper division social sciences courses, two upper division biological sciences courses, or equivalent, consent of instructor. Seminar examining alternative evaluation research theories and methods to health service organizations and systems. Topics include linking evaluation criteria to policy decisions, theories, and previous research; political and organizational context of evaluation; utilization of findings; and meta-evaluation. S/U or letter grading.

242. Seminar: Health Services and Policy Evaluation. Prerequisites: Biostatistics 100A, 100B, basic courses in program evaluation and health services organization, or equivalent, consent of instructor. Seminar applying alternative evaluation research theories and methods to health service organizations and systems. Topics include linking evaluation criteria to policy decisions, theories, and previous research; political and organizational context of evaluation; utilization of findings; and meta-evaluation. S/U or letter grading.

243. Society's Response to Aging. Prerequisites: two health services courses, two upper division social sciences courses, or equivalent, consent of instructor. Examination of central issues of health care delivery to the elderly in the U.S. Topics include demographic trends, economic characteristics, health status, 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.

244. Seminar in Public Health and Welfare. Lecture; three hours; discussion, one hour. Prerequisites: two upper division social sciences courses, or equivalent, consent of instructor. Seminar examining alternative evaluation research theories and methods to health service organizations and systems. Topics include linking evaluation criteria to policy decisions, theories, and previous research; political and organizational context of evaluation; utilization of findings; and meta-evaluation. S/U or letter grading.

245. Society's Response to Aging. Prerequisites: two health services courses, two upper division social sciences courses, or equivalent, consent of instructor. Examination of central issues of health care delivery to the elderly in the U.S. Topics include demographic trends, economic characteristics, health status, 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.
440B. Health Information Systems: Organization and Management. Lecture, two hours; laboratory, three hours. Prerequisites: course 440A or equivalent, consent of instructor. Health and administrative research using clinical records. Principles of planning for routine and special studies. Individual investigation in methods of obtaining and processing data to meet needs of programs in institution and agency. Introduction to principles of medical auditing; analysis of medical and health services.

441. Ambulatory Care in the U.S. Seminar, three hours. Prerequisites: courses 132, 200A-200B-200C, and Management 403, or equivalent. Consent of instructor. Introduction to organization and management concepts, problems, and issues in ambulatory health services, including financial management and information systems requirements.

442. Managed Health Care: Quality and Cost. Lecture, three hours. Prerequisite: consent of instructor. Overview of issues related to growth, management, and planning in managed health care systems. Review of role of HMOs and PPOs, as well as discussion of managed care as a solution.

443A. Biological and Social Bases of Prevention. Lecture, two hours; discussion, three hours. Prerequisites: courses 100 or 200A-200B-200C, Biostatistics 100A, Epidemiology 100, graduate standing, consent of instructor. Development, current status, and potential problems in preventive health practice, focusing on risk indicator approach (exercise, alcohol, stress, etc.), with consideration of program settings, delivery problems, and issues.

443D. Advanced Hospital Financial Management Simulation. Lecture, one hour; discussion, one hour; laboratory, two hours. Prerequisites: courses 100, 132, 436, consent of instructor. Practical aspects of applied hospital management, capital, and cost and capital investment analysis, discussed and analyzed with respect to students' individual residency sites.

444. Applied Methodology in Health Planning. Lecture, three hours; fieldwork, four hours. Prerequisites: courses 200A or 300, Graduate standing, consent of instructor. Demonstration of methodology of health planning by involving students in formulation of actual health plan for existing agency in Los Angeles area. Mr. Lewis.

445. Strategic Planning and Marketing in Health Care. (Formerly numbered 242.) Lecture, three hours; discussion, one hour. Prerequisites: courses 200A-200B-200C, Biostatistics 100A, 100B, or equivalent, consent of instructor. Survey courses covering theory and applications of strategic planning and marketing concepts as they apply to health care organizations. Lectures and discussion of case studies for which students must prepare in advance, fieldwork, and computer exercises.

446. Financing Health Care. Prerequisites: course 100, Economics 1, 2, or equivalent, consent of instructor. Patterns of health care financing by consumers, providers, employers. Trends in health service use; expenditures, national health insurance, and international comparisons of health financing.

447. State Health Policy Issues. Seminar, three hours. Prerequisite: course 238. Focus on health policy development and implementation at state government level, with emphasis on financing, direct provision, and regulation of health care services, facilities, equipment technology, and manpower. Exploration of intergovernmental relationships.

447D. Management of Health Maintenance Organizations. Lecture, three hours. Prerequisites: courses 100, 134, or equivalent, consent of instructor. Alternative arrangements to fee-for-service for payment, providing, or arranging for delivery of health care services, and relating these approaches to national health policy.

447E. Health Insurance Principles and Programs. Prerequisites: courses 100, 232, one additional health services course, or equivalent, consent of instructor. Examination of social, actuarial, and commercial assumptions underlying private health insurance. Comparison, with government-sponsored health insurance. Analysis of diversity of voluntary medical care insurance plans under different sponsorships and with varied scopes of coverage and benefits and their implications for public and private medical care developments.

448. Health Policy Issues for Dental Professionals (2 units). Formerly numbered M449.) (Same as Dentistry M442.) Prerequisites: course 100 or equivalent, Biostatistics 100A or equivalent. Epidemiology 100, consent of instructor. Current public health policy issues in dental health, including cost, financing, role of government, and quality assurance. S/U grading.

448D. Case Studies in Dental Practice (2 units). Formerly numbered M449D. (Same as Dentistry M433A.) Provides students with practice methodology for evaluation of dental care settings. Didactic and field experience, providing foundation for evaluation of professional dental practice.

450. Cooperative Program (2 to 8 units). Prerequisite: 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 eight units may be applied toward master's degree minimum total course requirement, may not be applied toward minimum graduate course requirement. May be repeated for credit. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: 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 at University of Hawaii, Manoa, as part of UCLA/UH Western Consortium Exchange Program. Only the equivalent of eight quarter units taken at UH may be applied toward degree. Extra units may be applied toward department requirements by petition to Public Health Student Affairs Office. UH letter-graded courses appear on UCLA transcript with letter grades, while UCLA/C/N/C-graded courses appear as S/U grades. Grade points from these courses are not counted in UCLA grade point average.

502. UCLA/Hawaii Western Consortium Exchange (4 to 16 units). Prerequisite: 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 at University of Hawaii, Manoa, as part of UCLA/UH Western Consortium Exchange Program. Only the equivalent of eight quarter units taken at UH may be applied toward degree. Extra units may be applied toward department requirements by petition to Public Health Student Affairs Office. UH letter-graded courses appear on UCLA transcript with letter grades, while UH/C/N/C-graded courses appear as S/U grades. Grade points from these courses are not counted in UCLA grade point average.

586. Teacher Preparation in Health Services (2 units). Prerequisites: 18 units of cognate courses in area of specialization, consent of department chair. May not be applied toward master's degree minimum total course requirement. May be repeated for credit. S/U grading.

549. Sacramento Workshop in Health Services Management (2 to 8 units). Prerequisites: consent of instructor. Development, current status, and potential problems in preventive health practice, focusing on risk indicator approach (exercise, alcohol, stress, etc.), with consideration of program settings, delivery problems, and issues.

Schoolwide Programs

16-071 Center for the Health Sciences, (310) 825-5516

Master of Public Health

The M.P.H. is a professional degree in the field of public health. You are expected to focus on public health practice and to acquire a broad knowledge related to professional skills. Teaching experience is not required.

Admission

Application forms and the Announcement of the UCLA School of Public Health may be obtained by writing to the Student Affairs Office, School of Public Health, 16-071 CHS, UCLA, Los Angeles, CA 90024-1772. Both the School of Public Health Application for Admission to Graduate Status and the UCLA Application for Graduate Admission must be completed. Three letters of recommendation (at least two from former professors) are required before an application is considered complete. It is your responsibility to ensure that the application file is complete.

The preferred deadline for graduate applications is December 15, 1994, for Fall Quarter 1995 admission. Applications received after the deadline have considerably reduced opportunities for admission, financial aid, and housing.

Applicants must meet the University minimum requirement of an acceptable bachelor's degree with a B (3.0) average in upper division coursework and/or prior graduate study. Exceptionally qualified applicants may be considered on an individual basis. If your undergraduate coursework has been deficient in breadth of fundamental training, you must take specified undergraduate courses after admission.

Prior field experience is not required as a condition of admission, although a background of public health experience may be considered in your evaluation.

Applicants must also perform satisfactorily on a recent (within the last five years) Graduate Record Examination (GRE). The Medical College Admission Test (MCAT), Dental Admission Test (DAT), or Graduate Management Admission Test (GMAT) may be accepted in lieu of the GRE under certain circumstances.

Refer to the UCLA Application for Graduate Admission for the Test of English as a Foreign Language (TOEFL) requirement for international applicants.

Your prior program of study should include adequate preparation in mathematics, physical sciences, biological sciences, and social sciences, and typically includes two courses each in mathematics, biological sciences, social sciences; one course in physical sciences; and
others that constitute an adequate preparation for the proposed area of specialization.

If your prior work in the biological, physical, mathematical, and social sciences does not constitute adequate preparation for your proposed area of specialization, you must include courses in those sciences in your graduate program; these may not be applied toward the minimum requirements for the degree.

Applicants must be one of the following:

(1) Holders of a bachelor’s degree from an accredited institution. Preparation in the sciences basic to public health must be adequate. Such sciences may include various combinations of (a) life sciences, (b) physical sciences and mathematics, (c) social sciences, (d) behavioral sciences. You are not expected to be prepared in all four of these fields, but a background in a suitable combination of these sciences is required.

(2) Qualified physicians at UCLA in the General Preventive Medicine Residency.

(3) Qualified students in the Latin American or African Area Studies articulated degree program or in the School of Management or Medicine.

Specific Concentration Requirements

(1) Students concentrating in biostatistics should have completed at least one year of calculus. Majors in mathematics, statistics, computer science, or a field of application in biostatistics are preferred.

(2) Students concentrating in environmental health sciences should have a bachelor’s (or master’s) degree in chemistry, physics, biology, engineering, or other appropriate field. Coursework should include one year of general chemistry (including quantitative analysis) and two quarters or one semester of organic chemistry and/or biochemistry, mathematics through calculus, one year of biological sciences, and one year of physics. Substitutions for these requirements will be considered for applicants with an otherwise superior academic background.

(3) Applicants to the one-year health services organization program must have a prior doctoral degree (M.D., D.D.S., J.D., Ph.D., or equivalent). Applicants with doctoral degrees from other countries should plan to take the two-year program; satisfactory performance on the GRE is required, and a personal interview is recommended.

Course Requirements

You must complete at least one year of graduate residence at the University of California and a minimum of 11 full courses, at least six of which must be graduate courses and at least two of which must be 400-series courses. Only one 596 course (four units) may be applied toward the six graduate courses; 597 and 598 courses may not be applied toward the degree. No more than 18 full courses may be required for the degree.

Required school core courses include Biostatistics 100A or 110A, Community Health Sciences 100 (210 for community health sciences majors), Environmental Health Sciences 100 or 101, Epidemiology 100 (200, 201A-201B for epidemiology majors), and Health Services 100 (200A-200B-200C for health services majors). Each core course may be waived if you have taken a similar college-level course elsewhere and can pass the waiver examination.

The remaining courses are determined by your choice of an area of specialization as described below and include the requirement of one course in the 400 series. Field training in an approved public health program of up to 10 weeks (a minimum of four units but no more than eight) is required of candidates who have not had prior relevant field experience.

In addition to the core courses, at least three courses (two or four units) outside your area of specialization are strongly recommended.

Only courses in which you receive a grade of C- or better may be applied toward the requirements for a master’s degree. S/U-graded courses may not be applied toward the degree requirements. You must maintain an average of no less than 3.0 (B) in all courses required or elected during graduate residence at the University of California.

Areas of Specialization

Areas of specialization and typical course plans, in addition to mandatory courses, are listed below.

Biostatistics

Required department courses include Biostatistics 100A, 100B, and 100C (in exceptional circumstances, courses 110A, 110B, and 115 may be substituted), 402A, 402B (satisfies the field training requirement), 403, 406, and two courses from 200A through M236 or 404 through 419 (except 401). Epidemiology 201A and 201B are recommended. Elective courses should be selected in public health, biostatistics, or mathematics. Students whose mathematics preparation does not include sufficient calculus must take courses in the Mathematics Department while in the M.P.H. program.

Community Health Sciences

Required courses include Community Health Sciences 210, 211A-211B, and either 400 or 482. You should complete courses 210 and 211A-211B in your first three terms in residence. Normally two years or six terms are needed to complete the 60 units of coursework. Candidates with a prior doctoral degree or advanced preparation in a related field may complete an M.P.H. degree in one year (48 units), but only after formal consideration and approval of the departmental faculty. You must also select one of the following areas of concentration.

Health Education/Promotion — Community Health Sciences 271, 282, 482 (eight units), and 487 are required. In addition, two to three elective courses from the list of specialty areas are selected in consultation with your adviser. Individual and experimental courses may not be applied toward the required course units. Additional courses may be elected, in consultation with your faculty adviser, from within the school or in other schools/colleges at UCLA.

Environmental Health Sciences

You can obtain the M.P.H. with a concentration in air pollution, environmental chemistry, environmental management, environmental toxicology, industrial hygiene, and water quality.
Required department core courses include Biostatistics 100B, Environmental Health Sciences 201, 210, 230, 240, 250, 401 (or 410A and 410B). You must also take at least 12 additional units in the department at the 200 level or above and additional courses as required by your area of concentration. A total of eight units must be in the 400 series.

Epidemiology

Required department core courses include Biostatistics 100B, Epidemiology 201A-201B, 220, 400 (for predoctoral students), 596 (for postdoctoral students). At least eight additional units must be selected from epidemiology courses in infectious and tropical diseases (M214, 223A, 223B, 224A, 224B, 227, M228, 230), quantitative methods (202A, 202B, 203), chronic diseases (240, 241, 242, 243, 244), problems of developing countries (280, 281, 282), injuries (251, 252, 253, M417), and other topics (204, 210, 246, 260, 261, 263, 270, M276, 410A, 410B, 411, 414).

You must also submit a report demonstrating competence in epidemiology. For predoctoral students the report may not be submitted prior to completion of course 400, which must be taken after completion of course 210B. Course 596, for postdoctoral students, may be taken concurrently with 201B. Students holding a doctorate in an appropriate biomedical science may petition for waiver of course 400.

Health Services

Required department core courses include Health Services 200A-200B-200C.

Policy and Management — This is a two-year program requiring 18 full courses, a summer internship in a local health care organization, and a major written research report. Required courses include Health Services 400, 422, Biostatistics 100B, Health Services 236 or Management 403, and five courses from Health Services 131, 134, 231, 233, 234, 235, 236, 239, 240, 244, 431, 433, 434, 435, 436, 441, 444, 446, 447E. You must select at least two additional electives and are encouraged to choose courses outside the department and/or School of Public Health.

M.P.H./M.B.A. — This is a three-year concurrent degree program requiring a minimum of 12 full courses (46 units) in the School of Public Health and a summer internship in a local health care organization. Required courses include Health Services 400 and 422. Management 402 may be substituted for Biostatistics 100A. For further information, refer to the listing under "Cooperative Degree Programs" later in this section.

Health Services Organization — This is a one-year program requiring a minimum of 12 full courses (48 units). Admission is limited to students with prior doctoral-level degrees (M.D., Ph.D., J.D., D.D.S., or equivalent). Health Services 236 or Management 403 is required.

Comprehensive Examination Plan

You must pass a comprehensive examination in your department. If you fail, you may be reexamined once. The aim of the examination, as a culminating experience, is to assess your ability to select theories, methods, and techniques from across the content matter of a field, integrate and synthesize knowledge, and apply it to the solution of public health problems.

Field Training

Field training in an approved public health program is required of candidates who have not had prior relevant field experience. A minimum of four units, but no more than eight, is required.

Interdepartmental International Health

The school offers several options for foreign or domestic students interested in international health. Faculty members in all departments of the school are actively involved in health-related programs in foreign settings, and many departments on campus have international health-related interests and courses relevant to health occupations and cross-cultural settings.

If you are interested, specify the department most relevant to your skills area on your application, clearly indicating your international interests. You will be given an appropriate adviser and directed to the international health committee, which is interdepartmental and promotes internationally oriented training and research. Its members consult with interested students and attempt to optimize the learning experience.

Applicants with particular interest in primary health care, including maternal and child health, family planning, applied nutrition, family health program planning, administration and evaluation, and refugee health, are advised to apply to the Community Health Sciences Department.

Cooperative Degree Programs

Following are descriptions of combined programs of study leading to the M.P.H. degree. In the articulated degree programs listed below, no course may be used for credit toward more than one degree.

M.A.-African Area Studies/M.P.H.

The School of Public Health and the African Area Studies Program have an articulated degree program whereby you can work sequentially for the master's degree in African area studies and the Master of Public Health. By planning the major field emphasis in public health while working toward the M.A. in African Area Studies, it may be possible to shorten the amount of time it would normally take to complete both degrees.

Students interested in this articulated program should write to the Assistant Graduate Adviser, African Area Studies Program, UCLA African Studies Center, and/or the Student Affairs Office, UCLA School of Public Health.

M.A.-Latin American Studies/M.P.H.

The School of Public Health and the Latin American Studies Program have arranged an articulated degree program, organized to permit specializations within the M.A. and the M.P.H. degrees, with the award of both degrees after approximately three years of graduate study. Qualified students apply to the graduate adviser of the Latin American Studies M.A. degree program and to a relevant area of public health, such as (1) environmental and nutritional sciences, (2) epidemiology, (3) health education, (4) population and family health.

Potential applicants should contact the Graduate Adviser, Latin American Studies, UCLA Latin American Center, and/or the Public Health/Latin American Studies Articulated Degree Program Adviser, UCLA School of Public Health.

M.B.A./M.P.H.

The Department of Health Services and the John E. Anderson Graduate School of Management offer a three-year concurrent degree program designed for students who desire a management career in health care and related fields. The program reflects the combined interest of employers, faculty, and students who recognize the increasing challenges facing managers in the health care industry and the need for highly skilled and sensitive individuals who can creatively take on these challenges.

Students should request application materials from both the M.B.A. Admissions Office, John E. Anderson Graduate School of Management, and the Health Services Management Program, UCLA School of Public Health. GMAT scores are required for admission.

Preventive Medicine Residency Program

An accredited residency in general preventive medicine is available to physicians through the School of Public Health. The residency is designed to prepare qualified physicians for leadership roles in preventive medicine and public health practice, research, and teaching. Completion of the program can lead to board eligibility in general preventive medicine and public health — a specialty recognized by the American Board of Preventive Medicine.

The residency currently consists of at least two years of work but may be completed over a longer period of time. The first part is comprised of formal studies leading to the Master of Public Health degree (generally in family health, epidemiology, or health services). Other areas (e.g., maternal and child health) may be considered on an individual basis. Application must be made both to the School of Public Health for admission to the M.P.H. program and to the Preventive Medicine Residency Program.
The second part consists of supervised field training in preventive medicine and public health, which is individually organized for each resident's particular interests and needs. A variety of opportunities is available through UCLA, including close working relationships with the Los Angeles County Department of Health Services, the Jonsson Comprehensive Cancer Center, Cedars-Sinai Medical Center, Saint John's Community Clinic, Venice Family Clinic, other city and county health departments in the state, Canyon Ranch in Tucson, and the Institute for Aerobic Research in Dallas. New affiliations are developed as the need arises. Residents may also undertake studies toward qualification for a more advanced degree in public health—the Dr.P.H. or Ph.D.—or do research in collaboration with members of the faculty. Physician applicants who have completed M.P.H. studies at an accredited school of public health may be admitted directly into the field training part, although physicians who will complete their M.P.H. training at UCLA are preferred. A license to practice medicine in California is a prerequisite to field training. For further information, contact the Student Affairs Office, UCLA School of Public Health.

Doctor of Public Health

The Doctor of Public Health (Dr.P.H.) is the highest professional degree for the public health generalist. You are expected to focus on public health practice and to acquire broad knowledge related to professional skills. The dissertation is of an applied, practical, problem-solving nature and must demonstrate your ability for independent investigation. There is no foreign language requirement; teaching experience is recommended but not required.

Admission

In addition to the University minimum requirements, each department requires (1) satisfactory performance on the Graduate Record Examination (GRE), (2) completion of the M.P.H. or a master's degree in an appropriately related field (if the master's degree is in a field other than public health, you must have taken the equivalent of the M.P.H. mandatory core courses or include them in your course of study after admission), (3) at least a 3.0 junior/senior undergraduate grade-point average, at least a 3.5 GPA in graduate studies or demonstrated superiority in graduate work, and at least a B in each of the mandatory core courses, (4) a positive recommendation by a department to the School of Public Health, (5) approval by the admissions policy committee and the associate dean for Student Affairs. Screening or evaluation examinations may be required by each department.

Course Requirements

The course requirements in the major field depend on the department/program and the field you select. You must take a minimum of six full courses (four must be at the 200 or 400 level) in at least two School of Public Health departments/programs other than your major department/program. The major department/program also requires an additional area of concentration which may be either inside or outside the school. In departments/programs that allow it, an equivalent field experience completed while a doctoral student and approved by the guidance committee may be substituted for the additional area of concentration.

Areas of Specialization

Areas of specialization and typical course plans, in addition to courses required for the master's degree, are listed below.

Biostatistics

The Dr.P.H. requires a research orientation for which the coursework for the M.S. in Biostatistics is more appropriate preparation than the coursework for the M.P.H. The following courses, if not already taken, should be included: Biostatistics 115, 200A, 200B-200C, M250A-M250B; any three additional graduate-level courses in biostatistics selected with consent of your adviser; three courses in the 400 series selected with consent of your adviser; Statistics M152A, 152B. All registered doctoral students enroll in Biostatistics 402B for one term each year. This may be used as the additional area of concentration referenced below.

In addition, six full courses (four must be at the 200 or 400 level) in at least two School of Public Health departments/programs other than Biostatistics are required for breadth. The department also requires an additional area of concentration which may be either inside or outside the school. Electives, selected in consultation with your adviser, should be chosen from courses in mathematics, biomathematics, survey research methods, operations research, computer data processing, and other appropriate areas.

Community Health Sciences

The following programmatic areas are offered:

Behavioral Sciences and Health Education — At least four advanced research methods/statistics courses and at least five advanced courses from a list designed and offered by the department are required. In addition, six full courses (four must be at the 200 or 400 level) in at least two School of Public Health departments/programs other than your major program are required for breadth; four of these must be in only one other department/program. Two terms of research experience prior to beginning the dissertation are required, as is participation in Community Health Sciences 286 (program doctoral seminar) and 288. Elective courses should be selected in consultation with your adviser. Written qualifying examinations in both the major and minor areas of concentration are required.

Population and Family Health — Course content for the major field includes courses needed for the M.P.H., Community Health Sciences 242 (program doctoral seminar), and two advanced courses in research methodology. Beyond the master's degree requirements, a minimum of 48 units (four terms with an average of 12 units each) is required. Of these, at least 20 units must be in this program, in addition to the program doctoral seminar.

In addition, six full courses (four must be at the 200 or 400 level) in at least two School of Public Health departments/programs other than your major program are required for breadth (you may petition to include up to two 100-level courses). The major program also requires 18 units in an additional area of concentration which may be either inside or outside the school.

Environmental Health Sciences

You can obtain the Dr.P.H. with a concentration in air pollution, environmental chemistry, environmental management, environmental toxicology, industrial hygiene, and water quality. You must take a minimum of six full courses (four must be at the 200 or 400 level) in at least two School of Public Health departments/programs other than Environmental Health Sciences.

The department also requires additional courses in your major field as recommended by your adviser and guidance committee and courses in a minor field outside the department.

Epidemiology

The recommended program includes additional courses in biostatistics, demography, and epidemiology beyond those required for the M.P.H.

You must take a minimum of six full courses (four must be at the 200 or 400 level) in at least two School of Public Health departments/programs other than Epidemiology. The department also requires an additional area of concentration which may be either inside or outside the school. An equivalent field experience completed while a doctoral student and approved by your guidance committee may be substituted for the additional area of concentration.

A detailed course plan is developed in consultation with your faculty adviser in the department and in your minor area.

Health Services

The Dr.P.H. has a professional comprehensive orientation and prepares students for leadership positions in health services administration. An M.P.H. degree or equivalent is required, and full-time work experience in some aspect of public health is highly recommended. With full-time study, you may complete the Dr.P.H. in three years.

In your first two years you are normally expected to complete 18 full courses (72 units) beyond the M.P.H. degree to develop mastery in (1) basic tools of social analysis, (2) health and disease in populations, (3) promotion of health
and prevention of disease, and (4) health systems and their management. The specific course program depends on your previous coursework and experience. Your third year includes a residency in a public or private health services organization, seminar courses (eight units) devoted to principles and strategies of health services leadership, and preparation of a problem-solving dissertation related to your residency experience.

Screening/Qualifying Examinations

No screening examination is required in any department except Biostatistics, which requires a written screening examination of all students entering the doctoral program, to be taken before the end of your first year in the program (if not taken prior to entering the program). Courses covered by this and other examinations are determined in consultation with your adviser and the department faculty.

Before advancement to candidacy, you must pass written examinations in your major field prepared and administered by the department faculty. Normally no more than one reexamination after failure is allowed. The doctoral committee is nominated after you have made a tentative decision on a dissertation topic. The doctoral committee administers the University Oral Qualifying Examination after you have successfully completed the written examinations.

Final Oral Examination

A final oral examination is required of all candidates.
Appendix

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, disability, age, 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 Campus Counsel, 3149 Murphy Hall, UCLA, Los Angeles, CA 90024-1405, (310) 825-4042. Speech- and hearing-impaired persons may call TDD (310) 206-6083.

Inquiries regarding Americans with Disabilities Act (ADA) or 504 Compliance may be directed to Dr. Douglas Martin, Special Assistant to the Chancellor/Coordinator of ADA and 504 Compliance, A239 Murphy Hall, UCLA, Los Angeles, CA 90024-1405, Voice (310) 825-2242, CRS (800) 735-2929, TDD/TT (310) 206-3349, Fax (310) 825-3686.

Students may complain of any action which they believe discriminates against them on the ground of race, color, national origin, religion, sex, sexual orientation, disability, or age and may contact the Office of the Dean of Students, 1206 Murphy Hall, for further information and procedures.

Student Conduct:
Violation of University Policies

Students are subject to disciplinary action for several types of misconduct or attempted misconduct, including but not limited to dishonesty such as cheating, multiple submission (i.e., the resubmission of any work which has been previously submitted for credit in identical or similar form in one course to fulfill any of the requirements of another course without the prior consent of the current instructor), plagiarism, or knowingly furnishing false information to the University; forgery, alteration, or misuse of University documents, keys, or identifications; theft of, damage to, or destruction of any property of the University or property of others while on University premises; unauthorized entry to or use of University properties, equipment, or resources; disruption of teaching, research, administration, disciplinary procedures, or other University activities; physical abuse, threats of violence, rape and other forms of sexual assault, or other conduct that threatens the health or safety of any person on University property or in connection with official University functions; disorderly conduct; disturbing the peace; sexual harassment; the use of “lighting words” when they constitute harassment; the use, possession, sale, distribution, or manufacture of alcohol on University properties or at official University functions which is unlawful or otherwise prohibited by, or not in compliance with, University policy or campus regulations; the unlawful use, possession, sale, distribution, or manufacture of controlled substances, identified in Federal and State Laws or Regulations, on University properties or at official University functions; and violations of other University policies or campus rules and regulations.

Further information on these infractions and on the procedures concerning student discipline are contained in the University of California Policies Applying to Campus Activities, Organizations, and Students, Parts A and B; Universitywide Student Conduct Harassment Policy; UCLA Student Conduct Code of Procedures; and UCLA Activity Guidelines. Copies of these documents are available in the Office of the Dean of Students (1206 Murphy Hall), Center for Student Programming (337 Plaza Building), and Student Psychological Services (A3-062 CHS).

In addition, the Office of the Dean of Students 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.

Rape and Other Forms of Sexual Assault

UCLA will not tolerate sexual assault in any form, including acquaintance or date rape. Where there is probable cause to believe that the campus regulations prohibiting sexual assault have been violated by a student, the campus will pursue disciplinary actions which may include sanctions up to and including dismissal from the University.

A student accused of sexual assault can be prosecuted under California criminal statutes and disciplined under the campus student conduct policies and regulations. Even if the

Salary and Employment Information, University of California

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*Source: A national survey of a representative group of colleges conducted by the College Placement Council, representing the 80 percent range of offers for July 1994 throughout the country. It should be noted that a wide variation in starting salaries exists within each discipline based on job location, type of employer, personal qualifications of the individual, and employment conditions at the time of job entry.
If You Have Been Raped or Sexually Assaulted
Take care of your safety and health needs:

(1) Immediately call the police department. If possible, call the UCLA Department of Community Safety at (310) 825-1491 or 911.

(2) Get medical attention. Campus police will provide transportation to the Santa Monica Hospital Medical Center Emergency Room for emergency medical treatment and evidence collection. A counselor from the Santa Monica 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 Women's Resource Center. RSCs have expertise in working with people who have been raped or 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 Women's Resource Center at (310) 206-8240 or go to 2 Dodd Hall and ask to speak to an RSC.

(2) Contact the Rape Treatment Center at Santa Monica Hospital Medical Center (310) 319-4000 for free emergency medical treatment and counseling services.

Campus Discipline Process When the Assailant Is a Student
Those who believe that they have been raped or otherwise sexually assaulted by a student on University property or in conjunction with University activities, or otherwise sexually assaulted by a student on property or in connection with an official University function may file a complaint through the Office of the Dean of Students, 1206 Murphy Hall.

Cases referred to the Office of the Dean of Students will be treated under the hearing procedures set forth in the UCLA Student Conduct Code of Procedures. If the allegation is of rape or other forms of sexual assault, or sexual harassment, and the case is referred to the Student Conduct Committee, the following additional procedures shall also apply:

(1) The complaint shall be entitled, for support, to have up to two persons of the complainant's choice accompany the complainant to the hearing. A support person may be called as a witness, and the fact that he or she is to act as a witness shall not preclude that person's attendance throughout the entire hearing. If a support person is also a witness, the committee chair (or the hearing officer) may require him or her to testify before the complainant. Neither of these persons shall be entitled to represent or defend the complainant. Similar rights shall be afforded to the accused student.

(2) The complainant shall have the right to be present during the entire hearing notwithstanding the fact that the complainant is to be called as a witness.

(3) Evidence of the complainant's past sexual history, including opinion evidence, reputation evidence, and evidence of specific instances of the complainant's sexual conduct, shall not be admissible by the accused student unless the committee chair or hearing officer makes a specific finding of relevance after an offer of proof by the accused student. Under no circumstances is past sexual history admissible to prove consent. The offer of proof must be made and resolved by the chair or hearing officer before the complainant testifies.

(4) The hearing shall be closed to spectators.

Harassment
Sexual Harassment
Every member of the campus community should be aware that the University is strongly opposed to sexual harassment and that such behavior is prohibited by law and by University policy.

Definition
Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when

(1) Submission to such conduct is made either explicitly or implicitly a term or condition of instruction, employment, or participation in other University activity;

(2) Submission to or rejection of such conduct by an individual is used as a basis for evaluation in making academic or personnel decisions affecting an individual; OR

(3) Such conduct has the purpose or effect of unreasonably interfering with an individual's performance or creating an intimidating, hostile, or offensive University environment.

In determining whether the alleged conduct constitutes sexual harassment, consideration will be given to the record as a whole and to the totality of the circumstances, including the nature of the sexual advances and the context in which the alleged incidents occurred (University of California Policies Applying to Campus Activities, Organizations, and Students, Part B, Section 40.21).

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 alleged offender's supervisor and/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 Ombuds Office, 1172 PCPC, (310) 825-7627 (for faculty, staff, students)

(2) Women's Resource Center, 2 Dodd Hall, (310) 825-3945 (for students)

(3) Office of Residential Life, Residential Life Building, (310) 825-3401 (for students)

(4) Office of International Students and Scholars, 105 Men's Gym, (310) 825-1681 (for international students)

(5) Student Psychological Services, 4223 Math Sciences, (310) 825-0768, or A3-062 Center for the Health Sciences, (310) 825-7985 (for students)

(6) Office of Vice Chancellor — Academic Personnel, 2147 Murphy Hall, (310) 206-9345 (for faculty, including non-Senate academic appointees and student academic appointees when acting in the capacity of their non-Senate appointments)

(7) Campus Human Resources/Employee and Labor Relations Division, 2126 Ueberroth Building, (310) 825-0661 (for campus staff employees and students when acting in the capacity of their staff appointments)

(8) Medical Center Human Resources Office, 924 Westwood Boulevard, Suite 200, (310) 794-0500 (for Medical Center staff employees and students when acting in the capacity of their staff appointments)

(9) UCLA Extension Dean's Office, 770 UCLA Extension (UNEX), (310) 825-5603 (for UCLA Extension faculty, staff employees, and students)

Other Forms of Harassment

The University strives to create an environment which fosters the values of mutual respect and tolerance and is free from discrimination based on race, ethnicity, sex, religion, sexual orientation, disability, age, and other personal characteristics. Certainly harassment, in its many forms, works against those values and often corrodes a person's sense of worth and interferes with one's ability to participate in University programs or activities. While the University is committed to the free exchange of ideas and the full protection of free expression, the University also recognizes that words can be used in such a way that they no longer express an idea, but rather injure and intimidate, thus undermining the ability of individuals to participate in the University community. The University of California Policies Applying to Campus Activities, Organizations, and Students, Parts A and B (hereafter referred to as Policies) presently prohibit a variety of conduct by students which, in certain contexts, may be regarded as harassment or intimidation.

For example, harassing expression which is accompanied by physical abuse, threats of violence, or conduct that threatens the health or safety of any person on University property or in connection with official University functions may subject an offending student to University discipline under the provisions of Section 51.16 of the Policies.

Similarly, harassing conduct, including symbolic expression, which also involves conduct resulting in damage to or destruction of any property of the University or property of others while on University premises may subject a student violator to University discipline under the provisions of Section 51.12 of the Policies.

Further, under specific circumstances described in the Universitywide Student Conduct Harassment Policy, students may be subject to University discipline for misconduct which may consist solely of expression. Copies of this Policy are available in the Office of the Dean of Students, 1206 Murphy Hall, or in any of the Harassment Information Centers listed below:

(1) Campus Ombuds Office, 1172 PCPC, (310) 825-7627

(2) Women's Resource Center, 2 Dodd Hall, (310) 825-3945

(3) Office of Residential Life, Residential Life Building, (310) 825-3401

(4) Office of International Students and Scholars, 105 Men's Gym, (310) 825-1681

(5) Student Psychological Services, 4223 Math Sciences, (310) 825-0768, or A3-062 Center for the Health Sciences, (310) 825-7985

(6) Office of Fraternity and Sorority Relations, 118 Men's Gym, (310) 825-6322

Complaint Resolution

One of the necessary measures in our efforts to assure an atmosphere of civility and mutual respect is the establishment of procedures which provide effective informal and formal mechanisms for those who believe that they have been victims of any of the above misconduct.

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 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, Supplement A (1987), pages 32-35 (copies are available in the Academic Personnel Office, 3105 Murphy Hall). Section IIA outlines faculty obligations to students and reads as follows:

Teaching and Students

Ethical Principles — "As a teacher, the professor encourages the free pursuit of learning in students: holds before the them the best scholarly standards of the discipline; demonstrates respect for the student as an individual and adheres to the proper role as intellectual guide and counselor; makes every reasonable effort to foster honest academic conduct and to assure that the evaluation of students reflects their true merit; respects the confidential nature of the relationship between professor and student; avoids any exploitation of students for private advantage and acknowledges significant assistance from them; and protects their academic freedom."—(from 1966 AAUP statement)

Types of Unacceptable Conduct

(1) Failure to meet the responsibilities of instruction, including (a) arbitrary denial of access to instruction, (b) significant intrusion of material unrelated to the course, (c) 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, (d) evaluation of student work by criteria not directly reflective of course performance, (e) undue and unexposed delay in evaluating student work.

(2) Discrimination 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 Vietnam-era veteran or disabled veteran or, within the limits imposed by law or University regulations, because of age or citizenship or for other arbitrary or personal reasons.

(3) 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.
(4) Participating in or deliberately abetting disruption, interference, or intimidation in the classroom.

Charges of Violation
If a student has reason to believe that a faculty member has violated the code, the student may consult with a member of the Academic Senate Grievance and Disciplinary Procedures Committee (3125 Murphy Hall, 310-825-3852) for help in deciding on appropriate action. If the student believes 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 Grievance and Disciplinary Procedures 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 a member of the Academic Senate Grievance and Disciplinary Procedures Committee, file such a charge in person.

Residence for Tuition Purposes
If you have not been living in California with intent to make it your permanent home for more than one year immediately before the residence determination date for each term in which you propose to attend the University, you 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 semester system, the day instruction begins for the semester.

Law 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?
If you are an adult student (at least 18 years of age), you may establish residence for tuition purposes in California if you are a U.S. citizen, a permanent resident or other immigrant, or if you are a nonimmigrant who was not previously enrolled as a UC student, or if you are an alien who, for financial purposes in California, have not been in California for more than one year, and you must have come here with the intent to make California your 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 your stay. You must demonstrate your intention to make California your home by severing your residential ties with your former state of residence and establishing those ties with California. If these steps are delayed, the one-year duration period will be extended until you have demonstrated both presence and intent for one full year. If your parents are not residents of California or you were not previously enrolled as a UC student, you are required to be financially independent in order to be a resident for tuition purposes. Your residence cannot be derived from your spouse or your parents.

Requirements for Financial Independence
You are considered "financially independent" if one or more of the following apply: (1) you are at least 24 years of age by December 31 of the calendar year for which you are requesting residence classification; (2) you are a veteran of the U.S. Armed Forces; (3) you are a ward of the court or both parents are deceased; (4) you have legal dependents other than a spouse; (5) you are married, or a graduate student or a professional student, and you were not claimed as an income tax deduction by your parents or any other individual for the tax year immediately preceding the term for which you are requesting resident classification; or (6) you are a single undergraduate student and you were not claimed as an income tax deduction by your parents or any other individual for the two tax years immediately preceding the term for which you are requesting resident classification, and you can demonstrate self-sufficiency for those years and the current year. (Note: Financial dependence is not a factor in resident 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 in the term for which classification is sought.)

Establishing Intent to Become a California Resident
Indications of your intent to make California your permanent residence can include the following: registering to vote and voting in California elections; designating California as your permanent address on all school and employment records, including military records if you are in the military service; obtaining a California driver's license or, if you do not drive, a California Identification Card; obtaining California vehicle registration; paying California income taxes as a resident, including taxes on income earned outside California from the date you establish residence; establishing a California residence in which you keep your personal belongings; and licensing for professional practice in California. The absence of these indicia in other states during any period for which you claim residence can also serve as an indication of your intent. Documentary evidence is required, and all relevant indications will be considered in determining your classification. Your intent will be questioned if you return to your prior state of residence when the University is not in session.

General Rules Applying to Minors
If you are an unmarried minor (under age 18), the residence of the parent with whom you live is considered to be your residence. If you have a parent living, you cannot change your residence by your own act, by the appointment of a legal guardian, or by the relinquishment of your parent's right of control. If you live with neither parent, your residence is that of the parent with whom you last lived. Unless you are a minor alien present in the U.S. under the terms of a nonimmigrant visa which precludes you from establishing domicile in the U.S., you may establish your own residence when both your parents are deceased and a legal guardian has not been appointed. If you derive California residence from a parent, that parent must satisfy the one-year duration residence requirement.

Specific Rules Applying to Minors
(1) Divorced or Separated Parents — You may be able to derive California resident status from a California resident parent if you move to California to live with that parent or before your 18th birthday. If you begin residing with your California parent after your 18th birthday, you will be treated like any other adult student coming to California to establish residence.

(2) Parent of Minor Moves from California — You may be entitled to resident status if you are a minor U.S. citizen or eligible alien whose parent(s) was a resident of California who left the state within one year of the residence determination date if (a) you remained in California after your parent(s) departed, (b) you enroll in a California public postsecondary institution within one year of your parent(s) departure, and (c) once enrolled, you maintain continuous attendance in that institution. Financial independence is not required in this case.

(3) Two-Year Care and Control — You may be entitled to resident status if you are a U.S. citizen or eligible alien and you have lived continuously with an adult who is not your parent for at least two years prior to the residence determination date. The adult with whom you are living must have been responsible for your care and control for the entire two-year period and must have been residing in California during the one year immediately preceding the residence determination date.

Exemptions from Nonresident Tuition
(1) Member of the Military — If you are a member of the U.S. military stationed in California on active duty, unless you are assigned for educational purposes to a state-supported
in the process of establishing a residence for tuition purposes and you return to your former home during noninstructional periods, your presence in the state will be presumed to be solely for educational purposes and only convincing evidence to the contrary will rebut this presumption. Students who are in the state solely for educational purposes will NOT be classified as residents for tuition purposes regardless of the length of their stay.

If you are a student who has been classified as a resident for tuition purposes and you leave the state temporarily, your absence could result in the loss of your California residence. The burden will be on you (or your parents if you are a minor) to verify that you did nothing inconsistent with your claim of a continuing California residence during your absence. Steps that you (or your 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 you are claiming California residence, you are liable for payment of income taxes on your total income from the date you establish your residence in the state, including income earned in another state or country.
3. Retain your 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 your driver’s license or vehicle registration, you must change them back within the time prescribed by law.

Temporary Absences

If you are a nonresident student who is in the process of establishing a residence for tuition purposes and you return to your former home during noninstructional periods, your presence in the state will be presumed to be solely for educational purposes and only convincing evidence to the contrary will rebut this presumption. Students who are in the state solely for educational purposes will NOT be classified as residents for tuition purposes regardless of the length of their stay.

If you are a student who has been classified as a resident for tuition purposes and you leave the state temporarily, your absence could result in the loss of your California residence. The burden will be on you (or your parents if you are a minor) to verify that you did nothing inconsistent with your claim of a continuing California residence during your absence. Steps that you (or your 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 you are claiming California residence, you are liable for payment of income taxes on your total income from the date you establish your residence in the state, including income earned in another state or country.
3. Retain your 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 your driver’s license or vehicle registration, you must change them back within the time prescribed by law.

Petition for Resident Classification

You MUST PETITION IN PERSON at 1113 Murphy Hall for a change of classification from nonresident to resident status. Any change of status must be initiated prior to the first day of classes for the term for which you intend to be classified as a resident.

Time Limitation on Providing Documentation

If additional documentation is required for residence classification but is not readily accessible, you will be allowed until the end of the applicable term to provide it.

Incorrect Classification

If you were incorrectly classified as a resident, you are subject to a nonresident classification and to payment of all nonresident tuition fees not paid. If you concealed information or furnished false information and were classified incorrectly as a result, you 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, Office of the Registrar, 1113 Murphy Hall, 405 Hilgard Avenue, Los Angeles, CA 90024-1429 (310-825-3447) or to the Legal Analyst — Residence Matters, 300 Lakeside Drive, 7th Floor, Oakland, CA 94612-3565. NO OTHER UNIVERSITY PERSONNEL ARE AUTHORIZED TO SUPPLY INFORMATION RELATIVE TO RESIDENCE REQUIREMENTS FOR TUITION PURPOSES.

You 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 legal analyst within 45 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 you are a legal resident for tuition purposes. Registration cannot be processed without this information. The Registrar’s Office on campus maintains the requested information. You 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, you expect you will not be able to meet the satisfactory academic progress requirements listed below, contact the Financial Aid Office immediately for further advising.

Undergraduate Students

Qualitative Standard

The qualitative standard is enforced by your college or school. You are notified by your academic department if you 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 regular session terms. It may differ from your 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 a full-time student, you must successfully complete at least 24 units in each of your first two academic years at UCLA to maintain satisfactory academic progress. Thereafter, you must successfully complete 64 units by the end of your twelfth term, 120 units by the end of your fourteenth term, 156 units by the end of your fifteenth term*, and 180 units by the end of your seventeenth term.

After 17 terms of enrollment as a full-time student or the equivalent as a part-time student, no further need-based financial aid is granted.

The measurement of progress occurs at the end of the academic year. The schedule above is adjusted appropriately for students ending an academic year with a different number of terms completed than is listed above. If you enter UCLA in advanced standing, the number of terms for which you are eligible for aid is reduced proportionally to the number of transfer units credited to your record. For example, if you are credited with 84 transfer units, you would have only eight terms of financial aid eligibility as an undergraduate at UCLA.

If you are a continuing student at UCLA at the time you apply for financial aid, your progress is measured by the satisfactory academic progress chart to determine your eligibility (i.e., you must have successfully completed 48 units if you attended UCLA for six terms). You would then have only 11 terms of financial aid eligibility.

Nonstandard Enrollment

Part-time students’ progress is measured by a modified schedule, and aid is similarly modified. Summer enrollment counts as a term of enrollment for the following year if you apply the units earned toward graduation. Accommodation is made for students enrolled in a joint degree program.

Successful Completion

To successfully complete units, you must receive a grade of A, B, C, D, or P (S for graduate students) in a course. You are given temporary credit for an IP grade pending receipt of the final grade in the 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 from a term in which you receive financial aid applies as a term attended and works to your disadvantage on the units-per-term schedule. Cancellation of your registration (prior to the first day of classes), however, does not apply as a term attended. Refund and payback of aid received is based on published schedules and the date you officially withdraw or cancel.

Disqualification and Reinstatement

The Financial Aid Office monitors satisfactory progress annually after Spring Quarter grades are recorded. Your progress is measured according to the number of terms you have attended at UCLA and the number of units you have successfully completed.

If you have not met the requirements shown on the schedule, your financial aid is discontinued until the deficiencies are satisfied. You may use Summer Sessions or regular academic terms to make up deficiencies.

Your financial aid eligibility is reinstated for the term following the term in which you establish compliance with the units-per-term schedule. For example, if you successfully complete 16 units in Fall Quarter and therefore make up your deficiency, you become eligible for financial aid in Winter Quarter. Financial aid is then awarded on the basis of your need and the availability of funds.

Appeal Process

If you fail to meet the satisfactory academic progress standards because of debilitating illness, prolonged hospitalization, death in your immediate family, or other such mitigating circumstances, you may appeal your disqualification.

To appeal, submit a letter and supporting documentation to the Financial Aid Appeal Committee explaining the circumstances and how they affected your ability to meet the requirements. The committee evaluates your request based on the rationale and evidence you provide.

Graduate Students

Qualitative Standard

The qualitative standard is enforced by the dean of the Graduate Division in consultation with your department.

Quantitative Standard

To be eligible for financial aid as a full-time student, you must successfully complete at least eight units per term of enrollment. Approved study loads of less than eight units result in proportionally reduced aid for that term and are charged against your maximum period of eligibility at the appropriate proportional rate.

Disqualification and Appeal Process

If you fail to meet the qualitative and quantitative requirements, your financial aid is discontinued until the deficiencies are made up. Appeals are reviewed by your academic department, the dean of the Graduate Division, and/or the Financial Aid Appeal Committee.

Period of Eligibility

The degree program to which you are admitted determines the maximum number of terms for which you can receive need-based financial aid. Terms for which no need-based aid is received are considered when determining your remaining number of terms of financial aid eligibility.

If you are in a credential program or a professional master’s program (other than Master of Fine Arts), you are eligible for a maximum of nine terms of need-based financial aid. The professional master’s degrees include LL.M., M.A.T., M.B.A., M.C.L., M.E., M.Ed., M.J., M.L.S., M.N., M.P.A., M.P.H., M.S.P., M.S.W.

If you are in a Master of Fine Arts program, you are eligible for a maximum of 12 terms of need-based financial aid. If you are in an M.A. or M.S. program, a doctoral program, or a combination master’s/doctoral program, you are eligible for a maximum of 27 terms of need-based financial aid.

Students who change their program may be accommodated through an extension of terms 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, the matter should first be taken up with the instructor. If the matter is not resolved, the student may go for counsel to the Campus Ombuds Office 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 will be appointed within two weeks to review the disputed grade, and any warranted change will be 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 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 will be worked out directly and on an individual basis between the student and the faculty member involved.

(1) 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.

(2) Students unable to reach a satisfactory arrangement with their instructor should contact the Campus Ombuds Office, 1172 PCPC, or the Office of the Dean of Students, 1206 Murphy Hall, for assistance.

(3) Instructors who have questions or who wish to verify the nature of the religious event or practice involved should contact the Campus Ombuds Office 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 will be 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 appropriate Committee on Courses, 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 which 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, the California Education Code, and the University of California Policies Applying to the Disclosure of Information from Student Records, students at UCLA have the right (1) to inspect and review records pertaining to themselves in their capacity as students, except as the right may be waived or qualified under the Federal and State Laws and the University Policies, (2) to have withheld from disclosure, absent their prior consent for release, personally identifiable information from their student records, except as provided by the Federal and State Laws and the University Policies, (3) to inspect records maintained by UCLA of disclosures of personally identifiable information from their student records, (4) to seek correction of their student records through a request to amend the records or, if such request is denied, through a hearing, and (5) to file complaints with the U.S. Department of Education regarding alleged violations of the rights accorded them by the Federal Act.

UCLA, in accordance with the Federal and State Laws and the University Policies, has designated the following categories of personally identifiable information as “public information” which UCLA may release and publish without the student’s prior consent: name, address (local or permanent), telephone numbers, major field of study, dates of attendance, 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 or permanent address, telephone numbers, major field of study, dates of attendance, number of course units in which enrolled, and degrees and honors received) of this “public information” released and published may so indicate through URSA at (310) 208-0425. To restrict the release and publication of the additional items in the category of “public information,” complete the Decline to Release form available from the Registration/Enrollment Office, 1113 Murphy Hall.

Student records which are the subject of the Federal and State Laws and the University Policies may be maintained in a variety of offices, including the Registrar’s Office, Office of the Dean of Students, Placement and Career Planning Center (PCPC), Graduate Division, and the offices of a student’s college or school and major department. Students are referred to the UCLA Campus and CHS Directory which lists all the offices that may maintain student records, together with their campus addresses and telephone numbers. Students have the right to inspect their student records in any such office subject to the terms of the Federal and State Laws and the University Policies. Inspection of student records maintained by the Registrar’s Office is by appointment only. Call (310) 206-0482 or inquire at Academic Record Services, 1134 Murphy Hall.
UCLA Graduation Rates

Graduation rates have shown a steady increase over the last eight years. While a little less than two thirds of freshmen who entered UCLA in Fall Quarter 1980 graduated in at least six years, the figure has risen to over 77 percent for the 1987 entering class. In addition, over the last two years of available data, graduation rates have increased for both four- and five-year periods. The five-year graduation rate of 70 percent for the 1987 and 1988 classes is higher than any other five-year rate. The 35 percent four-year rate for the 1989 class portends even higher five- and six-year rates over the next two years.

Students attending public universities often average five years to earn a bachelor's degree. Many enroll for a sixth year to prepare for graduate or professional school admission. Additional reasons students take more than four years to complete their degrees include employment and time taken for internships, travel, or field studies. Also, the data show an "elapsed" time. Actual enrollment averages 13 to 14 terms. In addition, many students who do not earn a degree at UCLA have transferred to another UC campus or university.

Campus Security Information

UCLA Department of Community Safety

The UCLA Department of Community Safety (310-825-1491), located at Westwood Plaza and Circle Drive South, has 59 sworn California State Police Officers 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.

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 all criminal investigations, and detectives conduct interviews, arrest violators, execute search warrants, and file cases with the city attorney's office.

To assist in prevention and apprehension efforts, the department employs unarmed security guards to patrol the Center for the Health Sciences and UCLA Medical Plaza. These guards provide on-site security and assistance for all who use the facilities.

In addition, the department employs approximately 200 student community service officers (CSOs) who are the "eyes and ears" (trained observers) of the department and act as non-intervention 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. The CSO Division provides over 20 different safety and security programs but is 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; 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.

Incident Reporting

UCLA police officers have primary jurisdiction over the UCLA campus and the Center for the Health Sciences. The City of Los Angeles Police Department does not handle calls for service on campus. All requests for police service should be made to the UCLA Department of Community Safety (Circle Drive South and Westwood Plaza). All crime occurring on campus and in the Center for the Health Sciences should be reported immediately to the department to ensure appropriate action is taken. The University endorses a policy that strongly encourages victims to report all incidents to the department anytime of the day or night. Crimes occurring off campus should be reported immediately to the law enforcement agency with proper jurisdiction over that 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 Emergency Reporting Telephones located throughout the campus.

NONEMERGENCY calls for service can be made by contacting the department at (310) 825-1491.

Crime Prevention

The Department of Community Safety has established a Community-Oriented Policing (COP) Program. One component of that program — crime prevention — provides the best measure of protection. Therefore, the department supports a proactive Crime Prevention Unit 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. Brochures and literature on crime prevention and personal safety are available. Throughout the year, the crime prevention officer and the student housing offices present personal safety workshops and many other crime awareness programs.
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.

With the combined efforts of the Crime Prevention Unit, the Women's Resource Center, and the CSOs, incidents of sexual assault on campus have been reduced.

### 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 (310-825-7085) 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 will be treated in accordance with University Policies and State and Federal Laws. Your decision to seek assistance will not be used in connection with any academic determination or as a basis for disciplinary proceedings.

### Policies

UCLA has been designated drug free, 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.

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 18,000 students. Housing facilities range from apartments designed for students with children to multi-student apartment complexes to high-rise student residence halls. The UCLA Department of Community Safety 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 stationed at each entrance. Police officers and CSOs are also assigned to the residence halls.

UCLA-affiliated organizations that maintain off-campus facilities come under the jurisdiction of their local police department. The department does not compile statistical data on criminal activity that occurs in such facilities, including off-campus housing facilities not operated by the University. Information related to specific locations should be requested from the law enforcement agency with proper jurisdiction over those areas.

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 find it easy to access the University grounds. Regardless of the time of day or night and no matter where you are on campus, be alert and aware of your surroundings and exercise good commonsense safety precautions. If you park on campus, remember to lock your vehicle and consider investing in a steering wheel locking device and/or alarm. Take advantage of all of the safety services provided by the University and the UCLA Department of Community Safety. Use the Campus Escort Service when walking at night. Keep your room and apartment doors locked at all times. Most important, if you need assistance, do not hesitate to contact the department.
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 108 endowed chairs which have been approved by The Regents of the University of California, as follows. (* Asterisks indicate new chairs which have been approved by The Regents since publication of the 1993-94 UCLA General Catalog.)

College of Letters and Science

Maurice Amado Chair in Sephardic Studies
Armenian Educational Foundation Chair in Modern Armenian History
Arthur Andersen and Company Alumni 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
Courtaulds Chair in Chemistry
Mr. and Mrs. C.N. Flint Professorship of Philosophy
Gloria and Paul Griffin Chair in Philosophy
Armand Hammer Chair in Leonardo Studies
Marvin Hoffenberg Chair in American Politics and Public Policy
Endowed Chair in Modern European History
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 Philosophy of Science
David S. Saxon Presidential Chair in Physics
Louis B. Slichter Chair in Geophysics and Planetary Physics
Charles Speroni Chair in Italian Literature and Culture
UCLA Alumni and Friends of Japanese Ancestry Chair in Japanese American Studies
UCLA Foundation Chair
Saul Weinstein Chair in Organic Chemistry

School of the Arts

UCLA Art Council Professorship of Art

School of Engineering and Applied Science

L.M.K. Boelter Chair in Engineering
Norman E. Freedmann Chair in Knowledge Sciences
Hughes Aircraft Company Chair in Electrical Engineering

School of Law

Harry Graham Balter Chair in Law
Connell Professorship of Law
Richard C. Maxwell Chair in Law
Arjay and Frances Fearing Miller Chair in Law
David G. Price and Dallas P. Price Chair in Law
Security Pacific Bank Chair
William D. Warren Chair in Law

John E. Anderson Graduate School of Management

Allstate Chair in Insurance and Finance
*John E. Anderson Chair in Management
Marion Anderson Chair in Management
California Chair in Real Estate and Land Economics
Edward W. Carter Chair in Business Administration
James A. Collins Chair in Management
Warren C. Cordner Chair in Money and Financial Markets
Ernst and Young Chair in Accounting
Henry Ford II Chair in International Management
Goldyne and Irwin Hearsh Chair in Money and Banking
IBM Chair in Computers and Information Systems
Harry and Elsa Kunin Chair in Business and Society
William E. Leonhard Chair in Management
Chauncey J. Medberry Chair in Management
Paine Chair in Management
Times Mirror Chair in Management Strategy and Policy

School of Social Welfare

Majorie Crump Chair in Social Welfare

School of Dentistry

*Tarrson Family Chair in Periodontics

School of Medicine

William S. Adams, M.D., Chair in Medicine
Louis D. Beaumont Chair in Surgery
Bowyer Professorship of Medical Oncology
Judson Braun Chair in Biological Psychiatry
Joseph Campbell Chair in Child Psychiatry
Iris Cantor Chair in Breast Imaging
Edward W. Carter Chair in Internal Medicine
Casteria Chair in Cardiology
Tony Coelho Chair in Neurology
Crumph Chair in Medical Engineering
M. Philip Davis Chair in Microbiology and Immunology
Dumont-UCLA Chair in Transplantation Surgery
Max Factor Family Foundation Chair in Nephrology
Charles Kenneth Feldman Chair in Ophthalmology
Dolly Green Chair in Ophthalmology
Maud Cady Guthman Chair in Cardiology
Chizuko Kawata Chair in Cardiology
George F. Kneller Chair in Family Medicine
Grace and Walter Lantz Chair in Ophthalmology
Eleanor J. Leslie Chair in Neuroscience
William P. Longmire, Jr., Chair in Surgery
Della Martin Chair in Psychiatry
Sherman M. Mellinkoff Distinguished Professor in Medicine Chair
James H. Nicholson Chair in Pediatric Cardiology
Samuel J. Pearman, M.D., and Della Z. Pearman Chair in Head and Neck Surgery
Thomas P. and Katherine K. Pike Chair in Alcohol Studies
Elizabeth R. and Thomas E. Plott Chair in Gerontology
Leo G. Rigler Chair in Radiological Sciences
Augustus S. Rose Chair in Neurology
Jennifer Jones Simon Chair in Biophysics
Norman F. Sprague Chair in Molecular Oncology
Frances and Ray Stark Chair in Ophthalmology
Frances Stark Chair in Neurology
Jules Stein Chair in Ophthalmology
W. Eugene Stern Chair in Neurosurgery
Ruth and Raymond Stotter Chair in Neurosurgery
Dorothy and Leonard Straus Chair in Gastroenterology
Streisand Chair in Cardiology
Leon J. Tiber, M.D., and David S. Alpert, M.D., Chair in Medicine
Richard D. and Ruth P. Walter Chair in Neurology
Wasserman Professorship of Ophthalmology

School of Nursing

Lulu Wolf Hassanplug Chair in Nursing

School of Public Health

Fred H. Bixby Chair in Population Policy
Fred W. and Pamela K. Wasserman Chair in Health Services
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Leo T. McCarthy
Speaker of the Assembly
Willie L. Brown, Jr.
State Superintendent of Public Instruction
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David Flinn
Vice President of the Alumni Association of the University of California*
Peter Preuss
President of the University
J.W. Peltason

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Roy T. Brophy (1998)
Clair W. Burgener (2000)
Glenn Campbell (1996)
Frank W. Clark, Jr. (2000)
Ward Connerly (2005)
John G. Davies (2004)
Tirso del Junco (1997)
Alice J. Gonzales (1998)
S. Sue Johnson (2002)
Dean A. Watkins (1996)
Terrence Wooten (1995)*

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*Terms of Regents appointed by the Governor expire February 28 of the year named in parentheses. The Student Regent (Terrence Wooten) and Alumni Regents serve a one-year term beginning July 1 and ending June 30 of the year listed.
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Gerard Debreu, University Professor Emeritus, Berkeley, Departments of Economics and Mathematics
Amos Funkenstein, University Professor, Berkeley, Department of History
Richard Karp, University Professor, Berkeley, Departments of Electrical Engineering and Computer Sciences, Industrial Engineering and Operations Research, and Mathematics
Murray Krieger, University Professor, Irvine, Department of English and Comparative Literature
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Glenn T. Seaborg, University Professor Emeritus, Berkeley, Lawrence Berkeley Laboratory
S. Jonathan Singer, University Professor, San Diego, Department of Biology
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Edward Teller, University Professor Emeritus, Livermore, Lawrence Livermore Laboratory
Charles H. Townes, University Professor Emeritus, Berkeley, Department of Physics
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Hayden White, University Professor, Santa Cruz, Board of Studies in History of Consciousness

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Division of Social Sciences
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School of Nursing
Ada M. Lindsey, R.N., Ph.D.
School of Public Health
Abdelmonem A. Afifi, Ph.D.
School of Social Welfare
Rosina M. Becerra, Ph.D.
School of Theater, Film, and Television
Gilbert Cates, M.A.
UCLA mascot in the late 1940s.
## Counselors and Advisers

<table>
<thead>
<tr>
<th>Department/Major</th>
<th>Counselor/Adviser</th>
<th>Address</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Studies</td>
<td>William F. Porter, Faculty</td>
<td>208 Men's Gym</td>
<td>51742</td>
</tr>
<tr>
<td>African Area Studies (Graduate)</td>
<td>Alexandra Skierso, Staff</td>
<td>212 Men's Gym</td>
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<tr>
<td>African Languages (Undergraduate)</td>
<td>David Russell, Staff</td>
<td>10250 Bunche Hall</td>
<td>52944</td>
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<td>African Studies (Undergraduate)</td>
<td>Beverly J. Robinson, Faculty</td>
<td>10373 Bunche Hall</td>
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<td>Afro-American Studies</td>
<td>Thomas J. Hinnebusch, Faculty</td>
<td>3125 Campbell Hall</td>
<td>57947</td>
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<td>American Indian Studies (Graduate)</td>
<td>Christopher Ehret, Faculty</td>
<td>6265 Bunche Hall</td>
<td>54093</td>
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<tr>
<td>Anatomy and Cell Biology (Graduate)</td>
<td>Elizabeth Bean, Staff (G/UG)</td>
<td>160 Haines Hall</td>
<td>68009</td>
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<td>Anesthesiology/Nurse Anesthesia (Graduate)</td>
<td>Richard A. Yarborough, Faculty (G/UG)</td>
<td>160 Haines Hall</td>
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<tr>
<td>Anthropology</td>
<td>Rosemarie Ashamalla (Honors)/Amy Paul, Staff (UG)</td>
<td>341 Haines Hall</td>
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<tr>
<td>Applied Linguistics (Graduate)</td>
<td>Ann Walters, Staff (G)</td>
<td>341 Haines Hall</td>
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<td>Archaeology (Graduate)</td>
<td>Lyn Reapth-Martos, Staff</td>
<td>3300A Rolfe Hall</td>
<td>61985</td>
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<td>Architecture and Urban Design (Graduate)</td>
<td>Halle Grey, Staff</td>
<td>A148 Fowler Building</td>
<td>54169</td>
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<td>Art</td>
<td>Larry Nadeau, Staff</td>
<td>B302 Perloff Hall</td>
<td>56103</td>
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<td>Art History</td>
<td>Roma King, Staff (G/UG)</td>
<td>1300 Dickson</td>
<td>53445</td>
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<td>Beth Gray, Staff (G/UG)</td>
<td>3209 Dickson</td>
<td>53480</td>
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<td>Asian American Studies</td>
<td>Enrique Delacruz, Staff (G/UG)</td>
<td>2316 Life Sciences</td>
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<td>Astronomy</td>
<td>Matthew A. Malkan, Faculty (G)</td>
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<td>Biological Chemistry (Graduate)</td>
<td>Edward L. Wright, Faculty (UG)</td>
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<td>Biobehavioral Sciences</td>
<td>Warren Blier, Faculty (UG)</td>
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<td>Biomedical Physics/Radiological Sciences (Graduate)</td>
<td>Michael Carr, Staff (G/UG)</td>
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<td>Chemistry and Biochemistry</td>
<td>Robert Fowell, Faculty (UG)</td>
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<td>Chemistry/Materials Science (Undergraduate)</td>
<td>Richard M. Thorne, Faculty (G)</td>
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<td>Chicana and Chicano Studies (Undergraduate)</td>
<td>Richard Turco, Faculty (G)</td>
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<td>Michio Yanai, Faculty (G)</td>
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<td>Peter A. Edwards, Faculty</td>
<td>2316 Life Sciences</td>
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<td>Comparative Literature (Graduate)</td>
<td>Gregory S. Payne, Faculty</td>
<td>AV-617 CHS</td>
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<td>Cybernetics (Undergraduate)</td>
<td>NancyFurtill/Jocelyn Yamadera, Staff (G/UG)</td>
<td>1V-365 CHS</td>
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<td>Dance</td>
<td>Carole E. Newlands, Faculty (UG)</td>
<td>4005 Young Hall</td>
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<tr>
<td>Dentistry/Oral Biology (Graduate)</td>
<td>Loretta Brookes, Staff/Moses A. Greenfield, Faculty/Edward J. Hoffman, Faculty</td>
<td>4016 Young Hall</td>
<td>51859</td>
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<tr>
<td>Design</td>
<td>Gina Amodeo/Phyllis Jergenson, Staff (G)</td>
<td>5731 Boelter Hall</td>
<td>55534</td>
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<td>Development Studies (Undergraduate)</td>
<td>Wendy Fujiyama, Staff (UG)</td>
<td>5731 BCooler Hall</td>
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<td>Earth and Space Sciences</td>
<td>Barbara Brooks, Staff</td>
<td>67 Kinsey Hall</td>
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<td>Electronic Science and Engineering</td>
<td>Bruce S. Dunn, Faculty</td>
<td>7377 Bunche Hall</td>
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<td>Engineering</td>
<td>Elo Carnillo, Staff</td>
<td>7339 Bunche Hall</td>
<td>51867</td>
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<td>Environmental Science and Policy</td>
<td>Bernard D. Fricther, Faculty (G)</td>
<td>7399 Bunche Hall</td>
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<td>Ethnic Studies</td>
<td>Michael W. Haslam, Faculty (UG)</td>
<td>7389 Bunche Hall</td>
<td>50948, 53303</td>
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<tr>
<td>Evolutionary Origins of Life</td>
<td>Carole E. Newlands, Faculty (UG)</td>
<td>330A Kinsey Hall</td>
<td>68446, 53303</td>
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<tr>
<td>Feminist Studies</td>
<td>Eugene H. Dye, Staff</td>
<td>330A Kinsey Hall</td>
<td>55800</td>
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<tr>
<td>Film Studies</td>
<td>Katherine King, Faculty</td>
<td>2326 Murphy Hall</td>
<td>48949</td>
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<td>Folklore</td>
<td>Beth Rubin, Staff</td>
<td>4531 Boelter Hall</td>
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<tr>
<td>Forestry</td>
<td>Judy Mitoma, Faculty (G)</td>
<td>124 Dance Building</td>
<td>33592</td>
</tr>
<tr>
<td>Geography</td>
<td>Wendy Temple, Staff (UG)</td>
<td>205 Dance Building</td>
<td>58537</td>
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<tr>
<td>Geology</td>
<td>Soon-Ok Dixon, Staff</td>
<td>63-050 Dentistry</td>
<td>51955</td>
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<td>German Studies</td>
<td>M.S. Van der Westhuizen, Faculty</td>
<td>63-078 Dentistry</td>
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<td>Germanic Studies</td>
<td>Ph.D. Lawrence E. Wolinsky, Faculty</td>
<td>63-070 Dentistry</td>
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<td>Greek</td>
<td>Roma King, Staff (G/UG)</td>
<td>1300 Dickson</td>
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<tr>
<td>History</td>
<td>To be named, Staff</td>
<td>11276 Bunche Hall</td>
<td>52927</td>
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<tr>
<td>Human Ecology</td>
<td>John M. Christie, Faculty (G)</td>
<td>4680 Geology</td>
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How to Reach UCLA

By Automobile:
San Diego Freeway northbound; exit Wilshire Boulevard toward Westwood; left on Westwood Boulevard.
San Diego Freeway southbound; exit Sunset Boulevard; left on Sunset Boulevard; right on Westwood Plaza.

By Bus:
Schedule information is available by calling the following numbers:
Culver City Municipal Bus Line: (310) 202-5731 or 559-8310
Metropolitan Transportation Authority (RTD): (213) 626-4455
Santa Monica Municipal Bus Line: (310) 451-5444
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Grid numbers refer to map on previous page.
**Correspondence Directory**

**University of California, Los Angeles, CA 90024**  
**Main campus telephone: (310) 825-4321**  
**Speech- and hearing-impaired persons: TDD (310) 825-2833**

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<th>Office</th>
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<td>Academic Advancement Program</td>
<td>1209 Campbell Hall</td>
<td>825-1481</td>
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<tr>
<td>Accounting Office, Student</td>
<td>2333 Murphy Hall</td>
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<td>Undergraduate</td>
<td>1147 Murphy Hall</td>
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<td>Graduate</td>
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<td>Alumni Association</td>
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<tr>
<td>Campus Ombuds Office</td>
<td>1172 PCPC Building</td>
<td>825-7627</td>
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<tr>
<td>Cashier's Office, Main</td>
<td>1125 Murphy Hall</td>
<td>825-2201</td>
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<tr>
<td>Dean of Students, Office of the</td>
<td>1206 Murphy Hall</td>
<td>825-3871</td>
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<tr>
<td>Financial Aid Office</td>
<td>A129J Murphy Hall</td>
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<td>Graduate Division</td>
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<td>Affirmative Affairs Office</td>
<td>1248 Murphy Hall</td>
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<td>Graduate Student Support</td>
<td>1252 Murphy Hall</td>
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<td>Student and Academic Affairs</td>
<td>1255 Murphy Hall</td>
<td>825-4226</td>
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<td>Housing</td>
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<tr>
<td>UCLA Community Housing Office</td>
<td>350 De Neve Drive</td>
<td>825-4491</td>
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<tr>
<td>UCLA On-Campus Housing Assignment Office</td>
<td>270 De Neve Drive</td>
<td>825-4271</td>
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<tr>
<td>International Student Center</td>
<td>1045 Gayley Avenue</td>
<td>794-8138</td>
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<td>105 Men's Gym</td>
<td>825-1681</td>
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<td>University Research Library</td>
<td>URL Building, North Campus</td>
<td>825-1323</td>
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<tr>
<td>Parking Services</td>
<td>555 Westwood Plaza (Structure 8)</td>
<td>825-9871</td>
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<td>Placement and Career Planning Center</td>
<td>PCPC Building</td>
<td>825-2981</td>
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<td>Registrar's Office</td>
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<td>Student Health Service</td>
<td>A2-130 Center for the Health Sciences</td>
<td>825-4073</td>
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<td>B Level, Ackerman Union</td>
<td>825-7711</td>
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<td>Summer Sessions</td>
<td>1147 Murphy Hall</td>
<td>794-8333</td>
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<td>UCLA Extension</td>
<td>10995 Le Conte Avenue</td>
<td>825-9971</td>
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<td>Visitors Center</td>
<td>1417 Ueberroth Building</td>
<td>206-8147</td>
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